

THE INDUSTRY'S BIBLE

Display until Nov. 28, 1989

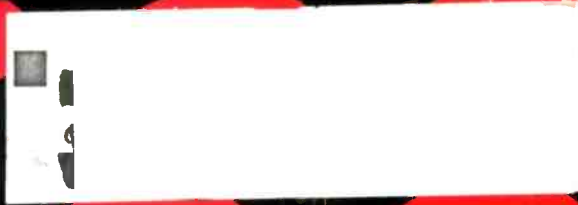
Audio

OCTOBER 1989 • US \$4.95 • UK £3.95 • CAN \$4.95

32nd ANNUAL EQUIPMENT DIRECTORY

MORE THAN 4,800 PRODUCTS OVER 83,000 SPECS

FIND SECTIONS
QUICK WITH
NEW TAB SYSTEM



History Repeats Itself.

History shows that in 1973 the Nakamichi 1000 forever changed the destiny of the audio cassette. Against all odds the world's first true three-head cassette deck had transformed a medium designed for convenience into a serious audio recordist's dream-come-true.

And over the years the Nakamichi 1000 has come to represent a product philosophy—an example of what can be accomplished when a group of single-minded people throw out the rules and eliminate the word "compromise" from their vocabulary.

If, therefore, you're inclined to expect achievements of historical proportions in the new Nakamichi 1000 Digital Audio Recording System, you won't be alone, and you won't be disappointed.

You'll notice a profound difference the very first time you use the Nakamichi 1000 Digital Audio Recorder. Unlike other DAT recorders, the Nakamichi 1000 neither loads nor feels like a VCR. The

smooth, rapid, and quiet operation of the transport will rather remind you of the acclaimed Silent Mechanism found in Nakamichi's analog cassette decks.

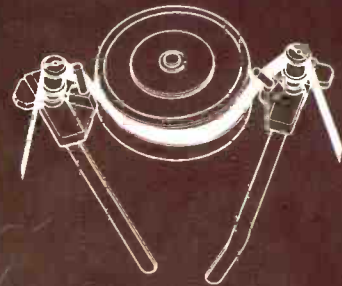
That's because the unique F.A.S.T. (Fast Access Stationary Tape Guide Transport) mechanism was designed from the ground up as a digital audio tape transport. Its exclusive, patented stationary tape guides assure more precise and stable tape alignment, so digital error caused by mistracking is dramatically reduced. And articulated link arms gently bring the tape into playing position within 1.9 seconds after a cassette is inserted—two to three times faster than VCR-derived DAT mechanisms.

The four-head drum has separate record and play heads, so you can motor off the tape while you record. And a unique half-load position fast-winds the tape at 400-times normal play speed—twice that of conventional fast-wind—with less wear and tear on tape and heads.

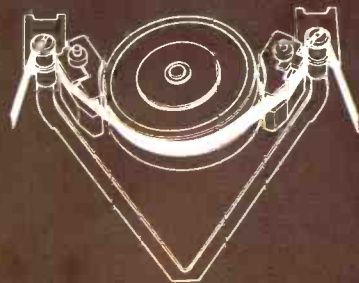
Included with each Nakamichi 1000 recorder is the 1000r infrared wireless remote controller, which gives you full access to the deck's expansive array of advanced operating features.

The Nakamichi 1000p Digital Audio Processor establishes a new reference

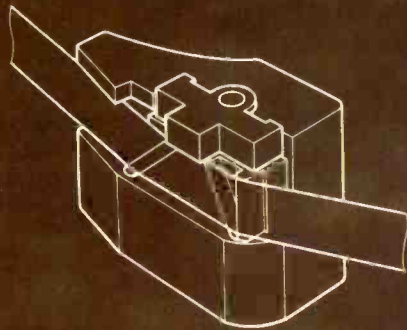
standard for sonic accuracy. 8-times oversampling digital filters and fully calibrated 20-bit digital-to-analog converters deliver unprecedented resolution, linearity, and dynamic range.



In conventional VCR-derived DAT mechanisms tape alignment guides move with the loading arms. Nakamichi's F.A.S.T. mechanism has exclusive stationary tape guides for faster alignment and superior long-term accuracy.



Nakamichi 1000 Digital Audio Recorder



Each stationary tape guide block actually consists of four separate guide surfaces—two slanted, one vertical, and one horizontal—that work together to more reliably maintain critical tape alignment.

Simply increasing the number of bits is meaningless unless they are implemented with a high degree of precision. So, the Nakamichi 1000p 20-bit D/A converter employs a novel ROM (read-only memory) calibration system. Each D/A converter IC has a corresponding ROM chip programmed at the factory with individual bit error compensation data. Together with a newly developed glitch cancellation circuit, this sophisticated calibration system brings the D/A converter to the theoretical limits of 20-bit performance.

The equally advanced analog-to-digital converter employs an ingenious charge comparison principle that assures accurate encoding without conventional, distortion-causing sample-and-hold circuits. And an extraordinary auto-calibration system precisely trims the quantization increments for all bits within 1.4 seconds every time the 1000p is turned on. That means, unlike typical designs, the 1000p's A/D converter maintains its high level of precision forever.

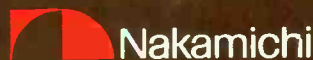
Finally, to eliminate the adverse effects of any jitter at the digital inputs, the Nakamichi 1000p incorporates a sophisticated two-speed phase-locked-loop interface that more effectively handles a wide range of time-axis fluctuations.

Perhaps most significant is the basic design of the Nakamichi 1000 Digital Audio Recording System. Not content to capture a mere, fleeting moment in audio history, Nakamichi engineers have made the system easily upgradable. The essential circuitry of both recorder and processor resides on plug-in boards, all readily accessed from the rear panels. The system thus delivers the very best performance available today... whenever "today" happens to be.

Prove it to yourself by auditing the Nakamichi 1000 Digital Recording System. It promises to be an unusual opportunity to witness history in the making. Again.



The system's modular plug-in circuitry accommodates change and, thus, defies obsolescence.



Nakamichi America Corporation
1970 South Vermont Avenue
Torrance, CA 90502 (800) 421-2313
(800) 223-1521 (California)
Nakamichi Canada (800) 663-6358



Nakamichi 1000p Digital Audio Processor



Nakamichi 1000r Remote Controller

Audio

OCTOBER 1989

VOL. 73, NO. 10



Directory, page 182



Wynton Marsalis, page 170

ANNUAL EQUIPMENT DIRECTORY

SPECIAL SECTION TABS	179
CD PLAYERS & D/A CONVERTERS	182
DAT RECORDERS	204
AMPLIFIERS	206
PREAMPLIFIERS	236
TUNERS	258
RECEIVERS	264
TURNTABLES	273
TOPEARMS	278
PHONO CARTRIDGES	280
OPEN-REEL TAPE DECKS	294
CASSETTE DECKS	296
BLANK TAPE	302
MICROPHONES	305
HEADPHONES	322
EQUALIZERS	332
AMBIENCE & SURROUND SOUND PROCESSORS	337
SIGNAL PROCESSORS	342
CROSSOVERS	344
HI-FI VCRs	350
LOUDSPEAKERS	353
COMPANY ADDRESSES	483

FEATURES

CENTENNIAL CELEBRATION:	
HEINRICH R. HERTZ .. Almon H. Clegg	68
RESTORING OLD MASTERS .. Daniel Sweeney	148
THELONIOUS MONK:	
SPHERE OF INFLUENCE .. John Sunier	152

MUSIC REVIEWS

ROCK/POP RECORDINGS	154
CLASSICAL RECORDINGS	164
JAZZ & BLUES	170

DEPARTMENTS

SIGNALS & NOISE	4
CODA: GORDON J. GOW .. Maurice L. Painchaud	39
THE BOOKSHELF	44
SPECTRUM:	
FM DYNAMIC RANGE .. Leonard Feldman	57
TAPE GUIDE .. Herman Burstein	73
AUDIO ETC .. Edward Tatnall Canby	74
BEHIND THE SCENES .. Bert Whyte	83
WHAT'S NEW	103, 112, 138
AUDIOCLINIC .. Joseph Giovanelli	104
FORUM: DAT PACT .. Leonard Feldman	118
ROADSIGNS: LEXUS .. Leonard Feldman	123
SPECTRUM: SCES WRAP .. John Eargle	133

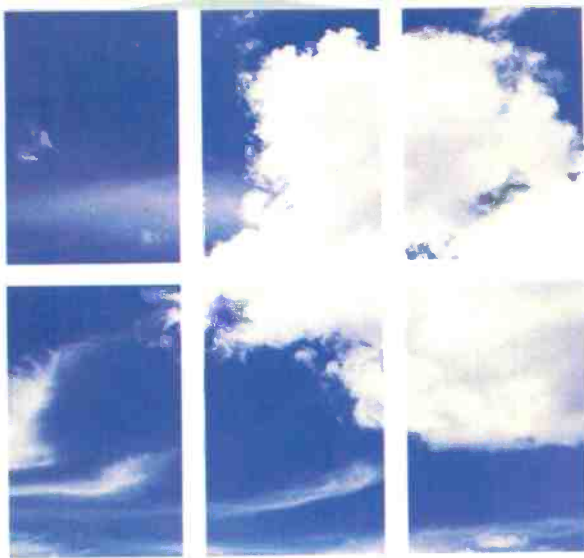
The Cover Equipment: a/d/s/ CM-7 loudspeaker, Dual ST-5040 tuner, JVC XP-A1010TN surround sound processor, Mark Levinson No. 26 preamplifier, McIntosh Laboratory 7200 power amplifier, Mitsubishi M-AV1 receiver, NAD 7400 receiver, Nakamichi 1000 Digital Audio Recording System, Rainbow Rax rack system, Sony CDP-X7ESD CD player, and Chaplin chair courtesy of Classic Age in New York City.
The Cover Photographer: Bill Ashe.

The Audit Bureau

MPA

Audio Publishing, Editorial, and Advertising Offices,
1515 Broadway, New York, N.Y. 10036.

Subscription inquiries, (800) 274-8808;
in Canada or other foreign countries, (303) 447-9330.



Nº 27

The music begins and a window opens. The boundaries of time and place fade as a unique musical experience is recreated in your home.

Our quest for this ideal has produced the new Mark Levinson No. 27 Dual Monaural Power Amplifier. We believe it is destined to bring more music lovers closer to their ideal than ever before.

To learn why, you are invited to share the experience at your nearest Mark Levinson dealer.



Mark Levinson® products are manufactured and distributed worldwide by **MADRIGAL AUDIO LABORATORIES**
PO. Box 781, Middletown, CT 06457 ITT TLX 4942158

Editor: Eugene Pitts III

Art Director: Cathy Cacchione

Technical Editor: Ivan Berger

Managing Editor: Kay Blumenthal

Associate Managing Editor: Tony Scherman

Copy Chief: Marita Begley

Associate Art Director: Linda Zerella

Assistant Editor: Karen Clark

Editorial Assistant: Michael Bieber

Associate Editors:

Edward Tatnall Canby, Bert Whyte, B. V. Pisha

Senior Editors:

Leonard Feldman, Howard A. Roberson

Senior Editor/Loudspeakers: D. B. Keele, Jr.

Senior Editor/Music Features: Ted Fox

Editor-At-Large: David Lander

Contributing Editors/Artist:

Michael Aldred, Susan Borey, Herman Burstein, David L. Clark, Anthony H. Cordesman, Ted Costa, John Diliberto, Frank Driggs, John M. Eargle, Joseph Giovannelli, Bascom H. King, Hector G. La Torre, Edward M. Long, Frank Lovece, Jon W. Poses, Jon R. Sank, Donald Spoto, Michael Tearnson, Jon & Sally Tiven, Paulette Weiss, Michael Wright

Business Services Director: Greg Roperli

Circulation Director: Leon Rosenfield

Production Director: Patti Burns

Production Manager: Nancy Potts

Research Director: Vicki Birnblich

Special Projects Coordinator: Phyllis K. Brady

Ad Coordinator: Sylvia Correa

Sales Secretary: Liz Dedivanovic

V.P./Publisher: Stephen Goldberg

ADVERTISING

Associate Publisher: Stephen W. Withoft
(212) 719-6335

Account Managers: R. Scott Constantine
(212) 719-6346
Barry Singer
(212) 719-6291
Carol A. Berman
(212) 719-6338

Western Manager: Bob Meth

Regional Manager: Paula Borgida Mayeri
(213) 739-5130

Automotive Manager: James Main
(313) 643-8800

DCI EXECUTIVE STAFF

President and CEO: Peter G. Diamandis

Executive V.P.: Robert F. Spillane

Sr. V.P., Finance, and CFO: Arthur Sukel

Sr. V.P., Mfg. & Distribution: Murray M. Romer

Sr. V.P., Operations: Robert J. Granata

V.P., Controller: David Pecker

V.P., General Counsel: Catherine Flickinger

AUDIO, October 1989, Volume 73, Number 10. AUDIO (ISSN 0004-752X, Dewey Decimal Number 621.381 or 778.5) is published monthly by DCI, a wholly owned subsidiary of Hachette Publications, Inc., at 1515 Broadway, New York, N.Y. 10036. Printed in U.S.A. at Dyersburg, Tenn. Distributed by Warner Publisher Services Inc. Second class postage paid at New York, N.Y. 10001 and additional mailing offices. Subscriptions in the U.S., \$21.94 for one year, \$39.94 for two years, \$53.94 for three years; other countries, add \$6.00 per year. **AUDIO®** is a registered trademark of DCI. ©1989, Diamandis Communications Inc. All rights reserved. **Editorial contributions** should include return postage. Submissions will be handled with reasonable care, but the Editor assumes no responsibility for safety or return of manuscripts, photographs, or artwork. The Publisher, in his sole discretion, reserves the right to reject any ad copy he deems inappropriate. **Subscription Service:** Forms 3579 and all subscription correspondence must be addressed to AUDIO, P.O. Box 52548, Boulder, Colo. 80321-2548. Please allow at least eight weeks for the change of address to become effective. Include both your old and your new address and enclose, if possible, an address label from a recent issue. If you have a subscription problem, please write to the above address or call (800) 274-8808; in Canada or other foreign countries, (303) 447-9330.

A Form of Complaint

Dear Editor:

We tire of filling out these arcane "Annual Equipment Directory" forms year after year. The format is hideous. Half of the labelling is vertical, with the information to be filled in horizontally. A redesign is in order, as is a simplification of data requested. These forms are geared toward an era when specs were more important than music. That is no longer the case.

Michael Zeuglin
President
Audio Influx Corp.
Highland Lakes, N.J.

Editor's Reply: Well, uh, yeah—or at least maybe there was an era when specs were more important, but I don't think that they were ever *more* important than the music. On the other hand, I'm not so certain I want to have folks comparing the sound of their preamp to a particular year of Lafite-Rothchild. I mean, I can remember what order numbers come in (unless, of course, I'm had too much wine) and usually there is a regular, ordered difference between any two numbers. However, to talk about nonlinearities, is the difference between a '67 Rothchild and a '73 the same as the difference between a non-vintage Mogen-David and Sandeman sherry? Or maybe the standard of comparison for a phono cartridge becomes an Acapulco sunset? I think I'd rather stick with a ruler to measure with.—E.P.

FM Fatale

Dear Editor:

I've been an avid *Audio* subscriber for years and always read "Signals & Noise" with interest. I would like to comment on author Robert Angus' reply to a letter entitled "FM in China" (August). What I have to say is more for his information than anything else.

Angus noted that he could not find any FM frequencies for China in the *World Radio TV Handbook*. Since I do not know the year of the particular *Handbook* he checked, I cannot be sure whether any FM frequencies were listed or not. However, the following is a list of FM frequencies in the *Handbook* editions for 1986 through 1989: 1986, no listing; 1987, no listing; 1988, Zhujiang Economic Broadcast Station

(95.6 MHz), and 1989, same as for 1988 plus Programs in English (91.55 MHz).

I have been an avid shortwave listener for years and have found the *World Radio Television Handbook* extremely helpful. However, the data is constantly changing for many reasons; there are even four updates printed per year for the *Handbook*. It pays to look at the latest edition available and to learn the quirks of finding information in this text.

In short, I just wanted to let people know that the *Handbook* is a good reference tool when used within its constantly changing form.

Marty P. Hoar
Longmont, Colo.

Cinema to the Max

Dear Editor:

With the popularity of Compact Discs, VHS Hi-Fi VCRs, and now laser videodiscs with digital stereo sound, it seems that *everyone* is looking for the best audio. Digital sound also will be one of the benefits of the HDTV system, *if* and *when* it ever arrives. Not many people seem to know this, but television with superb digital stereo sound is available right now.

What is the device? A home satellite receiver equipped with a Videocipher II de-scrambler. The sound is in digital stereo on all subscription stations; it is of CD quality, and the video quality is as sharp as the sound.

With a laser videodisc player, one is stuck with watching a limited number of expensive discs. However, with a satellite receiver equipped with the Videocipher II system, one gets the same superb sound and picture that a laser videodisc player provides but with a virtually unlimited number of movies. Add a Hi-Fi video recorder, and it becomes easy to build a large library of movies with Hi-Fi Dolby surround sound. I think of it as a never-ending series of laser videodiscs.

There are currently over 40 subscription channels, all with digital sound. Sometimes, the sound is in mono; it depends on the material itself. It is very clear to me that this is *the* way for me to get the most entertainment value for my money.

Thomas R. Wiles
West Fork, Ark.

PRODUCT LITERATURE GUIDE

To make this year's Annual Equipment Directory as authoritative as possible, the following manufacturers have provided comprehensive information on their products.

ADCOM[®]	187-190, 269-272
<i>American Acoustics</i>	175-178
audio research corporation	211-214, 247-250
BRISTON	69-73
California Audio Labs	40-43
CARVER	77-82
COUNTERPOINT	125-132
JVC	49-56
KENWOOD	367-374
LUXMAN	197-202
MK SOUND CORPORATION	113-117
mirage[®]	136-137
NAD	228, 229, 231, 233
ONKYO	58-67
PHILIPS	139-147
PIONEER[®]	31-38
polkaudio	7-30
SONANCE	355-358
Soundcraftsmen	87-102
SUNO	106-111

TOUCH-TONE ACCESS.

The direct connection to the equipment you want to buy.



Audio Magazine is proud to offer the Touch Tone Access service for a select group of advertisers showcasing their products in this issue.

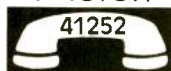
Touch Tone Access lets you instantly act upon your equipment interests. All you do is call the Touch Tone toll free number, then enter the appropriate advertisers code. You'll be told facts about the equipment, the name and address of the dealer nearest you by entering your zip code, how to get additional information, and more.

You can recognize our Touch Tone Access advertisers by checking for the symbol above which appears in the ads, or by locating them on the list below.

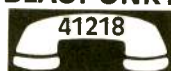
TOUCH TONE ADVERTISERS

CALL 1-800-553-4355 and enter the code number for the advertiser you wish information about when asked.

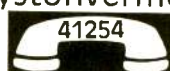
Ortofon



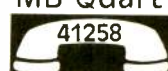
BLAUPUNKT



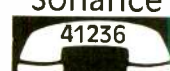
Brystonvermont



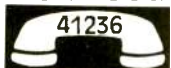
MB Quart



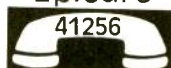
Sonance



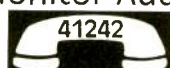
Kenwood



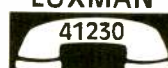
Epicure



Monitor Audio



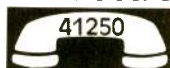
LUXMAN



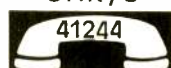
PRECISE



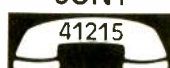
Mission Electronics



Onkyo



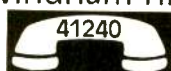
SONY



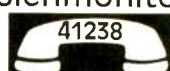
CALIFORNIA AUDIO LABS



Windham Hill



Glenmonitor



Audio

The Equipment Authority

polk audio
The Speaker Specialists®

“Polk Speakers Sound Best.”

*Matthew Polk's Dedication to Quality
Brings You Superior Technology, Performance and Value.*



“Vastly Superior to the Competition.” Musician Magazine



“Polk’s Dedication to Quality Results in Dramatically Better Sound.”

State-of-the-Art Technology, Performance and Value

The Joys of Owning Polks

Incredible three-dimensional imaging that can recreate the tingling excitement of a live performance.

Smooth, accurate and extended frequency response gives you hours of fatigue-free listening pleasure.

Dynamic bass performance effortlessly reproduces the thunderous impact of a full symphony orchestra or the most subtle nuances of a single plucked string.

High efficiency and power handling guarantee that at either low or high volumes your Polk speakers will deliver the finest possible sound and the utmost in reliability from virtually any power source.

We Are The Speaker Specialists

At Polk Audio every minute of every day is spent pursuing our one and only goal: To design and build the world’s finest loudspeakers.

Polk Is # 1

Polk’s reputation for performance and value is recognized throughout the audio industry. For the sixth year in a row, Polk Audio was selected as the #1 loudspeaker manufacturer in the Audio/Video Grand Prix Awards. In this select competition, the audio industry itself votes to honor the industry’s best products and companies (much like the Academy Awards). In addition Polk Audio products have received an unprecedented series of rave reviews (see pages 10, 11, 16 & 17). Musician Magazine said that Polk loudspeakers are “Vastly superior to the competition.”

The Polk Secret of Excellence

How does Polk do it? By the strictest adherence to certain key design goals:

“You Are There” Musical Quality. Polk engineers do not stop at mere technical accuracy. A Polk loudspeaker design is not complete until the speaker can create the illusion and excitement of a live musical performance with every type of music.

Uniform Quality. You will find award-winning technology and performance in every Polk speaker system regardless of price. We build each and every speaker with the same world-class standards of quality and dedication to sonic accuracy.

Unexcelled Value. Matthew Polk and his engineers follow this rule: Design to the highest standards of performance, and make them affordable. As a result, Polk speakers offer more performance per dollar in every price range than any other speakers on the market.

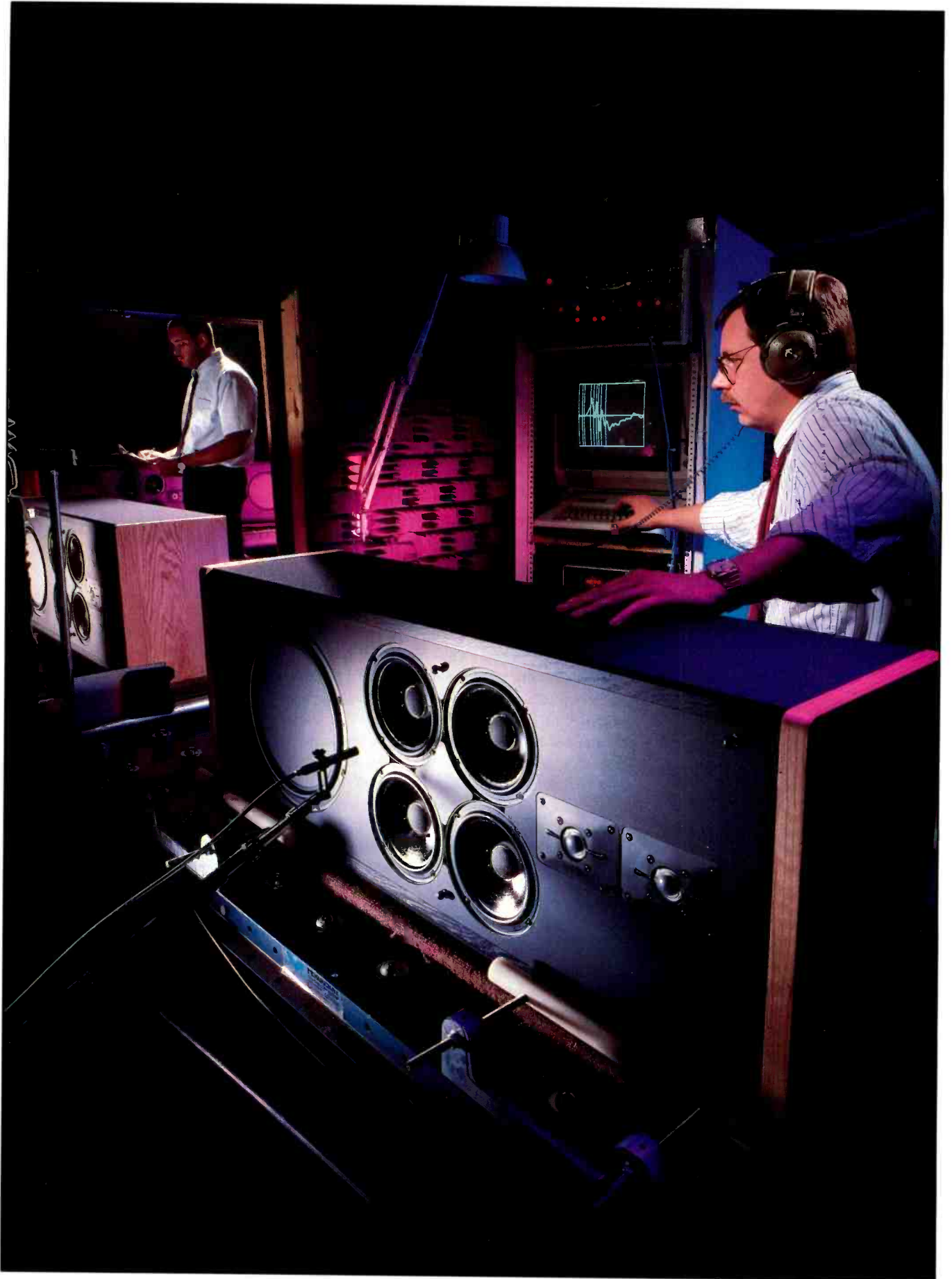
Finest Materials. The Polk engineering team travels the world to obtain the finest materials offering the highest level of performance and the most years of trouble-free operation.

Exacting Standards. Every single driver, crossover and finished speaker produced by Polk Audio is painstakingly tested both by skilled technicians and Polk’s computerized quality control program. Your Polk speakers will always sound as good as Matthew Polk’s own laboratory-standard models.

At Polk Audio, human creativity, space-age materials and computer accuracy have been artfully combined to produce speakers of superb musical quality. If you’re looking for life-like musical reproduction, world class technology and unexcelled value, Polk speakers are the perfect choice.



Quality Control



“Polk’s Quality Assurance Program Guarantees Superior Sound and Total Satisfaction”

Only One Standard of Quality: The Best

- Advanced production equipment and fine workmanship
- Every component individually computer tested
- Every finished speaker system tested by computer and by ear
- Strict adherence to exacting specifications
- Uniformly high standards of performance and quality maintained throughout the line

The Quality Challenge

Matthew Polk knows that it is not enough to design the best sounding loudspeakers. He knows that the true test is to bring the sonic perfection of his laboratory prototypes to every single Polk customer.

Polk Audio meets this challenge with an impressive array of technology, facilities and meticulous craftsmanship. Unlike many speaker brands, Polk Audio operates its own manufacturing facilities. We even design and build our own high-precision automated production equipment to insure that demanding Polk performance standards are rigorously maintained throughout the entire manufacturing process.



Polk speakers are assembled with exacting precision by sophisticated machinery designed and built by Polk Audio engineers.

Polk’s 100% Plus Quality Program

In order to guarantee that every Polk loudspeaker performs to the high standards set by Matthew Polk, we make quality the number one concern from beginning to end during the manufacture of every loudspeaker. When parts and raw materials arrive at Polk Audio, every shipment is carefully checked for conformance to our specifications. Critical parts, such as capacitors, inductors and voice-coils are individually scrutinized for proper value before being approved for use. Next, components such as drivers, crossovers and sub-bass radiators that are manufactured by Polk Audio are individually subjected to a battery of computerized and manual tests before they can be approved for assembly into a finished Polk loudspeaker. Last, cosmetic inspections are performed before, during and after the completion of every loudspeaker.

The Ultimate Test

Before they are carefully packed for shipment, every single Polk speaker system is tested by sophisticated, custom-designed computer programs, and by the ultimate judge of sonic quality — the human ear. Every Polk speaker must live up to Matthew Polk’s demanding standards of sonic and cosmetic quality before leaving the factory.

Polk Guarantees Satisfaction

Every Polk home loudspeaker carries a five-year parts and labor limited warranty. In addition, every Polk speaker is backed by our fanatical dedication to your ultimate and enduring satisfaction. In numerous independent surveys, Polk has been voted #1, not only for its superior products, but also for maintaining an outstanding level of dealer and customer service. All authorized Polk dealers maintain a stock of replacement parts to assure immediate service should a problem develop.

These are only a few reasons why Polk Audio customers are so loyal. Should you own Polk loudspeakers? Just ask a friend who does.

State-of-the-Art Components

Polk Isophase Crossover System

A speaker's crossover acts much like the conductor of an orchestra. It tells each driver when and how loud to play. Even the best drivers would sound bad if poorly matched and blended together by an inexpensive crossover. Hidden from view, many manufacturers will skimp on the quality of their crossovers, resulting in poor overall sonic performance. Polk recognizes the vital importance of a system's crossover and spares no effort or expense in designing and building this critical component. Expensive air-core pure copper coils are used to insure wide dynamic range and excellent sound quality at every volume level. Precision resistors and capacitors are also used to maintain perfect driver blending and the lowest possible distortion.

Polk Fluid-Coupled Subwoofers

Used in most of the Polk home speakers, the fluid-coupled subwoofer system realizes the advantages of both small and large woofers at the same time. Small woofers are faster, have better midrange response, and wider dispersion. Large woofers move more air and thus produce louder, deeper bass. In the Polk system, the small bass midrange drivers hydraulically and elastically transfer low frequency energy below 60 Hz to the large, low-resonance sub-woofer. The result is remarkably deep, powerful, clear and detailed bass.



“Polk Builds State-of-the-Art Components For Lifelike Sound, Quality and Reliability.”

Consistently Superior Technology Results in Better Sound.

Exclusive Trilaminate-Polymer Drivers

Polk drivers are unique and superior in performance and reliability. Rather than accepting the sonic compromises of one cone material, we laminate three complimentary cone materials together to achieve a level of performance unmatched by simple paper or plastic cones. The basic lightweight and strong fiber cone is first laminated with a space-age polymer that stiffens the material to prevent distortion; a second polymer is then added to eliminate resonance and coloration through visco-elastic damping. Polk drivers also use costly butyl rubber surrounds for more accurate cone movement and deeper bass response, and to prevent the deterioration experienced over time with foam surrounds. The result is a driver that faithfully reproduces the timbre of every musical instrument and voice while maintaining every subtle detail of the composition. Your Polk speakers will sound great year after year, after year.

We Build Our Own Component Parts

The sound quality of a loudspeaker is ultimately determined by the quality and consistency of its component parts and the ability of the designer to successfully combine those parts to achieve a coherent, seamless and balanced musical presentation. A brilliant design concept is easily ruined by the use of inferior parts and inadequate cabinet construction. Recognizing this, Polk's engineers insist on designing, building and testing components in our own factories. As an owner of Polk loudspeakers, you have our guarantee that your speakers conform to Matthew Polk's singular vision of musical accuracy, consistency and reliability.

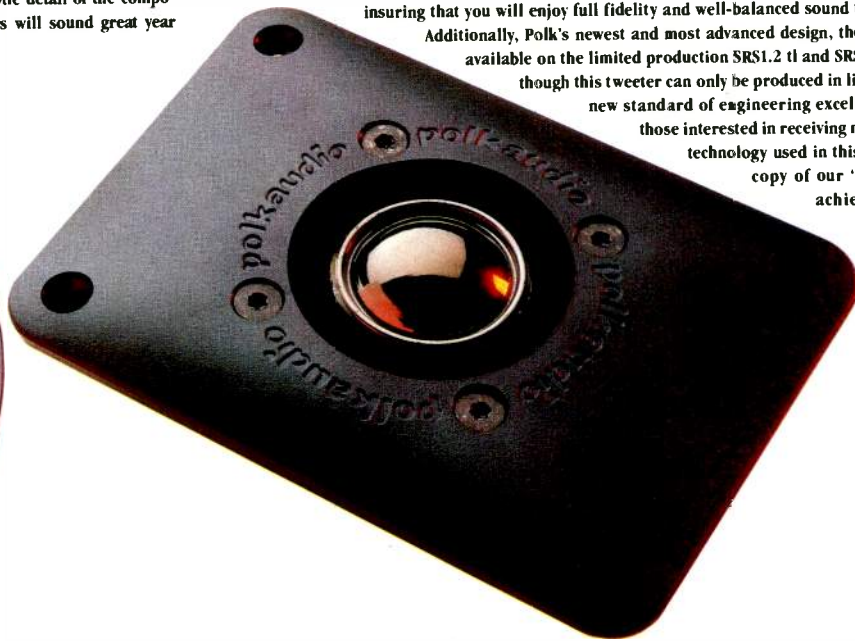
Polk's SafetyGuard Tweeter Protection Device (not pictured)

This distortion-free circuit instantaneously shuts down the tweeter(s) when the speaker is overdriven. And unlike crude fuses, Polk's SafetyGuard is fast, effective and self resetting.

Polk's Exclusive Tweeter Design

Every detail of Polk's exclusive tweeter design has been critically engineered to insure the listener the ultimate in high-frequency performance. The voice coil is precision wound with high-conductivity coated wire for more extended high frequency response. The ultra light polyamide dome is extremely fast for superior transient response. It allows the listener to perceive even the most subtle detail and texture in the music. This remarkable soft dome also smooths and eliminates annoying resonances and peaks thereby avoiding the shrillness and edgy sound of hard-dome designs. The small diameter dome shape and a specially contoured minimum diffraction faceplate provide wide dispersion insuring that you will enjoy full fidelity and well-balanced sound throughout your listening room.

Additionally, Polk's newest and most advanced design, the SL3000 trilaminate tweeter, is available on the limited production SRS1.2 tl and SRS 2.3 tl loudspeaker systems. Although this tweeter can only be produced in limited quantities, it represents a new standard of engineering excellence in component design. For those interested in receiving more detailed information on the technology used in this design, please contact us for a copy of our "white paper" on engineering achievements incorporated in the SL3000 tweeter.



The SRS Series



"The sound is superbly balanced and totally effortless." Stereo Review Magazine

“Matthew Polk’s SRS Speakers Bring You the Ultimate Listening Experience”

“Spectacular... it is quite an experience.” Stereo Review Magazine

The Joy of Owning the Ultimate Dream Speakers

Music lovers who are privileged to own a pair of SRS’s will share in Matthew Polk’s dream every time they sit down and enjoy the spine-tingling excitement of listening to their favorite music. Demonstrating them to admiring friends ultimately increases their pride-of-ownership. “Awesome” is the word most often used to describe the sound of an SRS system. They are capable of playing at live concert levels for long periods of time, with a surprising lack of effort and without producing ear-fatigue.

The bass response can literally move your body any time the music requires it, yet they perfectly reproduce all of the subtle nuances of a string quartet and are just as enjoyable at a low volume level as when played loud. Music and ambience surround the listener in an almost 360-degree panorama of sonic splendor that is, in the words of High Fidelity magazine, “Mind-boggling... Astounding... Flabbergasting.” But words alone cannot possibly describe the experience of listening to these ultimate speaker systems, you simply must hear them.

SRS 1.2 tl

Two time Audio Video Grand Prix Winner

The ultimate expression of Polk technology, this limited production flagship model sets the industry standards for imaging, detail, dynamic range, and bass reproduction.

SRS 2.3 tl

Audio Video Grand Prix Winner

This scaled-down version of the SRS 1.2 tl incorporates all of flagship’s design innovations without significantly compromising its awesome performance.

Polk Audio’s SRS: The Quest for Perfection

The goal of Matthew Polk’s Signature Reference System (SRS) speakers is to bring an unparalleled level of life-like musical reproduction to your home. Perfect musical reproduction, long the dream of every speaker designer, is approached so closely by Matthew Polk’s SRS’s that it will seem as if the musicians are performing right in your listening room. This stunning achievement combines technology and creative insight to bring you a listening experience that you will never forget.

1. Patented SDA True Stereo Technology — The first and only speaker systems to maintain full stereo separation all the way from the source to your ears. (see pg. 9 for a more complete description). SRS speakers seem to disappear as musical images fill your listening room and seem to immerse you in a fully three-dimensional soundfield of startling realism.

2. Multiple Driver Arrays — The use of multiple drivers allows each separate element to work less hard and lowers distortion even at live concert levels. Power handling is increased to 1,000 watts per channel, providing a seemingly limitless dynamic range.

3. Time-Compensated Driver Alignment — Time-coherent driver placement insures that the entire spectrum of sounds reaches your ears at the same time. The sound is better focused, balanced and less fatiguing.

4. Wavelength Optimized Line-Source — Vertical driver arrays focus the sound waves into the room in a way which greatly reduces floor and ceiling reflections. Progressive reduction of the acoustical length of the arrays maintains constant vertical dispersion and eliminates “comb” filtering effects that limit other multiple driver systems. The result is extraordinary clarity and detail, great flexibility in room placement and precise stereo imaging from virtually any place in the room.

5. Planar 15” subwoofer — SRS bass performance is breathtaking. The use of small active drivers (eight in the SRS 1.2 tl, six in the SRS 2.3 tl) coupled to a huge sub-bass radiator achieves a bass response that is extraordinarily tight, fast (no boominess), deep and distortion free. In fact, the distortion at 25 Hz is lower than that of many audiophile-quality tube amplifiers.

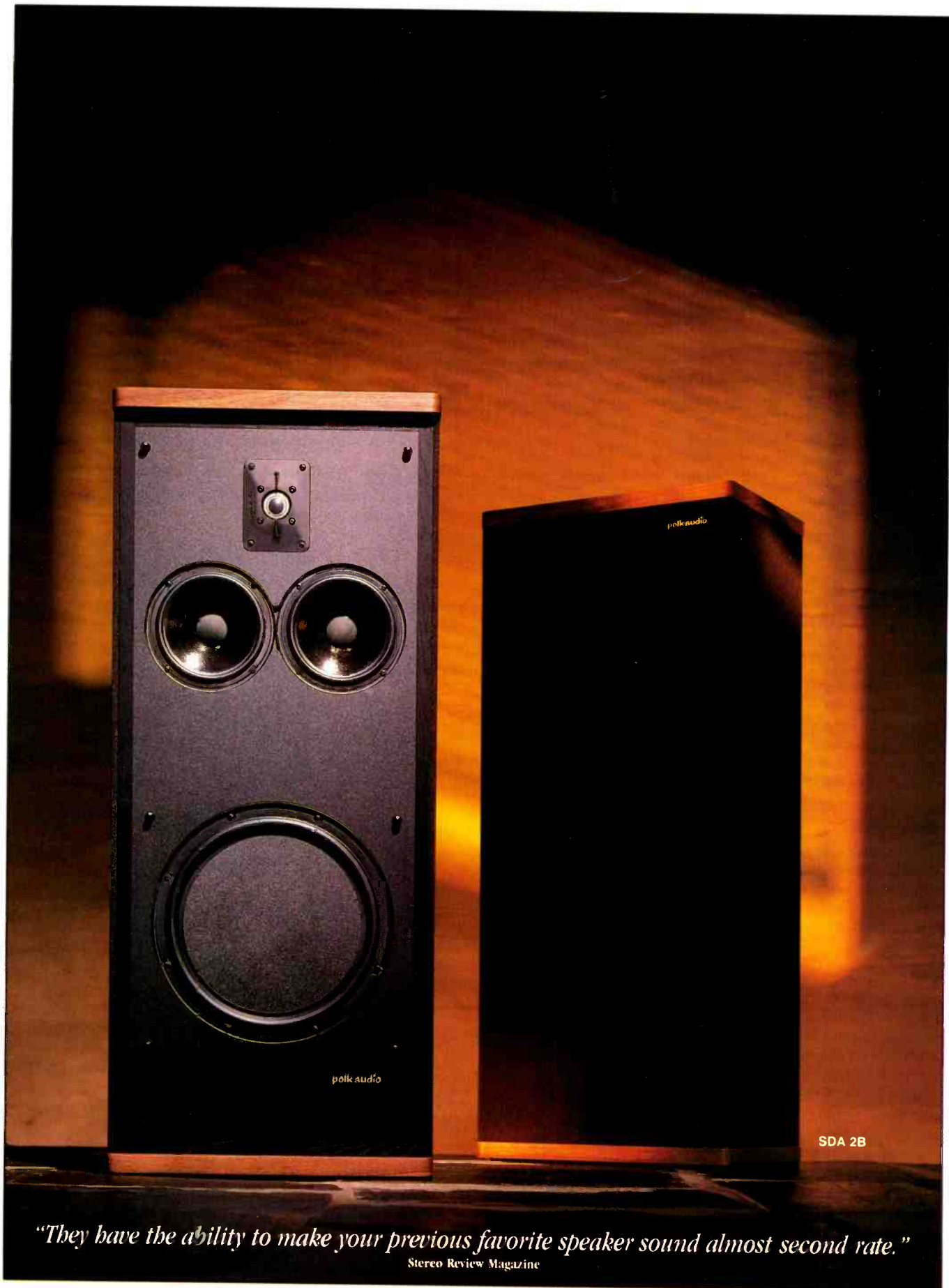
6. Bi-amp Capability — The optional use of separate amplifiers for the high and low frequencies further improves clarity, lowers distortion and increases dynamic range.

7. Hand-Crafted Limited Production — The one-at-a-time attention that goes into the production of every Polk SRS speaker system means that your pair will sound and look as good as Matthew Polk’s own.



Matthew Polk with the ultimate expressions of loudspeaker technology: The SRS 1.2 tl and SRS 2.3 tl.

The SDA Series



SDA 2B

"They have the ability to make your previous favorite speaker sound almost second rate."

Stereo Review Magazine

“Polk’s Revolutionary True Stereo SDAs Always Sound Better Than Conventional Speakers”

“Mindboggling...Astounding...Flabbergasting” High Fidelity Magazine

SDA 1C

Audio Video Grand Prix Winner

This floor standing model uses SRS vertical line-source technology in an attractively slim, tower configuration, offering tremendous impact and amazing stereo imaging with a minimum use of floor space.

SDA 1C Studio

Same configuration as the SDA 1C but in a vinyl clad cabinet.

SDA 2B

AudioVideo Grand Prix Winner

The SDA 2B represents an incredible value which combines spectacular SDA performance with a remarkably affordable price. High Fidelity said listening to the SDA 2B is “an amazing experience.”

SDA 2B Studio

Same configuration as the SDA 2B but in a vinyl clad cabinet.

SDA CRS +

AudioVideo Grand Prix Winner

The SDA Compact Reference System is the worlds’ best sounding small speaker and can be either bookshelf or stand mounted. Stereo Review called the CRS “an impressive achievement.” No other small speaker offers such a compact package of high technology and performance.



Polk Audio's Grand Prix Award winning SDA Series speakers. Pictured left to right, SDA 1C, SDA 2B and SDA CRS +.

A Fundamental Advance in Loudspeaker Design

Polk's patented SDA technology is the most fundamental advance in loudspeaker design in twenty years. High Fidelity magazine said of the SDA design, “Polk reinvents the loudspeaker...startling evidence of the industry's essential creative vitality.” Rolling Stone Magazine agreed when they wrote, “They truly represent a breakthrough.” The Polk SDA's are the world's only “True Stereo” speakers, that is, the only speakers which are specifically designed to realize the full sonic potential of every stereophonic recording.

The SDA Difference

In order to maximize performance, stereo separation is carefully maintained in all audio components. However, with conventional loudspeakers both ears hear both speakers and the two channels are mixed together before they ever reach your ears. Because stereo separation is not maintained all the way to your ears, much of the sense of spaciousness and sonic realism of the original recording is lost. The soundstage is only as wide as the distance between the speakers and sonic images are rendered flat and small.

Polk SDA speakers are the first true stereo speakers and are able to maintain perfect stereo separation all the way from the source to your ears. By acoustically isolating the two stereo channels, each ear hears only the correct stereo channel; the left ear hears left channel, and the right ear hears right channel. Recordings literally come alive in your listening room. Musical images are reproduced with incredible clarity and pinpoint accuracy. You are surrounded by a stunning three-dimensional sound stage that extends from wall-to-wall, and also wraps around you. Only with Polk Audio SDA loudspeakers can you hear all of the spaciousness and life-like imaging of the original performance.

How SDA Technology Works

Conventional speakers allow both of your ears to hear both the left and right channels at the same time. This is called “Interaural Crosstalk Distortion.” This crosstalk distortion could be prevented by building a wall between your speakers right up to your nose, so that each of your ears would hear only the speaker on one side of the wall. SDA speakers cancel this distortion, but in a much more comfortable, elegant, and highly accurate fashion. Each SDA speaker reproduces a signal that is the exact opposite of the undesirable crosstalk signal. This cancellation signal is timed to arrive at your ear at precisely the same time as the undesirable crosstalk signal. When these two signals combine, they naturally and acoustically cancel each other. What remains is one correct stereo channel delivered to each ear. In this way SDA speakers allow you to hear stereo performances the way they were meant to be heard.

The SDA Advantage

Only Polk's patented SDA loudspeakers let you hear all of the information and spatial realism that is on the original recording. Conventional speakers restrict what you hear due to their failure to maintain complete stereo separation. Stereo Review magazine said that with SDA speakers: “The result is always better than would be achieved with conventional speakers.” Hear the SDA advantage for yourself.

The Experts Rave about the SRSs and SDAs

“Polk reinvents the loudspeaker” High Fidelity Magazine

“The result is always better than would be achieved by conventional speakers...”
Stereo Review Magazine

SRS 1.2 tl

“Polk’s No Compromise Flagship Loudspeaker” Stereo Review Magazine

“At the CES (Consumer Electronic Show) among the crop of new and often innovative speakers probably the most impressive was the Polk SDA Signature Reference System which shook the walls of the Americana Congress Hotel...Polk’s no-compromise flagship loudspeaker offers new refinements on the Stereo Dimensional Array design...The SDA system works essentially as claimed...the effect can be quite spectacular...as good as the SDA feature is we were even more impressed by the overall quality of the SDA-SRS as a speaker system. The sound is superbly balanced and totally effortless...unusually open and integrated...the composite frequency response was exceptional no matter how you look at it...only at 10,000 Hz where presumably only one driver was in use, did we reach the limits of the speaker and the amplifier at the same time — 1,265 watts into 5 ohms...almost any amplifier can drive the SRS to the highest listening levels most people would want...the phase compensation of the system was exceptional... we have never measured a low bass distortion level as low as that of the SRS...we found that the passive radiator response varied only a total of 7dB between 12 and 90 Hz. Polk calls the passive radiator a “sub-bass driver” with good reason...it is quite an experience. Furthermore, with the SRS it is not necessary to play the music loud to enjoy the tactile qualities of deep bass...*Spectacular!*



SRS 1.2 tl

Stereo Review Magazine



Conventional speakers with compressed sound stage.



Polk TRUE STEREO SDA Loudspeakers — Accurate reproduction of full sound stage width & depth.



SDA 1C

"Mind boggling powers of sonic persuasion"

High Fidelity Magazine

"Our first, all too brief, audition simply bowled us over. The width, depth and precision of the stereo image are astounding...after extended listening we were no less astonished mind-boggling powers of sonic persuasion...The SDA-1's strong suit (to put it mildly) is its imaging which ranges from very good to flabbergasting, depending on the material...devastatingly dramatic. With good classical discs, the soundstage seems to open up, presenting a greater sense of depth and enveloping the listener more fully in the recorded ambiance...But it's on fancy rock recordings that the system can really strut its stuff...it really is great fun. We find ourselves listening to unfamiliar recordings on other speakers and saying to each other, "I wonder what this would sound like on the Polks". Get an audition...It's worth the trouble just for the experience.

High Fidelity Magazine

SDA CRS +

"An Impressive Achievement..."

Stereo Review Magazine

"It was easy to forget that we were hearing speakers at all. Just the music remained, and it seems to us that this is what hi-fi is all about...the SDA-CRS is designed to compensate for the fact that in normal stereo playback each ear hears the sound from both speakers, which inevitably affects apparent channel separation and the stereo image...we drove the speakers as hard as our ears would tolerate, with a 350-watt-per-channel amplifier, and they never showed any signs of distress...Our measurements confirm that the Polk SDA-CRS is a very good speaker system — with a host of desirable qualities — when it is judged by the same standards

one would apply to conventional speakers. But it is not a conventional system, and it deserves to be examined for the special sonic qualities that are claimed for it.

The fact that the SDA-CRS will fit in any room works as well on pedestals as against a wall (we tried them both ways), and costs less than half as much as the revised SDA-1A says something about its intrinsic merits. It is definitely not just another speaker."

Stereo Review Magazine



SDA CRS +

SDA 2B

"Superb...it has the ability to make your previous favorite speaker sound almost second rate"

Stereo Review Magazine

"It took only a brief exposure to the sound of the SDA-2A to recognize its unique qualities...these speakers always sounded different from conventional speakers — and in our view better — as a result of their SDA design. Continued experimentation

has led to design changes that both improve performance and reduce cost, and the result is the SDA-2A...the response was impressively flat and smooth...ranks with the best responses we have measured from a speaker. Our peak power tests of the Polk drivers confirm that they can handle any power that is likely to be supplied in a home speaker...When we listened to recordings having strong left-right separation the sound wrapped around us through an angle of at least 90 degrees, even though the speakers formed an angle of perhaps only 40 to 50 degrees with the listening position. With most stereo programs the speakers effectively disappear as sound sources, and the soundstage was seamless across the width of the room even with relatively close speaker spacing.

The Polk SDA-2A is right up there at the top of the class in every way. It has the ability to make your previous favorite speaker sound almost second-rate. Listen to it at your own risk!"

Stereo Review Magazine



SRS 2.3 II



SDA 2B

The RTA Series



"They provide smooth, fast and incredibly well detailed sound."

“Polk’s RTA Tower Loudspeakers Combine Legendary Polk Performance with Contemporary Style.”

Big speaker performance with an efficient use of space.

RTA 11t

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

RTA 8t

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

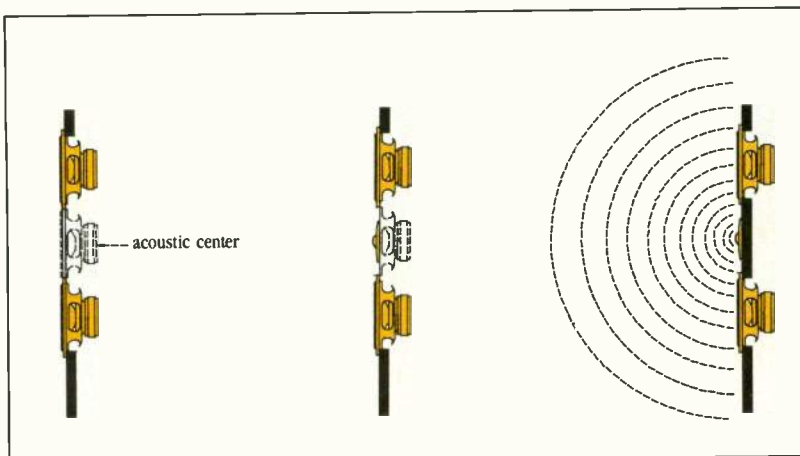
Both Polk RTA series loudspeakers achieve the extremely rare combination of good looks and state-of-the-art performance. The tall, elegantly slender and deep “tower” design cabinets allow for substantial internal volume for high efficiency and powerful bass, but only require less than one square foot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

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

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

The discriminating listener who seeks state-of-the-art performance and design will find the quintessential combination of both in Polk’s RTA series loudspeakers.

THE PRINCIPLES OF COINCIDENT RADIATION



The perceived source of sound of two identical drivers is centered in the area between them.

In the Polk RTA loudspeaker, the tweeter is positioned at the acoustic center of the drivers.

Drivers and tweeter appear to operate together as an ideal point source resulting in precise imaging, uniform dispersion and startling midrange accuracy.



Polk Audio's RTA 8t and RTA 11t High Performance Tower Speakers

The Monitor Series



Monitor 10B

"The best high performance speaker value on the market today." Off The Record

“Polk’s Remarkable Monitors Redefine Incredible Sound/Affordable Price”

“At their price, they’re simply a steal” Audiogram Magazine

Monitor 10B

One of the world’s best sounding loudspeakers, and in the words of Audiogram magazine, “At the price they are simply a steal.” The Polk 10B utilizes dual trilaminate polymer drivers, a 1” dome tweeter coupled with a built-in subwoofer for accurate bass response and superior high frequency clarity.

Monitor 7C

Basically a smaller, less expensive version of the Monitor 10B. By offering superlative performance whether mounted on a shelf or a speaker stand, the 7C is a highly versatile addition to any audio system. How good does it sound? Audio Alternative magazine said, “It is amazing.”

Monitor 5B

Similar in design and performance to the Monitor 7C, however it utilizes an 8” subwoofer (rather than 10”) and is more compact. The 5B represents one of the best values of the entire Monitor Series.

Monitor 5Jr. +

Called the best sounding speaker of its price in the world regardless of size. It achieves life-like three-dimensional imaging which 10 years ago was not available in any bookshelf speaker at any price.

Monitor 4.5

Shares most of the high technology components and rewarding musical performance of the larger Polk speakers at a surprisingly low price. A critically tuned bass duct insures high efficiency and great bass performance despite its convenient compact design.

Monitor 4A

Identical to the 4.5 in a smaller cabinet. Audio critic Lawrence Johnson called it, “an all around star of great magnitude.” The 4A’s affordable price means that no matter how small your budget, you can afford the incredible sound of Polk!

Matthew Polk’s Vision: Superior Sound for Everyone

Polk Audio is an American company that was founded in 1972 by three Johns Hopkins University graduates who were fanatical audiophiles with a common vision. They believed that it was possible to make speakers that performed as well as the most exotic and expensive systems at a fraction of the price. Starting with only \$200, they began by designing and manufacturing the Monitor Series loudspeakers. The Monitor Series combined the advantages of American high technology and durability with European styling and refinement. Over the years an unending stream of rave reviews, industry awards, and thousands of enthusiastic Polk customers have established the Monitor Series as the choice for those looking for both incredible sound and an affordable price. There is no better value in audio equipment today than a Polk Monitor series loudspeaker.

Uncompromising Standards at Every Price

A limited budget does not mean a limited ability to appreciate fantastic sounding music. That’s why we put our best engineering efforts and only the finest materials into every Polk product regardless of price.

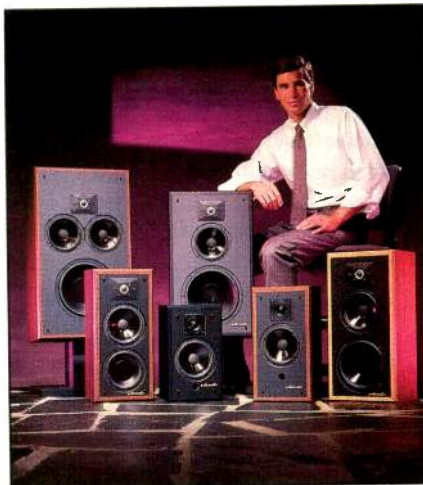
Every Polk Monitor Series speaker uses the same trilaminate polymer cone technology as the flagship SDA-SRS 1.2. Every Polk Monitor utilizes a 1” polymer dome tweeter, and most use exactly the same tweeter found in the SRS 1.2. All Polk Monitors employ costly multi-component crossover networks and ¾” thick high density, non-resonant cabinets. Pick up a Polk Monitor 4A, then pick up a comparably priced but larger speaker from a different manufacturer. You’ll notice that the Polk is heavier, more solidly built and sports a superior fit and finish. Now compare the sound. We are sure you’ll agree with Musician magazine, which said Polk Monitors are: “Vastly superior to the competition.”

The Thrilling Sound of Polk Monitors

Polk Monitors achieve open, boxless, three-dimensional imaging surpassed only by the SDA’s. Their silky smooth frequency response assures natural, non-fatiguing, easy to listen to sound, while their fast transient response results in music that is reproduced with life-like clarity and detail. In addition, dynamic bass performance, ultra-wide dispersion, high efficiency and high power handling are all hallmarks of Monitor Series performance.

There is a Polk Monitor Perfect for You

Each time you advance through the six Monitor Series models, you’ll immediately hear a remarkable improvement in efficiency, bass response, and output volume. They are designed so that a smaller Polk played in a small room will sound nearly identical to a larger Polk played in a large room. A larger Polk in a small room will, of course, play that much louder with even better bass. No matter what price range fits your budget, there is a spectacular Polk Monitor Series speaker waiting to fulfill your sonic dreams.



Matthew Polk with his incredible sounding/affordably priced Monitor Series loudspeakers. Front row (L to R) Monitor 5Jr. +, Monitor 4A, Monitor 4.5, Monitor 5B Back row (L to R) Monitor 10B, Monitor 7C

“Vastly Superior to the Competition”

Musician Magazine

“Other comparably priced speakers simply do not come close”

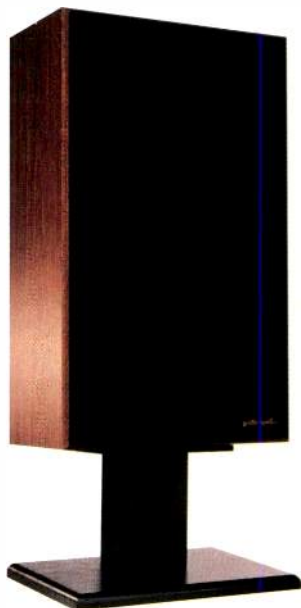
Audiogram Magazine

The Monitor Series

“Open, uncolored, perfectly imaged sound” Musician Magazine

“We at Musician have found the Polk Audio Monitor speakers so vastly superior to the competition in their price range we felt we had to pass the information along...The design produces a remarkably well integrated and coherent sound that adapt itself ideally to all kinds of music...the kind of open, uncolored, perfectly imaged sound we thought began at twice the price and required huge amounts of amplification...will benefit from state-of-the-art electronics, but sound quite magnificent with a good mid powered popular brand receiver...they make the other popular speakers in their price range seem dim, colored, boxy and just plain insufficient. If you're shopping for stereo, our advice is not to buy speakers until you've heard the Polks.”

Musician Magazine



Monitor 10B



Monitor 4.5

“Outstanding... highly recommended”

Complete Buyer's Guide to Stereo/Hi Fi Equipment

“Sound beyond what would be expected...highly recommended...Polk Audio Monitor Series speakers enjoy an enviable reputation among audiophiles who don't have the golden wallet to match their golden ears...designed to appeal to the most critical audiophiles and those audiophiles have embraced them warmly...outstanding loudspeakers...deciding high end sonic characteristics...unusually pure sound. It's clear that Polk came by their excellent reputation honestly.”

Complete Buyer's Guide to Stereo/Hi Fi Equipment

Monitor 10B

“Superior sound”

Stereo Review Magazine

“Polk offers an uncommon amount of superior sound at a moderate price...Open, boxless, three dimensional quality...We probably would have chosen these adjectives ourselves to describe the sound of the Model 10, but Polk has spared us the chore...the combination of good “sound sense” and a high degree of technical expertise and sophistication has resulted in some truly noteworthy products...It is easy to appreciate the advantages of using a pair of small diameter (but long throw) woofers that can radiate much of the midrange as well as the upper and mid-bass frequencies. Avoiding a crossover in the midrange (the most audibly important part of the musical spectrum) is the best way to eliminate or minimize many of the colorations that have been attributed to crossover networks. The dispersion of the one inch tweeter is exceptional...the transient response of the Model 10 is absolutely first-rate, and the hemispherical dispersion is superb (we cannot recall measuring better dispersion on any forward radiating speaker)...the speaker sensitivity is adequate for use with a 10-watt amplifier, yet it could absorb the full output of a 200-watt amplifier without damage...exceptionally pleasing sonic balance.”

Stereo Review Magazine

“At their price, they are simply a steal”

Audiogram Magazine

“When we heard the Polk Speakers at the CES show we were so impressed we could not believe the prices. The sound coming forth from the Model 10 Monitors is something really special. It is a sound that is open, well defined and very low in coloration. One does not generally expect such low coloration in a modestly priced box speaker, and certainly not anything like the definition exhibited by these speakers. How does Polk do it? We think it is mostly execution. They hear very well and they care...Other comparably priced speakers simply do not come close to the standards set by the Model 10...at their price they are simply a steal.”

Audiogram Magazine

Monitor 7C

"It is amazing"

Stereo Buyer's Guide

"We have found something very special. The Polk 7. It is amazing... Hundreds of manufacturers build loudspeakers but only a few in this price range really perform. The Polk 7's perform!... The bottom end of the

Polk 7's is tight, fast and can actually reproduce a cello without making it sound like an electric bass... It is sturdily built and attractive. Technically the Polk 7 is a superior loudspeaker in its class. Frequency response is exceptionally flat... Horizontal dispersion is so good that you can stand in front of one 7 and hear the other!... Vertical dispersion is also excellent... It is apparent that this speaker is a real find."

Stereo Buyer's Guide



Monitor 7C



Monitor 5B

Monitor 4A

"Star of great magnitude"

Milwaukee Sentinel

"The Polk 4 creates a startling illusion of an elevated stage... the stronger and better quality the signal we fed them the more spectacular the image that blazed up... All of that would be remarkable enough if we were discussing loudspeakers in the \$1000 range. The Polk 4 carries a retail price of under \$200 a pair. In actual use the Polk 4 is an all around star of great magnitude. Not only do high frequencies shine to the farthest reaches of hearing, but musical textures and colors in that stratosphere come through finely controlled and proportioned. And don't be misled by Polk's modest claim for bass response... its low register shows ample depth and clarity. At high listening levels, these pixie Polks deliver the massive brass sonorities of Mahler's Third Symphony with incredible energy, textured pliancy and most significant, transparency. Factors of presence and stereo imaging proved just as amazing. Yet the Model 4 doesn't have to be whipped to excel... Late one night, we sat down to a quiet hour of folk music... and experienced the same thrilling detail and immediacy."

Milwaukee Sentinel



Monitor 5B

"We were very impressed" Stereo Buyer's Guide

"It's a medium-sized bookshelf unit brimming with the latest in Polk speaker technology... excellent sonic balance and a dynamic capability rarely found in a speaker of this size... Bass was well extended and excellent in terms of sonic quality, while the midrange was clean and very detailed... treble was extended and shimmering... the stereo stage was palpable and extremely defined... the frequency responses (sine wave and pink noise) were very flat... add to this the versatility of the unit with regard to room placement, plus the Polk reputation for reliability and it's hard to beat."

Stereo Buyer's Guide



Monitor 5jr. +

The Mobile Monitor Series

“Polk’s Mobile Monitors Sound Like the Finest Home Speakers”

“Built Tough to Withstand the Rigors of the Road”

Now you don't have to compromise your home audio standards when listening to music in your car. Polk Audio's engineers have brought the same amazing quality, technology and innovation of the Grand Prix Award winning Polk home speakers to your automobile. Not surprisingly, two of the Polk Mobile Monitor designs (the MM 10A and MM 6900) have already won Autosound Grand Prix Speaker of the Year awards.

Polk Mobile Monitor automotive systems sound extraordinary. They are silky smooth and perfectly balanced, with deep, accurate bass performance that leaves the “boom, crash, tinkle” of typical car speakers in the dust. Even at the loud volume levels so often required on the road, Polk Mobile Monitors are non-fatiguing and easy to listen to. Borrowing the same trilaminate polymer cone and dome tweeter technologies developed for the highly acclaimed Polk home Monitor Series, the Mobile Monitors provide unequalled clarity and the awesome power required to effortlessly resolve every musical detail even over road noise.

Spectacular SDA Imaging Hits the Road!

Now you can experience the accuracy and excitement of live-sound imaging in your car by installing a Polk SDA Mobile Monitor system. An SDA crossover matrix used in conjunction with 2 pairs of Mobile Monitor speakers (front and rear) literally expands the boundaries of the automotive listening environment.

The SDA Mobile Monitor system solves the acoustic shortcomings of automotive interiors and car stereos. First, by cancelling interaural crosstalk distortion, the SDA system frees you from the feeling that you are listening inside a small box. The sound is open, spacious, and three dimensional, as if you were listening in a concert hall. Second, the sound stage is maintained in front of you as it would be in real life, rather than from behind as with conventional autosound systems. Third, excellent bass response is sustained by means of Polk's exclusive Sub-Bass Drive circuit. Of the Polk SDA Mobile system, Car Stereo Review said, “Polk has triumphed... It's like jumping into hyperspace.”

A Mobile Monitor System for Every Car

Given the wide variety of vehicles on the road and the myriad of placement options, Polk Mobile Monitors are available in many configurations to suit practically any installation. Your Polk dealer can help you choose the system that's right for your car. Go ahead, push the envelope. Doesn't your car deserve the best?



SDA ACM



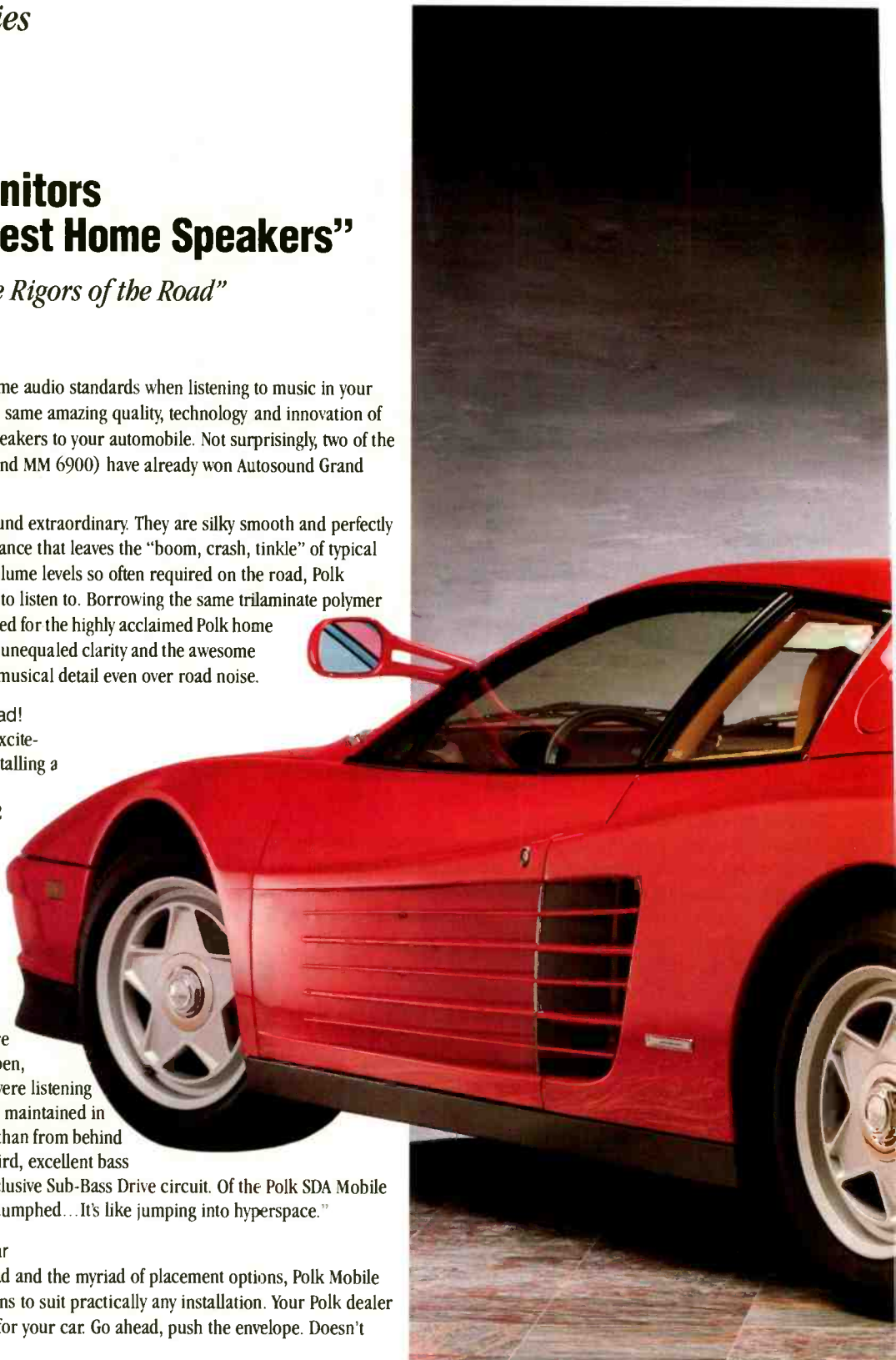
MM 5503



MM 6503



MM 6903



polkaudio
The Speaker Specialists[®]



MM 6930



MM 10a



MM3a



MM1a



MM 1025

Enter No. 78 on Reader Service Card

The Architectural Reference Built-in Loudspeaker

“Polk’s Architectural Reference Loudspeakers Designed to be Heard — Not Seen”

Now you can enjoy the incredible sound of Polk loudspeakers in every room of your home without using any floor or shelf space to do so. Polk’s Architectural Reference loudspeaker systems mount easily into any wall, ceiling or slat for easy installation in virtually any location in your home. Additionally, the same advanced driver and crossover technology is used from our finest bookshelf speaker systems in incredibly small, inconspicuous packages. In fact, the AB-700 is the smallest speaker of its type that uses a full 6 1/2" woofer. Both the AB-700 and the AB-800 can be mounted in any material ranging in thickness from 1/2" to several inches and can be accommodated in either new or existing construction. All Polk architectural reference loudspeaker systems are supplied in an off-white finish with grills that can be painted to blend in with any wall. Bring the joy of music into every room of your home with the incredible Polk architectural loudspeaker systems.

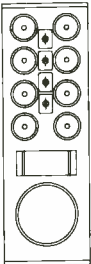


Specifications

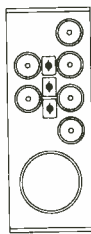
Your Choice of Many Beautiful Cabinet Finishes:

The SDAs are available in a beautiful hand-oiled oak or walnut finish. All other models come standard in furniture grade walnut, oak or black woodgrain vinyl. Polk stands are shown in the photographs and are recommended, but optional.

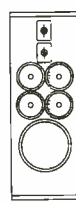
These specifications are offered to help in comparing the various Polk models with each other. Polk Audio uses many unique testing methods in the design and evaluation of its products. Remember, *there is no accepted standard method for testing loudspeaker systems*. As a result, our published specifications may be more conservative than those published by other speaker manufacturers. Virtually all audio experts agree that no set of measurements can adequately describe the *sound* of any loudspeaker. The best way to choose the speaker that is right for you is to take your favorite recordings to your nearest Polk dealer and hear them for yourself. The rule of thumb is simply to trust your own ears.



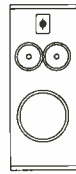
SRS 1.2 II
 Four 1 inch dome tweeters
 Eight 6-1/2 inch drivers
 One 15 inch fluid-coupled subwoofer
 63-1/2H x 21-3/4W x 13-1/8D
 10Hz-26kHz
 27Hz-20kHz
 50-1000 watts/channel
 6 ohms
 91 dB



SRS 2.3 II
 Three 1 inch dome tweeters
 Six 6-1/2 inch drivers
 One 15 inch fluid-coupled subwoofer
 55H x 20-5/8W x 13-1/8D
 12Hz-26kHz
 30Hz-20kHz
 50-750 watts/channel
 6 ohms
 90 dB



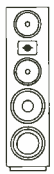
SDA-1C
 Two 1 inch dome tweeters
 Four 6-1/2 inch drivers
 One 12 inch fluid-coupled subwoofer
 44H x 16-9/16W x 11-1/2D
 15Hz-26kHz
 35Hz-20kHz
 50-500 watts/channel
 6 ohms
 90 dB



SDA-2B
 One 1 inch dome tweeter
 Two 6-1/2 inch drivers
 One 12 inch fluid-coupled subwoofer
 40-1/4H x 16-9/16W x 11-1/2D
 20Hz-26kHz
 38Hz-20kHz
 30-350 watts/channel
 6 ohms
 89.7 dB



SDA-CRS+
 One 1 inch dome tweeter
 Two 6-1/2 inch drivers
 One 10 inch fluid-coupled subwoofer
 12-3/4H x 20W x 10-1/8D
 25Hz-26kHz
 42Hz-20kHz
 30-200 watts/channel
 6 ohms
 89.5 dB



RTA 111
 One 1 inch dome tweeter
 Two 6-1/2 inch drivers
 Two 8 inch fluid-coupled subwoofers
 39H x 10-1/2W x 14-1/2D
 22Hz-26kHz
 29Hz-20kHz
 30-250 watts/channel
 6 ohms
 90 dB



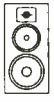
RTA 81
 One 1 inch dome tweeter
 Two 6-1/2 inch drivers
 33-1/2H x 9W x 11-1/2D
 30Hz-26kHz
 42Hz-20kHz
 20-250 watts/channel
 6 ohms
 89.5 dB



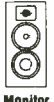
Monitor 10B
 One 1 inch dome tweeter
 Two 6-1/2 inch drivers
 One 10 inch fluid-coupled subwoofer
 28H x 16W x 11-1/2D
 25Hz-26kHz
 37Hz-20kHz
 20-250 watts/channel
 6 ohms
 89 dB



Monitor 7C
 One 1 inch dome tweeter
 One 6-1/2 inch driver
 One 10 inch fluid-coupled subwoofer
 24H x 14W x 9-5/8D
 25Hz-26kHz
 40Hz-20kHz
 20-150 watts/channel
 6 ohms
 89 dB



Monitor 5B
 One 1 inch dome tweeter
 One 6-1/2 inch driver
 One 8 inch fluid-coupled subwoofer
 21-5/8H x 10-9/16W x 9D
 30Hz-26kHz
 43Hz-20kHz
 20-125 watts/channel
 6 ohms
 90 dB



Monitor 5jr+
 One 1 inch dome tweeter
 One 6-1/2 inch driver
 One 6-1/2 inch fluid-coupled subwoofer
 19-1/2H x 9W x 9D
 30Hz-26kHz
 48Hz-20kHz
 20-125 watts/channel
 6 ohms
 91 dB



Monitor 4.5
 One 1 inch dome tweeter
 One 6-1/2 inch driver
 17H x 9W x 9D
 30Hz-25kHz
 50Hz-20kHz
 20-100 watts/channel
 6 ohms
 91 dB



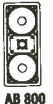
Monitor 4A
 One 1 inch dome tweeter
 One 6-1/2 inch driver
 14-1/4H x 8-1/2W x 7-3/8D
 35Hz-25kHz
 55Hz-20kHz
 20-100 watts/channel
 6 ohms
 91 dB



SDS 400
 One 1 inch dome tweeter
 One 6-1/2 inch driver
 14-1/4H x 8-1/2W x 7-3/8D
 35Hz-25kHz
 55Hz-20kHz
 20-100 watts/channel
 6 ohms
 91 dB



AB 700
 One 1 inch dome tweeter
 One 6-1/2 inch driver
 10-3/8H x 7-1/4W
 Cutout size 9-3/4H x 6-1/4 W
 Mounting depth 3 in. minimum
 30Hz-26kHz
 55Hz-20kHz
 10-125 watts/channel
 6 ohms
 90 dB



AB 800
 One 1 inch dome tweeter
 Two 6-1/2 inch drivers
 16-3/8H x 7-1/8W
 Cutout size 15-1/2H x 6-1/4W
 Mounting depth 3 in. minimum
 28Hz-26kHz
 45Hz-20kHz
 10-150 watts/channel
 5 ohms
 91 dB

Driver Complement

Size (Inches)
Overall Frequency Response
 - 3dB limits
Rec. Amplification
Nominal Impedance
Efficiency

Driver Complement

Size (Inches)
Overall Frequency Response
 - 3dB limits
Rec. Amplification
Nominal Impedance
Efficiency

Driver Complement

Size (Inches)
Overall Frequency Response
 - 3dB limits
Rec. Amplification
Nominal Impedance
Efficiency


















Driver Complement

Size (Inches)

Overall Frequency Response
 - 3dB limits
Rec. Amplification
Nominal Impedance
Efficiency

Mobile Monitor Specifications

Efficiency measured @ 1 watt/5 meters

Model	Configuration	Cut Out Dimensions (inches)	Mounting Depth (inches)	Overall Frequency Response	Rec. Amplification	Nominal Impedance	Efficiency
 MM1a 4 inch full range			3-3/4 Diam.	1-3/8 80Hz-15,000 Hz 5-50 watts/channel 4 Ohms 96 db			
 MM3a 5-1/4 inch coaxial			4-7/8 Diam.	2-1/4 40-20,500 Hz 5-75 watts/channel 4 Ohms 93 db			
 MM 10a 6-1/2 inch coaxial			5-3/8 diameter	2-5/8 38-20,500 Hz 5-150 watts/channel 4 Ohms 94 db			
 MM 3500 3-1/2 inch full range			3-1/4 diameter	1-1/2 120-17,000 Hz 5-50 Hz 4 Ohms 94 db			
 MM 4600 4 x 6 full range			5-5/8 x 3-3/4 oval	2 75-15,000 Hz 5-50 watts/channel 4 Ohms 96 db			
 MM 4 Plate type with 1/2 inch tweeter and 5-1/4 inch woofer			4" Diam.	1-1/2 40-20,500 Hz 5-75 watts/channel 4 Ohms 91 db			
 MM 6920 6 x 9 inch coaxial			8-3/4 x 5-7/8 over 3-1/8	34-20,500 Hz 5-150 watts/channel 4 Ohms 95 db			
 MM 6930 6 x 9 inch three way			8-3/4 x 5-7/8 over 3-1/8	34-20,500 Hz 5-150 watts/channel 4 Ohms 95 db			
 MM 5503 5-1/4 inch three-way two-piece system			4-7/8 Diam.	MF/HF — 4-1/4 x 2-1/2 (Flush) 4-5/8 x 2-3/4 (behind panel) LF — 3-1/8, MF/HF — 1			
 MM 6503 6-1/2 inch three-way two-piece system			4-7/8 Diam.	MF/HF — 4-1/4 x 2-1/2 (Flush) 4-5/8 x 2-3/4 (behind panel) LF — 2-5/8, MF/HF-1			
 MM 6903 6 x 9 inch three way two-piece system			4-7/8 Diam.	MF/HF — 4-1/4 x 2-1/2 (Flush) 4-5/8 x 2-3/4 (behind panel) LF — 3-1/8, MF/HF-1			
 MM 2001 1/2 inch tweeter			2 inch midrange	4-1/4 x 2-1/2 (Flush mount) 4-5/8 x 2-3/4 (panel mount) 1 inch 1,500-20,500 Hz 5-50 watts/channel 4 Ohms 95 db			
 MM 5501 5-1/4 inch woofer			4-7/8 Diam. 2-1/4 inch 40-1500 Hz 5-100 watts/channel 4 Ohms 93 db				
 MM 6501 6-1/2 inch woofer/subwoofer			5-3/8 Diam. 2-5/8 inch 38-1500 Hz 5-150 watts/channel 4 Ohms 94 db				
 MM 6901 6 x 9 inch woofer/subwoofer			8-3/4 x 5-7/8 oval 3-1/8 inch 34-1500 Hz 5-150 watts/channel 4 Ohms 95 db				
 MM 8001 8 inch subwoofer			7-1/4 diam. 3-1/4 inch 30-1500 Hz 10-150 watts/channel 4 Ohms 95 db				
 MM 1025 10 inch subwoofer			9-1/4 diam. 4-3/8 inch 25-1000 Hz 10-200 watts/channel 4 Ohms 95 db				

Where to buy Polk Speakers

AUTHORIZED HOME DEALERS

CANADA Call Evolution Technology, Toronto for nearest dealer 1-416-847-8888
AK Anchorage: Magnum Electronics • **Fairbanks:** Holt's
AL Birmingham: Audition • **Dothan:** International Audio • **Huntsville:** Sound Distributors • **Mobile:** Hi Fi Zone • **Montgomery:** The Record Shop • **Tuscaloosa:** Kincaid Stereo & TV
AR Fayetteville/FL Smith: Stereo One • **Little Rock:** Leisure Electronics • **Searcy:** Softmart
AZ Phoenix/Mesa: Hi Fi Sales • **Tucson:** Audio Emporium • **Yuma:** Warehouse Stereo
CA Bakersfield: Casa Moore • **Campbell:** Sound Goods • **Canoga Park:** Shelley's • **Carpinteria:** Creative Stereo • **Chico:** Sounds By Dave • **Corona Del Mar:** Pacific Coast Audio Video • **Escondido:** Sound Company • **Eureka:** Eureka Audio Video • **Lancaster:** California Soundworks • **Longbeach:** Audio Concepts • **Mountain View:** Sound Goods • **Napa:** Futurvision • **Orange:** Absolute Audio • **Pennrose:** California Stereo • **Redondo:** Systems Design • **Riverside:** Speakecraft • **Sacramento:** Good Guys • **San Diego:** Sound Company • **San Francisco & Suburbs:** Good Guys, Performance Audio • **San Gabriel:** Audio Concepts • **San Jose:** Good Guys • **San Luis Obispo:** Audio Ecstasy • **Santa Barbara:** Creative Stereo • **Santa Cruz:** Sound Wave • **Santa Maria:** Creative Stereo • **Santa Monica:** Shelley's Stereo • **Stockton:** Gluskins • **Thousand Oaks:** Creative Stereo • **Upland:** Audio Haven • **Ventura:** Creative Stereo • **Victorville:** Incredible Sounds • **Visalia:** Metro Stereo • **Westminster:** Videotek Stereo
CO Boulder: Soundtrack • **Colorado Springs:** Sunshine Audio • **Denver & Suburbs:** Soundtrack
FL Daytona Beach: Stereotypes • **FT. Myers:** Stereo Garage • **FT. Lauderdale:** Sound Advice • **FT. Pierce:** Sound Shack • **FT. Walton Beach:** Audio International • **Gainesville:** Electronics World • **Jacksonville:** Audio Tech • **Sebring:** Home Theater • **Key West:** Audio International • **Lakeland:** Sound Factory • **Mary Esther:** Palm Audio Video • **Merriott Island:** Southern Audio • **Miami:** Electronic Equipment Co., Sound Advice • **Naples:** Stereo Garage • **Panama City:** Watsound Stereo • **Pensacola:** All Pro Sound • **Sunrise:** Sound Advice • **St. Petersburg:** Cooper for Stereo, Sound Advice • **Tallahassee:** Stereo Store • **Tampa:** Sound Advice • **W. Palm Beach:** Electronic Connection, Sound Advice
GA Athens: Hi Fi Buys • **Atlanta & Suburbs:** Hi Fi Buys • **Augusta:** Stereo City • **Brunswick:** H&H Service Store • **Columbus:** Merit TV • **Gainesville:** Audio Dimensions • **Macon:** Georgia Music • **Savannah:** Audio Warehouse • **Valdosta:** Stereo Connection
HI Honolulu: Honolulu Audio Video
IA Davenport: Grigg's Music • **Des Moines:** Audio Labs • **Dodge City:** Sound World • **Dubuque:** Reniers Iowa City • **Hawkeye Audio • Mason City:** Sound World • **Sioux City:** Audio Visions • **Waterloo:** Team
ID Boise: Stereo Shoppe • **Moscow:** Stereo Shoppe • **Sandpoint:** Electracraft • **Twin Falls:** Audio Warehouse
IL Alton: Reliable Stereo • **Aurora:** Stereo Systems • **Carbondale:** Southern Stereo • **Champaign:** Good Vibes • **Chicago & Suburbs:** United Audio • **Decatur:** Team Electronics • **Highland Park:** Columbia • **Joliet:** Stereo Systems • **Kankakee:** Bartlett's Entertainment • **Naperville:** Stereo Systems • **Normal:** Sundown One • **Peoria:** Team Electronics • **Rockford:** Columbia • **Springfield:** Sundown One • **Spring Valley:** Audio Labs • **Sterling:** Sterling Electronics
IN Bloomington: Campus Audio • **Bluffton:** Eley TV & Appliance • **Evanville:** Riskey's • **FL Wayne:** Classic Stereo • **Indianapolis:** Ovation • **Lafayette:** Good Vibes • **Marion:** Classic Stereo • **Michigan City:** Audio Connection • **Muncie:** Classic Stereo • **South Bend:** Classic Stereo • **Terre Haute:** Stereo Crafters
KS Junction City: Audio Junction • **Kansas City:** Brands Mart • **Overland Park:** Audio Electronics • **Brands Mart • Wichita:** Audio Visions • **Topeka:** Nelson's
KY Bowling Green: Audio Center • **Lexington:** KY Audio • **Louisville:** Audio Video Buy Design • **Owensboro, Paducah:** Riskey's • **Pikeville:** Mayo Inc.
LA Alexandria: Simpson Electronics • **Lafayette:** Sound Electronics • **Evanville:** Riskey's • **FL Alterman Audio • MA Boston:** Goodwins, Waltham Camera & Stereo • **Fitchburg:** Fitchburg Music • **N. Dartmouth:** Sound Inc • **Pittsfield:** H.S. Stereo • **Worcester:** O'Coins
ME Bangor: Sound Source • **Camden:** Harbor Audio • **Portland:** New England Music
MD Baltimore: Soundscape • **Galthersburg:** Audio Buys
MI Ann Arbor: Hi Fi Buys • **Birmingham:** Almas Hi Fi • **Dearborn:** Almas Hi Fi • **Farmington Hills:** Almas Hi Fi • **Filint:** Stereo Center • **Grand Rapids:** Classic Stereo • **Iron Mountain:** Sound North • **Kalamazoo:** Classic Stereo • **Lansing/Midland:** Hi Fi Buys • **Potosky:** Kurtz Music • **Saginaw:** Court St. Listening Room • **Traverse City:** Kurtz Music
MN Alexandria: Sound Shop • **Duluth:** Mel's TV & Audio • **Mankato:** Audio King • **Minneapolis & Suburbs:** Audio King • **Rochester:** Audio King • **St. Paul:** Audio King
MO Cape Girardeau: Stereo One • **Columbia:** Johnston Audio • **Kansas City:** Brands Mart • **St. Louis:** Sound Central
MS • Hattisburg: McCelland TV • **Jackson:** Hooper's • **Pascagoula:** Empress
MT Billings: Video Sat & Sound • **Bozeman:** Thrifty Ear • **Great Falls:** Rocky Mountain Hi Fi • **Kalispell:** Audio Visions • **Missoula:** Aspen Sound
NC Boone: Holtons • **Chapel Hill:** Stereo Sound • **Charlotte:** Audio Video Systems • **Conover • Tri-City • Greensboro:** Stereo Sound • **Hendersonville:** Pro Sound • **Kinston:** Stereo Concepts • **Moorehead City:** Anderson Audio • **New Bern:** Anderson Audio • **Raleigh:** Audio Buys, Stereo Sound • **Rocky Mount:** Microwave Audio • **Wilmington:** Atlantic Audio • **Wilson:** Modern Stereo • **Winston-Salem:** Stereo Sound
ND Bismarck: Pacific Sound • **Fargo:** Today Electronics
NE Kearney: Midwest Audio • **Lincoln:** Stereo West • **Omaha:** Stereo West • **York:** Midwest Audio
NH Concord: Audio of New England • **Laconia:** Lakeside Stereo • **North Hampton:** The New Audiotopia • **Salem:** Cuomo's
NJ East Brunswick: Atlantic Stereo • **Maple Shade:** Bryn Mawr Stereo • **Montclair:** Radio R-10 • **Paramus:** Harvey Electronics • **Raritan:** AC Audio • **Ridgewood:** Sounding Board • **Shrewsbury:** Monmouth Stereo • **Toms River:** Rands Camera • **Wall Twp.:** Monmouth Stereo • **West Caldwell:** Perdue Radic
NM Alamogordo: D&K Electronics • **Albuquerque:** West Coast Sound • **Carlsbad:** Beason's • **Clovis:** Towne Crier • **Santa Fe:** West Coast Sound
NV Elko: Elko Audio • **Las Vegas:** Upper Ear • **Reno:** Good Guys • **South Shore Lake Tahoe:** Audio Video Den
NY Albany: Clark Music, Sounds Great • **Amherst:** Speaker Shop • **Batavia:** Unicorn Audio • **Buffalo:** Speaker Shop • **Corning:** Chemung • **Elmira:** Chemung • **Fredonia:** Studio One • **Glens Falls:** Audio Genesis • **Goshen:** Long-player's Stereo • **Ithaca:** Chemung Sound Image • **Jamestown:** Studio One • **Manhasset:** Audio Breakthroughs • **Massena:** Hi Fi Shop • **Newburgh:** Audio Expressions • **New Hartford:** Adirondack Music • **New York City:** Audio Breakthroughs, Electronic Workshop, Harvey Electronics • **Plattsburgh:** Alpha Stereo • **Rochester:** JB Sound • **Scarsdale:** Listening Room • **Syracuse:** Clark Music • **Vestal:** Hart Electronics • **White Plains:** Harvey Electronics • **Woodbury:** Audio Breakthroughs
OH Akron: Audio Craft • **Canton:** Belden Audio • **Cleveland & Suburbs:** Audio Craft • **Cincinnati:** Stereo Lab • **Columbus:** Stereo Lab • **Dayton:** Stereo Showcase • **Findlay:** Audio Craft • **Lima:** Classic Stereo • **Toledo:** Audio Craft
OK Lawton: Hi Fi Shop • **Oklahoma City:** Audio Dimensions • **Shawnee:** Rave Sounds • **Stillwater:** Cartunes • **Tulsa:** Audio Advice
OR Eugene: University Hi Fi • **Grants Pass:** Shekells • **Medford:** Shekells • **Salem:** Kellys Home Center
PA Allentown: Bryn Mawr Stereo • **Blakely:** Hart Electronics • **Bryn Mawr:** Bryn Mawr Stereo • **Camp Hill:** Bryn Mawr Stereo • **Chambersburg:** Sunrise Electronics • **Earle:** Studio One • **Harrisburg:** Bryn Mawr Stereo • **Johantown:** Gary's Entertainment • **Kingston:** Hart Electronics • **Lancaster:** G'n'T Stereo • **Longhorne:** Bryn Mawr • **Montgomeryville:** Bryn Mawr Stereo • **Natrona Heights:** Stereo Land • **Philadelphia & Suburbs:** Bryn Mawr Stereo • **Pittsburgh:** Audio Junction • **Quakertown:** Bryn Mawr Stereo • **Reading:** G'n'T Stereo • **Sellersville:** Stereo Shoppe • **State College:** Paul & Tony's Stereo • **Stroudsburg:** Mann St. Audio Video • **Westford:** Audio Insight • **Williamsport:** Robert M. Sides
PR Puerto Rico: Robert M. Sides
RI N. Providence: Eastem Audio
SC Anderson: Music Machine • **Charleston:** Audio Warehouse • **Columbia:** Music Machine • **Greenville:** Music Machine • **Greenwood:** Stereo Shop • **Spartansburg:** Stereo Shop
SD Aberdeen: Engel Music • **Rapid City:** Team Electronics • **Sioux Falls:** Audio King
TN Chattanooga: R&R.T.V. • **Cookeville:** Lindsay Ward • **Jackson:** New Wave Electronics • **Kingsport:** Audition • **Knoxville:** Lindsay Ward • **McMinnville:** Lindsay Ward • **Memphis:** New Wave Electronics • **Nashville:** Hi Fi Buys
TX Amarillo: Sound Systems Ltd. • **Arlington:** Sound Idea • **Austin:** Marcum Electronics • **College Station:** Audio Video • **Corpus Christi:** Tape Town • **Dallas:** Hillcrest Hi Fidelity • **El Paso:** Soundquest • **FT. Worth:** Sound Idea • **Houston:** Sheffield Audio • **Hurst:** Sound Idea • **Laredo:** Metex International • **Longview:** Audio Techniques • **Lubbock:** Electronics Supercenter • **McAllen:** Metex • **San Antonio:** Mobile HiFi • **San Marcos:** Discovery Audio Video • **Sherman:** Worldwide Stereo • **Temple:** Audio Tech • **Texasarkana:** Sound Towne • **Victoria:** Dyer Electronics • **Waco:** Audio Tech
UT Logan: Stokes Brothers • **Salt Lake City:** Broadway Music • **St. George:** Boulevard Home Furnishings
VA Bristol: Audition • **Charlottesville:** Holdrens Sound Machine • **Falls Church/Mannassas:** Audio Buys • **Harrisonberg:** Ace Music • **N. Electronics • Richmond:** Gary's Stereo • **Roanoke:** Holdrens • **Virginia Beach:** Digital Sound
VT Brattleboro: Scientific Stereo • **Essex Junction:** Creative Sound • **Rutland:** Mountain Music
WA Bellingham: QC Stereo • **Chelan:** Music World • **Oak Harbor:** QC Stereo Center • **Seattle/Bellevue/Lynnwood:** Magnolia • **Spokane:** Electracraft (Hal's) • **Tacoma:** Magnolia
WI Appleton: Sound World • **Eau Claire:** EME Audio Systems • **Green Bay:** Sound World • **Lacrosse:** Sound World • **Madison:** Happy Medium • **Marinette:** Sound Seller • **Milwaukee:** Audio Emporium • **Dashkosh:** Audio Plus • **Wausau:** Sound World
WV Barboursville, Beckley, Charleston: Pied Piper • **Clarksburg:** Audio Visual Concepts • **Huntington:** Pied Piper, Video Warehouse • **Piedmont:** Sound Gallery • **Wheeling:** Stereo Lab
WY Cheyenne: Electronics Unlimited • **Gillette/Sheridan:** Star Video Library

polkaudio
The Speaker Specialists®

⊖ ELITE ⊖
BY PIONEER



END OF CONVERSATION.

Close your eyes, put on your favorite CD and listen. That's the best way to appreciate the natural, accurate musical reproduction of the new Elite TZ Series reference loudspeakers from Pioneer.

Designed by the same engineering team that developed Pioneer's renowned TAD studio monitors, the TZ Series speakers are designed to accommodate the extended dynamic range, superb clarity and depth of digital source materials.

Pioneer began by developing two entirely new diaphragm materials—ceramic graphite and ceramic carbon. These unique low-mass materials are used to construct midrange and high-frequency dome-type diaphragms that virtually eliminate spurious resonance while providing lightness, stiffness and excellent signal propagation speed. Now critical midrange frequencies and delicate highs will sound clearer and more natural than ever before.

To reproduce the extended low frequencies found on digital recordings, Pioneer developed a twin woofer system that packs a punch you'll feel as well as hear. Opposite-mounted bar-jointed

woofers placed in the center of the TZ's cabinet minimize standing waves while providing accurate low-frequency response to 20 Hz.

The cabinet of the 143-lb. TZ-9

is specially constructed, using 1" thick high-density board and a separate inner baffle that isolates the negative influence of low-frequency



Unique bar-jointed twin-woofer system.

vibration. Corners are specially rounded to eliminate diffraction and drivers are arranged for optimum sound-field intensity. The result is imaging and clarity that bring performances alive with smooth, true-to-life sound.

But enough conversation. If you're interested in hearing more about Pioneer's new TZ Series speakers, call 1-800-421-1404 for a technical white paper and the Elite dealer nearest you.

And let the speakers do the talking.



HOME IMPROVEMENT.



Reference Compact Disc Player

COMPACT
disc

00 00 00:00
-00-

AUTO PGM
EDIT
TAPE PAUSE
TRACK NUMBER
1 2 3 4 5
6 7 8
TRACK SEARCH
MANUAL SEARCH
INDEX SEARCH
P.M. P.M.
LEVEL

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.



© 1988 Pioneer Electronics (USA) Inc., Long Beach, CA

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.



*Measured by EIA method.
**Based on FTC rules regarding measurement of amplifier power ratings.
Super VHS is a trademark of Victor Corporation of Japan, Limited.
ED Beta is a registered trademark of Sony Corporation.
© 1988 Pioneer Electronics (USA) Inc., Long Beach, CA

THE ELITE REGISTER

ALABAMA

Birmingham
Audition, Inc.
Huntsville
Audio/Video
Laboratory Inc.

ALASKA

Anchorage
Magnum Electronics

ARIZONA

Phoenix
Integrated Systems
Jerry's Audio/Video
Tucson
Jerry's Audio

CALIFORNIA

Alamo
Laser Faire
Alhambra
Audio Video Center
Berkeley
Honker's Sound
The Sounding
Board, Inc.
Beverly Hills
Beverly Hills Audio
Concord
Sounding Board
Fresno
Banana's Hi Fi
Gardena
Laox Video & Sound
Garden Grove
Omega Stereo
Glendale
Marconi Radio
Irvine
Sound Quest, Inc.
Los Angeles
Gene's TV & Video
Roberts Home
Audio & Video
Royal Sound
Mill Valley
Videola
Mission Viejo
Videolaser
Monrovia
Video Place
Palo Alto
Western Audio
Imports
Riverside
Speakercraft
Sacramento
Paradyme
San Bernardino
Video Mart
San Diego
Convoy Audio Video
Stereo Design
San Francisco
Videola
Wong's Hi Fi
San Jose
Quement Electronics
Santa Monica
Jonas Miller Sound

Sherman Oaks
Dave's Video
Tustin
Digital Ear
Woodland Hills
Lasers Edge
Wilson Audio Video
Entertainment

COLORADO

Arvada
Sweets R&T #2

CONNECTICUT

Brookfield
Sounds Incredible
Danbury
Sounds Alive
East Hartford
Hi Fi Image
Greenwich
Aud Vid
Groton
Leiser Sound, Inc.
Newington
Sound Playground
Norwich
Leiser Sound, Inc.
Orange
Sounds Alive
Stamford
Sounds Alive
Waterbury
Zinno Music
West Haven
Premiere Electronics
Westport
Sounds Alive

DISTRICT OF COLUMBIA

Washington
Myer-Emco

FLORIDA

Altamonte Springs
Boss Audio
Boca Raton
Vern's Electronics
Fort Meyers
Fort Meyers
Auto Sound
Miami
AAAA World
Import Export
Audio Coll
Audio Plus
Overseas Electronics
Ormand Beach
Electronic
Environments
Pinellas Park
Cooper For Stereo
Stuart
Sound & Vision

GEORGIA

Atlanta
Stereo Video
Design, Inc.

Marietta
Entertainment
Environments

HAWAII

Honolulu
Sam Sung
Electronics, Inc.

IDAHO

Idaho Falls
Phase Four Stereo
Pocatello
Phase Four Stereo

ILLINOIS

Burbank
Digital TV
Chicago
Mills Recording
Darien
K-B TV
Kankakee
Barrett's
Entertainment
Lansing
Unitek Electronics
Quincy
1st in Video
MusicWorld

INDIANA

Angola
King's Antenna
Crown Point
Crown Electronics
Fort Wayne
Lehman Electronics
Warsaw
Butterfly, Inc.

KANSAS

Mission
Accent Sound
Overland Park
ESP Industrial
Communications
Salina
Del's TV &
Tape Center
Wichita
Mobile Vibrations

KENTUCKY

Louisville
Audio Video
by Design
Unlimited Sound
& Video

LOUISIANA

Baton Rouge
Art Colley's Audio
Specialties
Metairie
Alterman Audio
New Orleans
Alterman Audio

MARYLAND

Annapolis
Hi Tech Electronics
Baltimore
Record Collections
Gaithersburg
Audio Buys
Myer-Emco
Lutherville
Gramophone Ltd.
Rockville
Myer-Emco

MASSACHUSETTS

Auburn
Leiser Sound, Inc.
Cambridge
Audio Video
Environments
Frammingham
Natural Sound
Littleton
Music Shack
Seekonk
Leiser Sound, Inc.
Shrewsbury
Leiser Sound, Inc.

MICHIGAN

Ferndale
Jam Hi Fi Sound
Specialists
Grand Rapids
Classic Stereo
& Video
Plymouth
Digital
Entertainment

MINNESOTA

Minneapolis
Peterson
Entertainment
Design
Richfield
Pro Line Audio, Inc.
St. Paul
Pro Line Audio
Robert Paul TV

MISSISSIPPI

Meridian
Hoopers Electronic
Supply

MISSOURI

Columbia
Superior Audio
Oakville
Quality Sight
and Sound

NEW JERSEY

Cherry Hill
Soundworks
Cliffside Park
Entertainment
Environments
Hamilton Square
Rock Dreams
Millburn
Professional Audio
Consultants
New Brunswick
Hi Fi Haven
Toms River
Rand's Camera
& Hi Fi
Upper Montclair
CSA Audio
Video Design
Woodbridge
Woodbridge Stereo
Wyckoff
Conklin's Audio Video

NEW YORK

Astoria
Steinway Sounds
Hicksville
Avtronics Ltd.
Huntington Station
Audio Breakthrough
Manhasset
Audio Breakthrough
Merrick
Performance
Audio & Video
New York
Audio Breakthrough
Custom Media
Design
Foto Electric Supply
Lyric Hi Fi
Sound by Singer
Patchogue
Square Deal
Rego Park
Continental Sound
Rochester
Rowe Photo
Saratoga Springs
Ambiance Unlimited
Scarsdale
The Listening Room
Watertown
The Happy Ear

White Plains
Audio Design
Lyric Hi Fi

NORTH CAROLINA

Durham
Audio Vision
Fayetteville
Rhudy's Camera
& Video
Hickory
Dacia Electronics
Lenoir
Crowell's

OHIO

Cincinnati
Audio Vision Plus
Cleveland
Northwood Home
Electronics
Dayton
District Audio
& Video, Inc.
Maple Heights
Eric Martins, Inc.
Westlake
New Images
Electronics

OKLAHOMA

Oklahoma City
Contemporary
Sounds of Oklahoma
Tulsa
Imperial Sound

OREGON

Salem
Salem Sound Center

PENNSYLVANIA

Allentown
Miller & Seng
Berwyn
Soundex Electronics
Broomall
Hi Fi House
Natrona Heights
Sound Shack
Philadelphia
Music on the Square
Willow Grove
Soundex Electronics
York
The Electronics Place

RHODE ISLAND

N. Providence
Eastern Discount
Westerly
Leiser Sound, Inc.

SOUTH CAROLINA

Columbia
Laser Experience

SOUTH DAKOTA

Sioux Falls
Dakota Sound

TENNESSEE

Knoxville
Hi Fi House
Memphis
New Wave Audio
and Video
Nashville
Hi Fi Buys

TEXAS

Dallas
Custom Video
Stereo East
Fort Worth
Marvin Electronics
Company
Houston
Audio Video Plus
Laredo
Jett Sales
Lubbock
American Audio
Video

UTAH

Midvale
Inkley's
Salt Lake City
Inkley's

VERMONT

South Burlington
LaserWorld

VIRGINIA

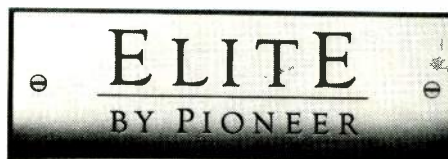
Falls Church
Myer-Emco
Franklin
Audio Showroom
Manassas
Audio Buys
Newport News
Sound Approach
Richmond
Audio Exchange
Roanoke
Lee Hartman
& Sons

WASHINGTON

Bellevue
Home
Entertainment
by Design
Redmond
The Music Room
Seattle
Definative Audio

WISCONSIN

East Troy
Video Playground
Glendale
Sound Stage
Green Bay
Sound World
La Crosse
Sound World



On June 25, 1989, the audio industry lost a giant in leadership when Gordon J. Gow, president and CEO of McIntosh Laboratory, died of a massive heart attack at his home in Binghamton, N.Y.

Gow was born September 16, 1919, in Lethbridge, Alberta, Canada. After graduation from high school, he was employed on the broadcast staff at a radio station in Calgary, Alberta. When Canada entered World War II, Gow joined the Royal Canadian Air Force, in which he earned the rank of flight lieutenant and served in Canada, West Africa, Gibraltar, and England. The British Crown awarded him the distinguished "Member of the British Empire" for his work and inventions related to the development of radar and aircraft direction-finding technology. At the end of his overseas tour of duty, Gow was assigned to the British delegation in Washington, D.C., to explore common communication techniques—a need which became apparent because of the various languages spoken by the Allies during the war.

In Washington, he met and, at the end of the war, joined Frank McIntosh in his broadcast consulting firm. One of McIntosh's associated businesses needed a high-powered, low-distortion power amplifier that would have a predictable long life—performance requirements that were beyond the technological knowledge of those days. Gow was assigned the task of doing the research for the development of such an amplifier, and this research led him to new areas of technology. The revolutionary nature of Gow's development was recognized when, in 1949, the U.S. government issued the first of four patents covering the "unity coupled circuit," following which the broadcast industry widely rated the McIntosh amp's performance as the best in the world.

In 1951, McIntosh Laboratory relocated to Binghamton, N.Y., where Gow, as executive vice president, began moving the company in the direction of "quality policies—quality in manufacturing, consumer satisfaction, and relationships with retailers." The present strength and growth of McIntosh Laboratory shows the effectiveness of Gow's policies. His horizons were, of necessity, not limited to one

GORDON J. GOW



field of expertise, though he proved his ability in understanding technology early on. As executive vice president, he found it necessary to understand the financial path the company would have to follow in order to achieve its long-term objectives. A multitude of financial attractions would have been rewarding in the short term, but in the long term, would have required deviating from those objectives. If Gow had not had the clear vision, singleness of purpose, and concentration to avoid the allure of the "quick buck," McIntosh could have been a very different company today.

Gow's love of music required that the Engineering and Product Development Department make the ultimate efforts for perfection in performance. His attendance at musical events here and abroad enhanced his ability to listen to reproduced music with a fervor generated by his knowledge of the real thing.

His recognition of the retail members of the McIntosh family is legend. As retailer needs were discovered, immediate research was instituted to help meet them. Gow caused McIntosh to sponsor the first major retailer sales and communication workshops. Among other topics, these workshops provided education on personnel selection by Dr. Robert McMurry, Dr. George Nothnagel, and Jay Brinegar; communication and sales by Dr. S. I.

Hayakawa, Dr. Herb True, and the late Armand Gariapy; fiscal responsibility, including workshops on retail management and accounting with accountant Darrell McComber, and workshops on other topics designed to provide solutions to individual needs.

The great desire to better understand and, therefore, to make better predications, led Gow to membership in the International Society for General Semantics (ISGS). Because of his dynamic and extraordinary involvement, he was soon elected to the board of directors and the office of vice president. The ISGS provided Gow with the intellectual background to better understand the requirements of McIntosh retailers and consumers.

Gow directed the company to the sponsorship of a year-long study at the University of Michigan, a program to predict future behavior and life styles. Over a year's time, education department heads and graduate students wrote papers and participated in round-table discussions whose intent was to describe their world as it would be 10 and 25 years hence. The program proved to be of immense value in the design, manufacturing, and marketing of McIntosh products.

His intensity of purpose pervaded all areas to which he put his mind: Family, church, learning, and living well. When he discovered the pleasure of wine, he became a widely recognized oenophile. When he discovered Italy, he learned Italian to better understand and to be understood. His reputation in Japan was of the highest order. He earned devoted friends in countries around the world, and his reputation for entertaining was international. In Binghamton, one restaurant has on its menu the "Gow Cut" of roast beef, while another offers "Gow Clams."

Gordon Gow left the employees and stockholders of McIntosh Laboratory with a company that he carefully brought to success. We, his associates, will continue his efforts and will be strengthened by his memory.

At the family's request, expressions of sympathy may be made, in Gordon J. Gow's memory, to the St. Patrick's Building Fund, 9 Leroy St., Binghamton, N.Y. 13905.—*Maurice L. Painchaud, Executive Vice President, McIntosh Laboratory*



iCON

\$695. 00

For years, California Audio Labs has enjoyed a position of leadership in the development of high-end compact disc players. Through all of the technical development and testing, our effort has been directed toward the day when we could produce the first truly unique production compact disc play-

ers to be made in America. Until now, all of the production players in the world have been made in Japan or Europe.

Today CAL brings forward the first pair of American made CD players – The iCON and the all new TERCET mkIII.

The realization of this dream has been our goal. That goal is now a reality in two solid state CD players of remarkable value and performance.

BORN IN THE U.S.A.

There is a new generation of California Audio Labs compact disc players with solid state designs so advanced that they redefine the state of the art. This new pair of players from CAL brings high quality construction and performance to new levels of affordability. Each player houses the all new CAL linear drive glass optics laser transport for trouble free operation. Both are eighteen bit eight times oversampling machines with CAL's proprietary digital circuitry. Unique analog designs result in sound quality far beyond their modest price levels. For years, California Audio Labs has set the sonic standard in compact disc players by which all others are compared. Now, through more than a year of development, CAL has shattered the price constraints of the past to bring reference level performance within the reach of every discriminating listener. These precision crafted players are engineered by the designers at CAL to be the finest compact disc players within thousands of their modest price point.

From the beginning, the goal was to bring CAL quality sound reproduction to a level of affordability in a no compromise approach. To do this, the engineers at CAL worked with top component designers here and abroad to meet new levels of

performance in digital and analog devices.

Through the use of our exclusive timing compensation on the incoming data lines and hand trimming of the linearity, CAL has achieved extraordinary high signal resolution. Star grounding is used throughout the ICON for exceptional high frequency noise rejection. Five separate regulated power supplies provide precise stability of the components. The CAL 24 bit digital filter accomplishes eight times oversampling with true eighteen bit resolution. The analog section of the ICON uses extremely low negative feedback and produces very low TIM (transient intermodulation distortion) due to the exclusive CAL analog filter design. To accomplish the necessary speed and resolution, an FET input design with high slew rate and an extremely wide bandwidth voltage amplifier was

implemented in the analog stage. This coupled with the extreme stability of the isolated supply lines to the DAC and the digital filter result in the rock solid imaging characteristics of the ICON.

Attention to detail is obvious throughout the ICON. From the design of a custom clock module, instead of the crystal oscillator used by others, to the EMI filter on the incoming AC line, the ICON represents quality far beyond its modest price. With an optional plug in digital out for optical or coaxial use, the ICON is truly an investment for all ages.

What would happen if the leading high end manufacturer of compact disc players in the world pulled together all of their resources to design an affordable compact disc player?

The answer is ICON!

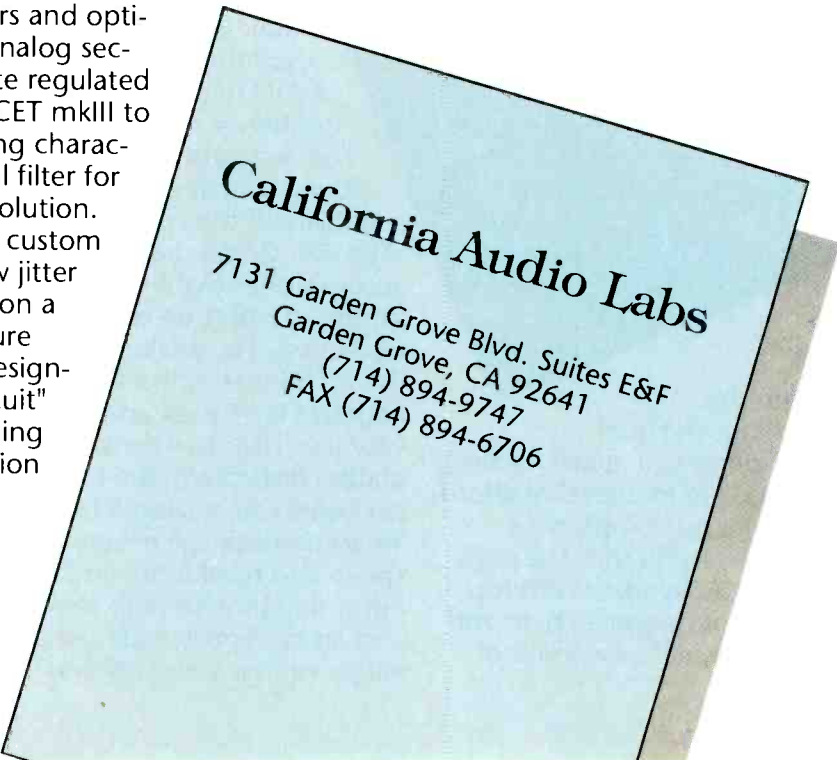
CALIFORNIA AUDIO LABS

The all new TERCET mkIII from California Audio Labs incorporates so many innovations it is revolutionary in design. The creation of our Dual Orthogonal Optical Fast Asymmetrical Power Supply with gallium phosphide optical current sources is the most advanced design in the industry. This radically new design causes a lightning-fast settling of the power supplies for low ringing and rock solid power to the critical digital and analog section. Add to this the servo controlled DC coupled output stage and the result is musical integrity with striking realism. An all discrete analog section featuring FET input with complementary output provides exceptionally smooth response true to every form of musical reproduction.

The TERCET mkIII began with the design of separate high performance eighteen bit D/A convertors and optically coupled digital and analog sections, There are 23 separate regulated power supplies in the TERCET mkIII to assure highly stable imaging characteristics and a 24 bit digital filter for extraordinary low level resolution. Each player is fitted with a custom clock module to assure low jitter and each DAC is dialed in on a precision computer to assure maximum linearity. CAL designers created a "turnable circuit" to allow for the special timing of the leading edge transition of input and output data

lines assuring extreme accuracy of the digital waveform.

The TERCET mkIII includes an EMI filter to remove noise from the AC line before it can reach the power supply. This results in lower distortion and less grain in the signal. An optional plug in digital out for either coaxial or optical applications is available for future expansion. The new TERCET mkIII is the culmination of innovative design work and leading edge technology formed into a musical instrument of exceptional performance. This quality compact disc player is a prize component which will be valued by audiophiles as a new standard of solid state performance.



California Audio Labs

7131 Garden Grove Blvd. Suites E&F
Garden Grove, CA 92641
(714) 894-9747
FAX (714) 894-6706

Target mkIII



\$1295.⁰⁰

MADE IN THE USA

For More Information



Call 1-800-553-4355

COMPACT DISCLOSURE

The Compact Disc: A Handbook of Theory and Use by Ken C. Pohlmann. A-R Editions, 288 pp., softcover, \$29.95. (Available from A-R Editions, 801 Deming Way, Madison, Wisc. 53717.)

For those interested in learning about the way the Compact Disc system works without getting advanced degrees in electrical engineering, digital signal processing theory, and a lot more, there has not been, to date, a completely suitable book. If one wanted to understand the principles underlying the technology of the Compact Disc, it was necessary to dig through the literature—and I mean *dig*. Much of this literature is all but incomprehensible, except to experts.

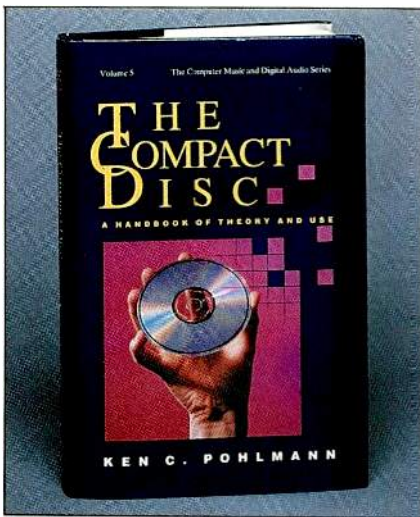
Now, with *The Compact Disc: A Handbook of Theory and Use*, there is a book in which the author does an amazingly good job of bringing much of this complex technology within the understanding of those who do not have advanced training. That is not to say that this book explains everything in absolutely solid scientific terms, but it does contain some very good explanations of quite obscure topics.

The only other books, to my knowledge, which have attempted to bring together all of the aspects needed to understand the operation of the Compact Disc are another by Pohlmann, *Principles of Digital Audio*, and one by Watkinson, *The Art of Digital Audio*. Both of these books cover many topics in addition to the CD and are, in their own ways, a bit too technical for the more casual reader.

The book under review here, *The Compact Disc*, concentrates entirely on the CD and its immediate derivatives. It is written at a consistent technical level so that the reader can follow along from topic to topic without finding the treatment of one trivial and the next incomprehensible. This is an incredibly good book, written at a technical level which is just right for those readers who have a considerable technical interest in the Compact Disc but do not want to pursue the more obscure technical literature. Those with a modest technical background will find it informative and understandable, while those with a thorough knowledge of all aspects of digital audio will find it

concise and readable. I like the book and really believe that *Audio* readers will find it to be interesting and informative. I recommend it highly.

The purpose of a review is to give an overview of the contents of the book, evaluate its technical level and accuracy, and discuss the reviewer's likes and dislikes about the treatment. I read this book cover to cover even before I was asked to do a review. I have now



gone over it several more times with the proverbial fine-tooth comb. Allow me to give you a glimpse of this book so you can decide whether or not it is for you.

First, a list of the contents. The book has seven chapters, as follows: "Introduction to the Compact Disc," 11 pages; "Fundamentals of Digital Audio," 30 pages; "The Compact Disc System," 38 pages; "CD Player Design," 53 pages; "Practical Concerns," 36 pages; "Diverse Disc Formats," 35 pages, and "Disc Manufacturing," 38 pages. In addition, there is a glossary of about 20 pages with well over 300 technical terms defined. There is a good, but not great, index. Each chapter has a considerable number of references which are very well selected, for the most part. The references are not keyed to the text as they would be in a textbook or technical paper, so it is a bit hard to tell which references are the most pertinent to a particular part of the chapter. In addition to older references, a considerable number are from 1987 and a few are from 1988. This indicates that the information in

the book is quite current, which is important in such a rapidly advancing area as Compact Disc technology. While many of the figures in the book are familiar to me from reading the literature on CDs over the years, most are new, and they are generally well done. Just a few have so much detail and such fine print that they are a bit hard to follow.

I found that the lengths of the chapters were about right, as related to the importance of the topics covered. The technical level of the treatment is extremely uniform and very appropriate to the intended audience. I am making an issue of this since it is very difficult for an author to control the level of the treatment of a complex topic when he knows more than that level requires. Pohlmann has shown himself to be a master of this technique.

Although I found no substantive technical errors in the text, I do have a few minor complaints. I noticed that, in Fig. 1.1, the diagram of the mechanical record (the "good old vinyl," as some fondly call it) shows the two groove walls marked incorrectly. It is the inner groove wall that is the left channel and the outer groove wall that is the right channel. Of course, this is probably an irrelevant matter since this form of recording is a dead issue. I do not think metal mastering will bring it back to life, as some have recently suggested in these pages.

The inclusion of an imagined conversation with Harry Nyquist (at least I hope it's imagined!) on pages 14 through 18 is a bit fanciful. It does not lend much, if anything, to understanding the sampling theorem. These pages could have been used to give a more thoroughgoing discussion of sampling. It seems to be the case that some people, otherwise quite rational, still do not believe the sampling theorem works, and that is too bad because it certainly does.

Pohlmann seems very careful in his use of the terms "de-sampled" and "reconstructed" but never spells out the essential difference. The terms "reconstructed" or "reconstruction" do not appear in the glossary or the index; they are used in later chapters, but the process is not explained there either. I believe the author is trying to avoid the concept of "convolution," which is also

not in the glossary or index. To some extent, his explanation leaves me with the impression that a digital signal is "recovered" by simply connecting the dots in the digital waveform to get the analog waveform. While this is not correct, I cannot offer a simple exposition which gives a satisfactory explanation of the reconstruction process. Unfortunately, there are some fine points about Compact Disc technology which are at the very heart of the process but simply cannot be explained without more mathematics. I fear that sampling and reconstruction are two that are very difficult in this respect.

Another minor technical matter which I found disturbing is the use of the movie film analogy, on page 19, to explain sampling and aliasing. I believe this analogy is incorrect and misleading. Further, it is unnecessary since Pohlmann also gives a spectral overlap explanation of aliasing which is quite convincing.

On page 53, the author says, "The laser beam is thus focused to a point slightly larger than a pit width." Since the pit width is 0.5 micrometers and the beam is focused to a diameter of 1.7 micrometers, I think the text should say that the laser beam is about three times the pit width. This is about the amount necessary so that the signals reflected from the pit and land add to give the cancellation effect due to interference that the author correctly describes. It would have been nice to make this point in the discussion about reading the pits.

On page 87, Pohlmann says, "The data path directs the modulated light from the pickup through a series of processing circuits, ultimately yielding a stereo analog signal." Where, of course, he means the data path directs the signal from the pickup, caused by the modulated light. . . . There are only a very few such clumsy statements in this book. On page 93, there is a misspelling; actually, it is probably a typo, but this is getting way too picky. This book is very carefully done, and one has to look long and hard to find inaccuracies or errors.

I have only a few final complaints, and these relate to the discussion, on pages 110 through 114, of the analog filters used in early Compact Disc playback units. The author seems to make

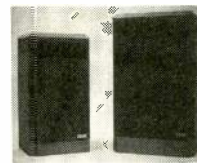
the argument that these filters are very bad. At the end of the discussion, on page 114, he says correctly that the audibility of these group-delay effects is not fully determined. Since the literature is replete with information on this issue and indicates that there are no solidly proven audible effects caused by reasonable anti-aliasing filters, this statement easily could have been a bit stronger.

The topics of transversal filters, noise shaping, and especially the problems of linearity of the D/A converters should have received a more complete treatment. Their effect on digital reproduction is very important. Recent hardware improvements in these areas probably have been by far the most important reasons for any improvements in Compact Disc playback equipment. Thus, I feel strongly that they deserve more attention.

There are too many things that I like about this book to list them all here. Chapter 3, "The Compact Disc System," is excellent in every way. Error correction, interleaving, and eight-fourteen modulation (EFM) are discussed by the author with just the right depth to give a satisfactory understanding of the processes involved—without obscuring their application to the Compact Disc.

Chapter 4, "CD Player Design," has an especially good treatment of the optical system and the tracking methods used to read the Compact Disc. Both single-beam and three-beam tracking are expertly described. The author brings the discussion down to practice by describing a complete implementation of a playback system using a chip set developed by Philips. Ending the chapter are an 8-page section on the use of the subcode bits and a 4-page section on serial signal transmission; these discussions are as good as I have seen anywhere.

The chapter on "Practical Concerns" emphasizes some quality issues that are not of much concern and does not emphasize others which, in my opinion, are. For example, wow, flutter, channel separation, and distortion get considerable attention—even though these factors are close to perfect in the CD. The problems with low-level D/A converter linearity and the use of over-sampling get only brief attention, yet



Elite 2000™
\$150.00 pr.
Plus shipping

Elite 5000™
\$180.00 pr.
Plus shipping

Elite™ series is designed exclusively for people who recognize and appreciate quality that cannot be found in any ordinary speaker. These speakers are designed to be compact, 3 way systems which have the capability of 150 and 200 watts peak.



Mini-Mag™
\$105.00 pr.
Plus shipping

Magna™
\$95.00
Plus shipping

Our Magna™ series is exclusively designed for people who enjoy high quality sound in their automobiles. A power capability of 150 watts peak.

AWP SOUND
4041 W. Ogden
Chicago, IL 60623
TO ORDER CALL
1-312-521-1051
VISA-M.C.-AMEX.

ENVIRONMENTALLY SOUND



Auralight AU-6 monitor module

Jackson Loudspeaker Company introduces the patented **Auralight** Loudspeaker Series. Precise aural detail and sleek exterior design combine for the complete sound environment. Sensitivity matched, interchangeable **Auralight** modules allow choice flexibility for your particular sense of style at the apex of audio performance. Acclaimed and recommended by system designers and architects nationwide, **Auralight** is a must for the discriminating audio enthusiast.

We invite you to inquire about the dynamic, new **Auralight** Series and discover the Great Indoors!

Jackson®
Loudspeaker Company

1326 North 32nd Street, Phoenix, Arizona 85008
(602) 220-0440

Enter No. 54 on Reader Service Card

The Compact Disc is a very important book. It brings together so many familiar topics in a coherent whole.

the latter are the two hottest topics in current player design. They deserve more attention. I found the chapter on diverse disc formats very informative and useful, as was that on disc manufacturing.

I have been a bit picky about this book, but only because I think it is an

important book. It is, in the overall, very good. Reading *The Compact Disc: A Handbook of Theory and Use* was a pleasure because, for me, it brought together so many familiar topics in one coherent whole. I want to repeat what I have said several times in this review: This is a very good book. R. A. Greiner

Audio Electronics Reference Book edited by Ian R. Sinclair. Blackwell Scientific Publications, 615 pp., hardcover, \$149.50. (Available from Blackwell Scientific Publications, 3 Cambridge Center, Suite 208, Cambridge, Mass. 02142.)

The *Audio Electronics Reference Book* makes a good first impression; printed on high-quality paper with first-rate reproduction of its photographs, the book has the look and feel (and weight!) of authority. The dust jacket positions it as "a summary, a guide, and a celebration of the new state of audio" and promises to cover the subject "from the standpoint of the professional design and service engineer, and of the home user" (italics added).

To address these ambitious claims, editor Ian R. Sinclair has assigned the book's 20 chapters to a team of expert authors, well known to readers of the British audio press but not identified here by more than their names and, in the case of Barry Fox alone, the date (1986). Chapter titles include an introductory "Sound Waves," followed by a mixed bag of professional, service, and home audio topics. For example, for the pros are "Studio and Control Room Acoustics," "Sound Recording Techniques," and "Public Address and Sound Reinforcement." For the service engineer, there are "Pre-amps and Inputs," "Voltage Amplifiers and Controls," and "Power Output Stages." Of interest to the home user are the chapters on "Stereo," "Compact Disc," and "The LP Record." Although there are chapters on "Loudspeakers," "Loudspeaker Enclosures," and "Headphones," there are none at all on microphones and only one related entry (microphone plugs) in the index.

Perhaps this book would be better described, not as an audio electronics reference, but as a collection of essays on the art and science of audio, compiled for the serious enthusiast who comes to the book already prepared with a basic understanding of the subject matter. For although the chapters are generally well written by experts comfortable with their assigned topics, in attempting to cover so much material within the allotted space, many explanations suffer. The examples cited below are symptomatic of a work that

Do CD SoundRings™ Really Work?

Here are a few people who say they do:

I have only two words to say about the effect of Monster Cable CD SoundRings...beyond belief! I am certainly won over by SoundRings and would recommend them as an absolute must for any serious CD collector.

John Oakley
HI-FI Answers, England

Even without fancy instrument tests, I can unequivocally report that sound rings do work—and I'm not alone...the proof of this pudding is in the listening. The sound of the CD with the SoundRing installed was more focused, the bass was more pronounced and the imaging of the various instruments was sharper.

Harry Somerfield
San Francisco Chronicle,
San Francisco, CA

Just put these rings on any of your CD's with any type of CD player and it will improve the sound stage. I can't urge you enough to go out and buy some and try it. I'll buy any leftovers if you don't like them.

Bill Brassington
The Audiophile Society Journal,
Rye, New York

Amazing and true.
Ring a disc and hear for yourself how good the music sounds.

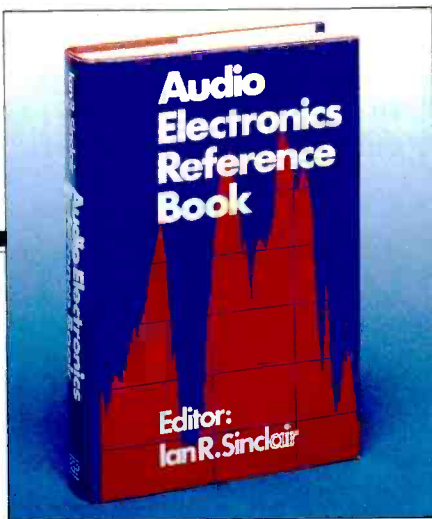
CD SOUND RINGS™
Musical Colors Brought to Life.

MONSTER CABLE®

© Monster Cable Products Inc.
274 Wattis Way
So. San Francisco, CA 94080-6761
PHONE (415) 871-6000 FAX (415) 871-6555
Distributed in Canada by Evolution Audio®
(416) 847-8888

Enter No. 68 on Reader Service Card





tries too hard to be all things to all people and, in so doing, comes up short.

As an early example (page 3), we read that noise voltage "has an rms (root mean square) level which is defined in the same way as the rms value of an alternating (sine wave) voltage, but because of its random variability, the rms value must be measured as the average over a period of time." In addition to improper use of the word level, there's nothing further on rms.

As for the control of noise (Chapter 3), "A single figure rating (e.g., 25 dBA) is not generally used to describe the background noise requirements, as it is too loose a criterion." To which the expert might reply, "So?" and the amateur, "Huh?" By way of further explanation: "The curves most frequently used are the NC (noise criterion) and NR (noise rating) criteria [which are] not exactly the same. The NC system is primarily intended for rating air-conditioning noise, whilst the NR system is more commonplace in Europe and can be used to rate noises other than air conditioning." No doubt, but what is a dBA, an NC, and an NR? For that, the reader must look elsewhere.

Overall, Ian Sinclair and his authors have not been well served by the production editors at Blackwell Scientific Publications. Units and symbols are stylistically inconsistent, and there are too many cases of improper word usage, which are either confusing, misleading, or just plain funny. As an example of the latter, "In 1498, Columbus discovered the continent of America" (wrong on two counts). Later on, we are misled by reading that a loudspeaker "converts electrical energy into mechanical energy in the form of sound waves" and that "single-channel stereo machines have a place in the professional recording studio." These are the sort of slips of the tongue that any expert might make in

Audio Electronics would be better described, not as a reference work, but as a collection of essays on the art and science of audio.

casual conversation, but they should have been caught and corrected before the book went to press. There is an explanation of CD subcode channels which may be used to advantage for "language tuition . . . to display words on screen." No doubt the author meant to say "language tutoring."

A bit more serious a difficulty is the casual treatment of math, where it's far more difficult to deduce what an author really meant to say. In one case, the text gives an equation (15.27) derived from the previous equation, when it is, in fact, an explanation of a variable in the previous equation. On the next

TOTAL ACOUSTIC CONTROL ASC TUBE TRAPS™

The most effective devices for controlling listening room Resonance, Reverb and Reflections.

Remove low frequency resonance AND the effects of standing waves without pumping more acoustic energy into the room.
Create diffusion without coloration.
Get the acoustic control you need for your listening room.

Find out why hi end manufacturers, reviewers and dealers are using Tube Traps more than any other type of acoustic treatment.

ASC ACOUSTIC SCIENCES CORPORATION

P.O. Box 1189
Eugene, OR 97440
(503) 343-5727

APPLIED ACOUSTICS—RESEARCH, DESIGN & DEVELOPMENT

TUBE TRAP™ is a registered trademark of ASC. Patented in the U.S.A., U.K., Canada, Italy, Hong Kong and Singapore.

Triad System Six

Small Is Beautiful

Yes, they are as tiny as they look. The System Six satellites are only 4" wide, just big enough to hold their tiny drivers with no baffle diffraction. The separate tweeter enclosure contains a rotating, damped mounting system, isolating the tweeter from the box vibrations of midrange.

Where's The Bass?

In a separate cabinet, where the woofer's powerful vibrations can't shake the sweet sounds from the satellites. The System Six woofer's built-in 70 watt amplifier not only coaxes 40 Hz bass from a small box, but it saves all of your amplifier's power



for the satellites.

800-525-4018

For more info and nearest dealer. Triad System Six comes in six colors and five fine veneers. TRIAD DESIGN, 490 NE 219th Ave., Troutdale, OR 97060. 503-666-3666 outside USA.

TRIAD

Audio Electronics tries too hard to be all things to all people and, in so doing, it comes up short.

Enter No. 93 on Reader Service Card

The Next Generation

The DQ-20

Imagine a speaker system that delivers transparent imaging, accurate dimensionality in width, height and depth, combined with harmonic integrity and dynamic power.

The Dahlquist DQ-10, the original Phased Array dynamic speaker system, became a legend in its own time. This seminal design employed many of the concepts which are still at the leading edge of loudspeaker design. The importance of low diffraction distortion and correct inter-driver time delay were certainly popularized by the DQ-10.

The DQ-10 has been replaced by the DQ-20. Three extraordinary drivers have been combined with advanced enclosure technology to cover a wider range with greater efficiency than was possible with the DQ-10. The same attention to diffraction control and time delay distortion allows the DQ-20 to provide the expanded open window on the soundstage for which Dahlquist is famous.

Clearly superior, the DQ-20 stands as the



ultimate stereo vehicle that will transport you into the realm of pure sound. This incredible achievement lets you surround yourself with the captivating reality of brilliant musical performances and listening pleasure.

It is an experience you will never forget.

DAHLQUIST
601 Old Willets Path, Hauppauge, NY 11788
(516) 234-5757

Enter No. 39 on Reader Service Card

page, an equation is said to come from two earlier equations, and so it does. But not from the two cited. Even worse, the equation is an early step in a sequence whose conclusion is ... the same equation.

Some chapters conclude with a list of references while others don't. But even when references are given, sources cited in the text are sometimes not found in the references—as, for example, the patents of Lueg and the work of Olsen (sic) and May. Other lapses are merely annoying, such as "rording companies," a "Verbical Cutting Angle," and "Ohma."

Barry Fox's chapter (7) on the Compact Disc presents an excellent 21-page summary of the subject, but even here there are a few problems, as in "The CDRom player works like an audio player when used to look for a favourite snatch of music it snatches data instead." And in the large chapter on "Tape Recording," one reads that for digital recording, "The inherent non-linearity [of] magnetic tape is of little importance when it is only called upon to record a step type transition of voltage level." Well, yes and no; prior to recording, these quantized step-type transitions are encoded into a digital pulse train for which magnetic non-linearity is indeed of little importance. However, if a series of voltage steps (not *level*s) were recorded on tape, nonlinearity would be a problem.

On examining "Sound Recording Techniques," it turns out to be a mostly technical and historical overview of professional sound recording hardware, supplemented with information about the specific equipment inventory in some London studios (notably, Tape One) and the names of a few stores that sell jacks and connectors, "including the Swiss-crafted Neutrix XLR versions." Close, but no cigar: The company is Neutrik, and XLR is a model number used by ITT Cannon.

The reader who can ignore the problems just described may find the *Audio Electronics Reference Book* interesting and of some value as a once-over-lightly treatment of the included subject matter. But when a work calls itself a reference book and carries a price tag of \$149.50, the customer—to say nothing of the contributors—deserves more attention to detail. *John M. Woram*

JVC

SUPER DIGIFINE AUDIO SERIES

**JVC Super Digifine Audio Series —
In full view of the possibilities**



SUPER DIGIFINE

*Digital Technology is no longer a shimmer on
some distant horizon. We are now in full view
of the possibilities that the technology affords us.
The Super Digifine Series from JVC turns
these possibilities into reality.*

RX-1010VTN Audio/Video System Control Center

CSRP — Getting control over the possibilities



Audio/Video Inputs and Outputs on Back (S-Video Terminals Included)

With technologies as advanced as Digital Acoustics Processing, Dolby Pro-Logic, electronics equalization and digital delay processing plus the variables of front and rear channel levels, balance, loudness compensation and even room compensation. The RX-1010VTN is an engineering marvel. It can quite literally recreate any acoustic experience, whether it be a movie in your neighborhood theater or the sound of a choir in a great cathedral. But how does one control the over 10 million possible settings necessary to achieve this?

CSRP — or COMPU LINK Source-Related Presetting — does the chore completely and automatically. Touch a single button and all the parameters change to a setting that is appropriate for the source you've selected.

Then if your listening determines that some fine tune adjustments should be made, make them. One more button updates the memory with your changes and from then on recalls all the settings everytime you return to that source.

For example: When you turn on your hi-fi system and listen to a CD, you get response specially customized for CD listening. Level and channel balance are properly adjusted, a customized equalization is recalled, and parameters for JVC's sound field processor — the Digital

Acoustics Processor — are all optimized for the size and acoustics of your listening room.

Or, as you switch to video, settings you've preset for the Dolby Pro-Logic decoder, such as the center-channel

mode and center and rear levels, are automatically recalled.

This also holds true for all program sources — records, tapes and even individual radio stations. Since the RX-1010VTN accepts connection of up to eight audio and video programs, and provides presets of 40 FM/AM stations, this means it can handle customized control settings for a total of 48 different program sources or stations. That's control.

Example of Fluorescent Display with CSRP Preset (VCR-1 as a source)

(1) Source selected



(2) Volume, balance, loudness setting



(3) S.E.A. graphic EQ setting



(4) Dolby surround setting



(5) DAP setting



(6) Normal setting





DAP — Digital Acoustics Processing

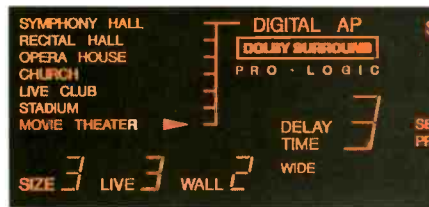
In the RX-1010VTN, there's a ROM (Read-Only Memory) that stores the sound field patterns we measured at famous halls and theaters all over the world. Seven patterns, from symphony hall to movie theater, are programmed in memory for instant recall.



And you can fine-adjust these pat-

terns to suit the size, "liveness" and wall type of your listening room. This ensures that the ambience of your listening room is completely compensated for so that you enjoy the reflections and reverberations of only a desired hall.

Dolby Pro-Logic



With sound steering, active matrix and center channel output, Dolby Pro-Logic Surround provides you with an enhanced sense of direction and sharply centered dialog. When

watching videos, it will make you feel as if you were sitting in a first-class movie theater, especially since the digital acoustics processor is already at work.

The remote is a convenient LCD touch panel. The amplifier is a state-of-the-art Super-A design.

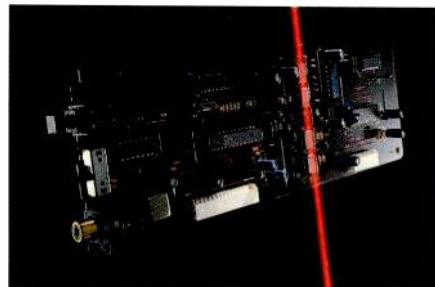
Our RX-1010VTN simply does everything and keeps everything simple.

**"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.



XL-Z1010TN Compact Disc Player

K2 Interface — Revealing possibilities at the source



The K2 Interface optically decouples the digital from the analog section

Changing the digital code on a CD into music requires that a digital-to-analog converter choose 1 of 65,536 possibilities every 1/44,100th of a second.

It's commonly assumed that digital signal is composed of 1's and 0's, each represented by the presence or absence of a square-shaped pulse. But the fact of the matter is, a digital signal contains ripple — a type of distortion that changes the shape of a waveform — and jitter, components that move the timing of a pulse forward or behind.

These "non-code" components can result in a sound that differs from the intent of the digital source. The K2 Interface solves this problem by completely regenerating the digital signal. At the heart of the K2 Interface is essentially an ultra-high-speed camera with a shutter speed of 20 nanoseconds (20 billionths of a second). Based on these quick snapshots, it recreates the digital signal as a perfect square wave.

Providing a perfect signal to the D/A converter allows for accurate reproduction of all the nuances such as sound staging and depth.

As a matter of fact, in many ways both frequency range and dynamic range are expanded. High frequencies sound clearer. There is a heightened sense of power in the mid- to low-frequency range. Music

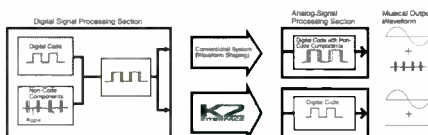
seems to acquire more depth and width, providing clear images of instruments and voices. Overall, sound is smoother and more natural across the audio spectrum.

Precision D/A Converter System Using Four D/A Units

The XL-Z1010TN features two D/A converter units for each channel — four in all. There is a 16-bit converter for most significant bits and a 2-bit converter for most significant bits and a 2-bit converter for the two least significant bits. Since the least significant bits have greatest bearing on the sound quality at low level, JVC uses an elaborate discrete D/A converter system for these bits to ensure higher precision. All four converters operate with 18 bits "full time" whether the level is high or low. Our "quadruple full-time linear 18-bit combination D/A converter" allows you to enjoy digital sound at its most delicate and dynamic.

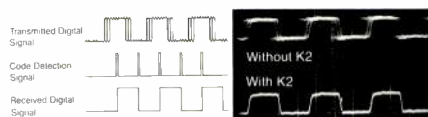
Comparison of K2 Interface and Conventional Transmission System

The JVC K2 Interface strips the transmitted signal of ripple and jitter as it travels from the digital to analog processing circuit.



Data Transmission Waveforms

The clean shape of data transmission waveforms indicates that the K2 Interface has removed ripple and jitter.





XP-A1010TN Digital Acoustics Processor

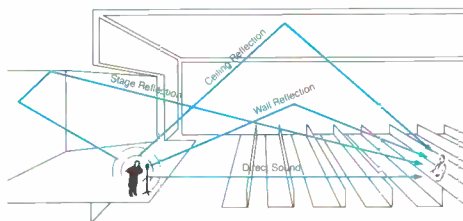
Bringing new possibilities to the home

Many of us have already invested in fine audio systems for our homes. Even the best, however, sound like music being played in a home environment.

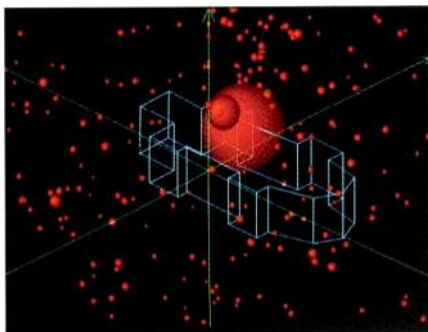
A new age is dawning in audio realism, thanks to the vast advancements in digital engineering. Now it is possible to simulate the acoustic ambience of a live music space — concert hall or movie theater — and recreate it right in your own listening room.

The new JVC XP-A1010TN Digital Acoustics Processor is the key. No other component available today so accurately brings concert hall ambience to the home.

The processor features a ROM (Read-Only Memory) containing a huge amount of data on reflections and reverberations — “sound field patterns” — our engineers measured in actual halls and theaters throughout the world.



Acoustic Response of a Musical Space



CHURCH
Sound Field Analysis Pattern

JVC's Unique Advantages of Acoustics Synthesis

The JVC XP-A1010TN offers a number of unique advantages. One,



Symmetrical 6-Point Sound Field Measurement Microphone Set

excessive reflections and reverberations added by your listening room can be compensated for, and so can reverberations contained in the source program. This means a precise sense of the size and shape of a simulated space is accurately re-created in any listening room.

Two, the entire process, from input to output, is performed channel by channel independently. Therefore, critical time-related information contained in music is retained, providing a natural sound field ambience.

Three, the size of the sound source — a point, like a solo or a spread, like an orchestra — is precisely reproduced.

The XP-A1010TN comes with sound fields from 20 actual concert halls, jazz clubs, theaters and stadiums. You can customize an additional 20 patterns of your own. With the XP-A1010TN, the possibilities now include the recreation of the concert halls around the system in your home.



AX-Z1010TN High-Power Class-A Amplifier

Digital Pure-A New possibilities for class-A

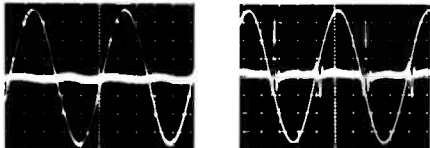
There's no doubt that an amplifier operating in class-A mode provides lower distortion and cleaner sound than those in popular class-B or class-AB. Their inefficiency, however, makes class-A amplifiers require elaborate heat sinking, and still the amps waste much of their power in the form of heat. This results in inflated cost and relatively low power output. But to enjoy the dynamic sound of digital programs, you need a lot of power.

How to combine the low-distortion sound of class-A with efficiency and power demanded by digital audio?

Class-A vs. Class-B Operation

With class-A, combined output from the paired transistors looks very close to that of the input. With class-B, this is not so, leading to crossover and switching distortion.

Output Waveform

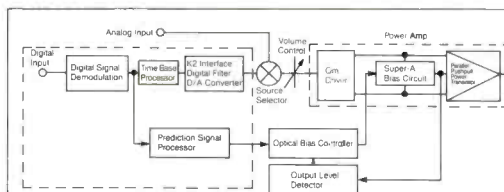


Class-A

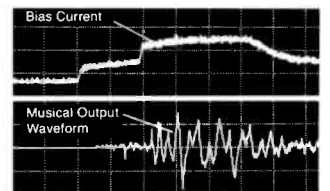
Class-B

Enter the Digital Pure-A Type II

JVC has the solution — the Digital Pure-A Type II circuit featured in the AX-Z1010TN "Digital" Integrated Amplifier.



Block Diagram of Digital Pure-A Circuit Type II



Operation of Digital Pure-A II

This ingenious design takes the advantage of the fact that digital signals can be stored in memory temporarily without changing their frequency response of phase response.

In the Digital Pure-A Type II, digital signals fed directly from digital equipment are split into two: the main signal and the "prediction" signal.

The AX-Z1010TN is a "digital" integrated amplifier incorporating a D/A converter system complete with the K2 Interface, 8-times oversampling and quadruple D/A converters.

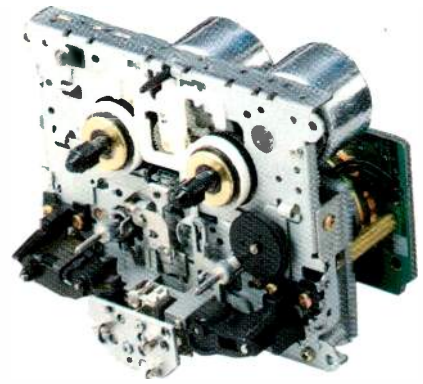
And the amp features a special design for analog programs too — Opt Super-A, another JVC exclusive combining low distortion and high efficiency.





TD-V1010TN Discrete 3-Head Cassette Deck

The world's finest cassette deck? A distinct possibility!



Closed-Loop Dual-Capstan Drive Mechanism

When it comes to specifications for cassette decks — such as wow & flutter, frequency response and signal-to-noise ratio — we can safely say today there is only marginal room for further improvement. This is because of the steady but sure advances over the years in mechanical design, heads, noise reduction designs and tapes.

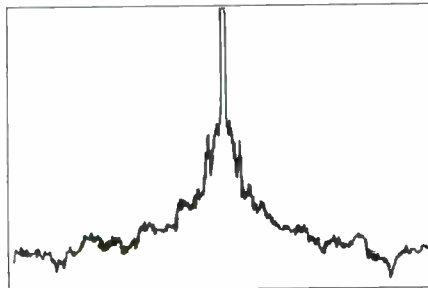
We have isolated "dynamic" response as one of the final steps in ensuring taped sound that's as pure and transparent as can be. We even developed a new specification to measure the degree of purity and transparency a cassette deck can provide: acoustic modulation noise.

In this measurement system, the test deck is subjected to a high 100-phon sound pressure during recording and playback. More rigorous than conventional modulation noise tests, this new method better simulates a real-world situations where the deck must operate while speakers are playing music.

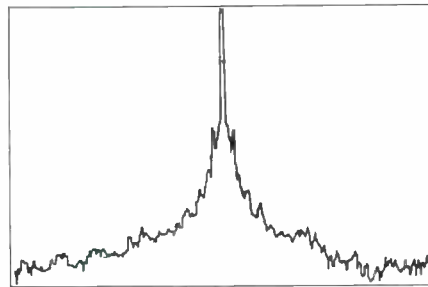
Taped Sound Free of Acoustic Modulation Noise

Based on what we discovered from

"Acoustic Modulation Noise"



Response of Conventional Deck



Response of Rigidly Built Deck

our test, we've developed solid mechanical designs in order to suppress resonance and vibration. The result of our efforts is taped sound that rivals digital.

Moreover, there are other ways we've improved clarity and purity of the taped sound of the TD-V1010TN. A "CD DIRECT" switch lets you route the signal from your CD player direct to the cassette deck. We've cut down wiring to a minimum length using remote rods and controls. We use the time-proven closed-loop dual-capstan tape transport to suppress modulation noise. "Fine" amorphous heads, highly pure PCOCC copper wire and high bias frequency also enhances the purity and transparency of the taped sound.

If you think that taped sound cannot compare with digital programs, you owe yourself a listen to the TD-V1010TN.



SOLID BASE FOR HIGHER STABILITY AND LOW RESONANCE

FX-1010TN Computer-Controlled FM/AM Tuner

Self-adjusting to the possibilities

The FX-1010TN is a smart tuner that adjusts itself to the endless possibilities in the capture of radio signals.

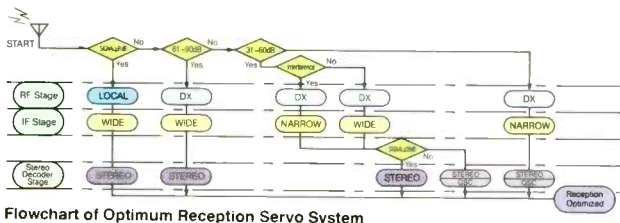
Our reception servo automatically selects the optimum operating mode — front-end gain,

IF bandwidth, stereo mode, etc. — after checking the degree of interference and the strength of the station you're tuned to. It guarantees you get the best reception anywhere and from every station. And yet the digital noise, which a

computer could create to muddy sound, is cut down by the "Opticalink" system separating the digital section from the analog.

The computer is put to use for special conveniences, too. You can preset up to 40 FM/AM stations for one-touch recall. And give a name to each preset station. You can let the tuner automatically preset all 40 FM/AM stations for you. You can "shop" for stations one by one. Also you can set the muting level to tune all stations in your area or only a few powerful ones.

Add circuitry designed for low distortion and wide dynamic range and you'll see that the FX-1010TN is the tuner that addresses the practical world of radio reception.



We are no longer at the threshold but have passed well into the world of digital technologies and their applications. In full view of the possibilities, we have endeavored to develop products that will endure the test of time and stand as small reminders that technology can advance while remaining sensitive to the needs of its users.

EVERYTHING IN MODULATION

A few weeks ago, I had a chance to visit the transmitter sites of two of New York City's better classical music FM stations: WQXR-FM and the municipal public radio station, WNYC-FM. My host was Eric Small, president and co-owner of Modulation Sciences, a company that has been supplying signal processing gear to radio and TV stations for quite a few years. As a long-time fan of FM radio, I couldn't resist the temptation to crawl around atop the Empire State Building, where WQXR's transmitter is housed, and atop the 110-story World Trade Center, the "home" of four of the city's

in 1983, in order to get Type Approval, a modulation monitor had to flash if 10 consecutive cycles of 10 kHz exceeded 100% modulation. This meant that the response time of the peak flasher had to be 1,000 μ S, or 1 mS. Also, in the automatic transmitter system rules of the same era, the maximum number of overmodulation events permitted per minute was 10. Small discovered that virtually all modulation monitors made before and after the 1983 FCC deregulation had peak flash indicators that operated in *one* cycle of 10 kHz or less, which translates to a response time of 100 μ S or less. Apparently,

ModMinder ignored brief (less than 1-mS) spikes, which have no impact on occupied bandwidth. As Small explained, one way to describe ModMinder is as a device that allows reducing the *apparent* ratio of peak-to-average modulation. This improvement can be used to increase the number of peaks allowed through (reduce the amount of signal processing or compression), increase the average modulation (make it louder), or do a bit of each. For lightly processed classical music stations, the difference amounted to as much as 5 dB. Very heavily processed stations showed less than 1 dB of difference,



FM station transmitters, including that of WNYC-FM.

My purpose was to watch an experiment Small was about to conduct—an experiment that he felt could free FM stations from the need to employ vast amounts of compression.

It's no secret that most stations, to remain competitive, must try to sound as loud as—or, in some cases, louder than—their competitors. In playing the "louder than the next guy" game, the only way stations can accomplish their goal without exceeding modulation limits imposed by the FCC "way back when" is to limit dynamic range. I know of at least one station in New York City that compresses so heavily that their average dynamic range, monitored over a period of several days, was no more than about 6 dB! And this, in the era of digital Compact Discs, no less! Well, if a station's format is nothing but hard rock, perhaps that's not too serious, but if a station's format calls for classical, jazz, or other forms of pop music, that kind of compression can make music sound lifeless.

What Eric Small set out to prove with his newly designed modulation monitor, the ModMinder, was that most, if not all stations were actually using more compression than necessary, simply because their modulation meters were providing false indications of overmodulation. Before the deregulation of modulation monitors by the FCC

makers of this equipment must have felt that faster was more conservative, or that it was easier to design a fast peak detector than a slower one.


While deregulation opened the door for slowing down the response times of peak flashers, most modulation monitor manufacturers continued to play it safe, providing peak flasher response times that were much faster than they needed to be. The result: Stations had to either back off too much on their modulation levels or introduce more compression than was needed in order to remain competitively "loud."

In stereo TV, modulation must be set exactly to the reference level of the dbx L-R noise reduction encoder which forms a part of the MTS stereo TV system. In the course of trying to resolve TV audio modulation problems, Small and his engineers discovered just how overly fast most peak flashers responded. Once they slowed down such flashers to meet the old FCC spec of 10 cycles of 10 kHz, most of the TV overmodulation problems vanished. It was then that they became curious as to what effect the 1-mS response time would have on typical stereo modulation.

With a prototype monitor having a 1-mS response time, they monitored various off-air signals using a high-quality tuner. On some stations, the prototype ModMinder indicated as much as 5 dB below the "standard" modulation monitors. This was because the Mod-

but even stations that used moderately heavy processing were able to show an improvement in loudness of almost 2 dB by merely adjusting total modulation using the ModMinder. No changes in the adjustment of the processing equipment had to be made.

At both stations we visited, the engineers were surprised to find how much difference the ModMinder made when used in place of their current peak-modulation meters. In one case, there was a difference of about 20% in peak modulation indications. (The ModMinder never showed higher than 80% modulation readings with the other meter adjusted to flash and limit at what it "thought" were 100% modulation peaks.) The second station visited had been operating even more conservatively, with the ModMinder indicating no more than around 75% peak modulation while the conventional meter showed peaks of 100%.

ModMinder holds the promise of combining maximum loudness—and, hence, better S/N ratios—with greatest quality. Stations that have suffered a competitive loss because they refused to "nail the processing to the wall," as Eric Small puts it, can now maintain maximum loudness without overprocessing, and heavily processed stations now have an alternative that could enhance their competitive position without further squashing and squeezing! 



RISING ABOVE THE CD JUNGLE



DISC 1



For most people, buying a CD player is a lot like taking a short stroll along the Amazon. And forgetting your map. Sooner or later, you're going to get lost.

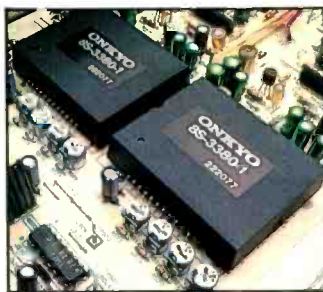
That's because the "jungle of misinformation" about CD players makes it difficult to know what's really important. And what isn't.

Take a quick look at some of the claims—digital bit structures (what are they, anyway?) ranging from 1 to 45. Oversampling rates from 2x to (quick, who's got the latest?) 16x. All this for the sake of a numbers race. And not necessarily for the sake of the music.

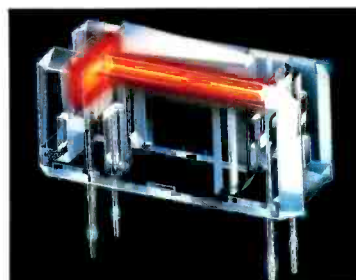
Well, Onkyo offers you a real way through this undergrowth.

Of course, we have an impressive variety of both single- and multiple-disc players. With extraordinary levels of technology in even our most affordable models.

For example, we individually calibrate the critical Digital-to-Analog Converters in our DX-1700 and DX-2700 players to fine-tune their linearity and minimize distortions peculiar to the digital process.



Most of our models also benefit from Opto-Coupling, an Onkyo-developed technology that transmits data optically rather than through conventional wiring for more accurate CD sound.



But for Onkyo, outstanding products are just the beginning. We'll make your journey through the CD jungle even easier with two indispensable guides.

The first is an in-depth explanation of digital bit structures and how they affect musical performance. The second is a down-to-earth journey through all the claims you're likely to run into, as well as the hard facts you'll need to master the CD jungle. And they're available at your Onkyo dealer now.



Onkyo. We'll give you more than just superb CD players. We'll also give you the knowledge you need. Because it is a jungle out there. And only the fittest survive.

ONKYO®

200 Williams Drive, Ramsey, N.J. 07446 201-825-7950

For your nearest dealer, call 1-800-553-4355 and enter code 41244 when asked.



A Real World Guide to CD Player Technology

Introduction

In theory, Compact Disc technology is surprisingly simple.

A disc stores information in the form of 16 bit digital words (16 consecutive "0s" or "1s"). This information can be reproduced through conversion of those 16 bits into what is called the analog domain by using a device called a digital-to-analog (D/A) converter. An output filter then removes unwanted ultrasonic frequencies inherently produced by the digital process.

However, the engineering methods now used to accomplish these tasks require sophisticated devices called digital filters in addition to the D/A converters mentioned above. As is unfortunately typical of most new technology, explanations of both operation and their significance have created substantial misconceptions. Onkyo thinks it is time to clear the air, and we have prepared this practical guide to

digital technology so you'll be equipped to survive the digital jungle!

We think you'll find the following information useful, relevant, and even enjoyable.

We'll explain the operation of digital filters: what they do, what various digital word lengths really mean, and why a CD player with "18 Bit" on the front panel may not be an 18 bit player at all!

We'll also cover the little understood but critically important concept of LINEARITY in the D/A conversion process and finish with some words of caution for those of you who may think that the recently introduced 1-bit conversion systems herald a new digital dawn.

A few words about the CD format and sampled waveforms

The Compact Disc format specifies that audio data be stored on the disc at the rate of 44,100 16-bit words for every second of music. And that's only for one channel! In addition to the musical information, other data relating to arcane subjects like EFM demodulation, synchronization, error correction codes, etc., adds to the constant flow of information off the disc. In fact, the optical pickup of every CD player reads data from a disc at an almost unbelievable rate of 4.3218 million bits per second!

In a perfect world, it should be relatively simple to convert each channel to an analog audio signal, to be amplified and applied to loudspeakers. However, the digital world is not perfect, despite what you might have heard.

Two important obstacles must be addressed by the CD player's circuitry.

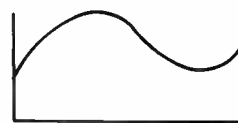
First, D/A converters are not perfect. Only a perfect 16-bit converter could completely reproduce the 16-bit audio data and the laws of physics, at least as we now understand them, dictate that such converters cannot exist. Thus, truly accurate conversion is a painstaking process and care must be taken to provide as accurate

a conversion as possible. As we shall see, this may include use of individually calibrated linear 18-bit converters.

Secondly, sampled analog signals, such as those present at the output of a D/A converter, contain a large amount of ultrasonic information generated by the digital process itself. This extraneous high frequency data, definitely not part of the original audio signal, is potentially harmful to other high fidelity components and must be suppressed in some way before the signal passes "downstream."

Where does this unwanted information come from? The following will give you a good conceptual understanding:

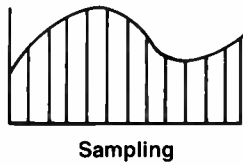
Digital recording begins with a process called "sampling," in which the original musical waveform



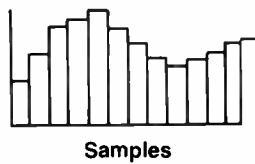
Analog waveform

is divided, or sampled, many times a second. (This

process is remarkably similar to cutting a loaf of bread into many individual slices.) In the case of a CD, each channel of the stereo musical signal is sampled, or divided, 44,100 times each second. That's what a "sampling rate" of 44.1kHz really means.



Each "slice" of music, then, becomes a separate entity, which can be easily handled by the digital process. The result looks something like this ---



The next step is called "quantization," and involves assigning a numerical value to each of these samples. Quantizing simply substitutes 16 "0s" and "1s" (called a digital "word") in a very precise order corresponding to the original measured value of each sample. Think of weighing each slice of bread on a scale and writing the result in a notebook.

Unfortunately, the quantization process is only an approximation and is much like the quandary you would face if your slice of bread weighed 1.26 ounces but you were told to put it in either a "1 ounce" or "1.5 ounce" wrapper. Specifically, the CD standard allows for 65,536 different quantization possibilities but not every sample precisely "fits" where the digital system says it should. The resulting differences generate "quantization noise," which manifests itself as the spurious high frequency information mentioned above.

A closer look reveals the identity of these high frequency noise bands. They are images of the original audio signal repeated at multiples of the sampling frequency.



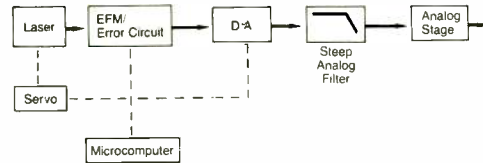
 = Unwanted Quantization Noise Images

In the case of the CD format, these quantization noise bands are centered at 88.2 kHz, 132.3 kHz, 176.4 kHz,

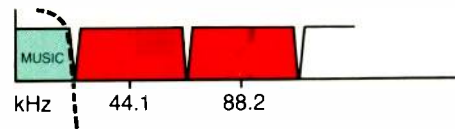
220.5 kHz, etc. This occurs in any digital audio product and is a natural consequence of using sampled waveforms. Even though these frequencies are well above the highest humanly audible frequency, they could interfere with an analog tape recording by "beating" against a bias oscillator, or affect stereo radio transmission. In addition, they could cause harmful instability (called oscillation) in an amplifier or even burn out the tweeter in a loudspeaker system.

First generation CD players

Basic CD Player



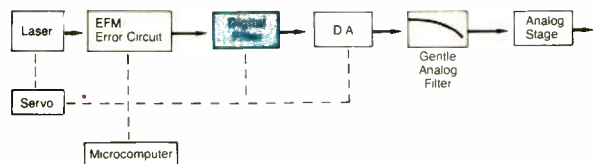
used a "brickwall" analog filter after the D/A converter to eliminate these frequencies. Although very effective in removing the unwanted noise bands before they could potentially cause damage, these very abrupt filters were not very kind to the music as it passed through.



Besides being bulky and expensive to build, these filters drift with age, and they have a negative affect on audio quality because of subtle variations on frequency response and not-so-subtle effects on the phase relationships of higher musical frequencies.

To combat this problem, later generation players employed a digital filter in addition to the analog filters.

Oversampling CD Player



Although digital filters perform a similar function, they operate in the digital domain instead of the analog domain and this has led to a number of widespread misconceptions.

The truth about Digital Filtering and Oversampling

As we've seen, all sampled waveforms contain extraneous high frequency information called quantization noise bands or images. Although these can be removed from the final analog waveform with just an analog filter, there is a more clever way — a supplemental digital filter.

A digital filter is a fast but not very versatile computer. It takes the stream of digital words from the CD and calculates additional digital words which it inserts between the original ones from the disc. The filter does this through what is really an elementary series of high speed multiplications and additions — precisely the kind of relatively mindless number crunching that computers are good at.

This high speed creation of new digital words is called "oversampling" because the filter creates additional digital words, or samples, where none existed before.

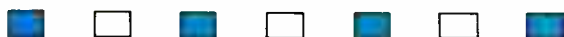
If this drawing represents the digitized samples from the disc —

Data from Disc



then this represents the result of a "2 times oversampling" digital filter which produces twice as many samples as existed originally.

2x Oversampling Digital Filter



A 4 times oversampling filter, twice as fast as a 2 times design, produces samples as follows.

4x Oversampling Digital Filter

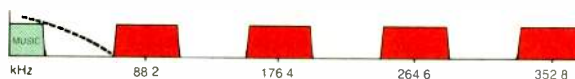


 — Data From Disc

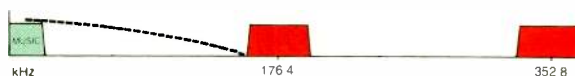
 — Additional Samples Created by Digital Filter

A digital filter, then, processes audio data while still in digital form before it is reconstructed as an analog waveform. The major advantage is that the digital filter's computation shifts the unwanted noise bands higher in frequency and consequently further away from the music. As you can see from the following drawing

2x Oversampling Digital Filter



4x Oversampling Digital Filter



8x Oversampling Digital Filter



the faster the filter's operating speed, the further away the noise bands will be and progressively less radical analog filters are required to protect the rest of the high fidelity system from the potentially harmful effects of the quantization noise bands.

Thus, the real burden of filtration shifts from the analog domain to the digital domain, where it can be done more easily, more accurately, and with little or none of the sonic problems associated with steep slope analog filters.

Some common misconceptions about Digital Filters

Unquestionably, digital filters represent a great improvement over the use of analog filters alone. However, their performance must be kept in perspective, and the extent of their advantages understood.

A digital filter solves the problem of noise bands by fooling Mother Nature. **However, a digital filter does not, in theory, affect the audio signal at all, either in terms of its accuracy or fidelity. A good digital filter strives to leave the audio data unaffected.**

The idea that a so-called 18-bit digital filter alone represents an advantage is a misconception. In fact,

the computations performed in every digital filter generate words of perhaps 28 bits or more. As long as the internal calculations are accurate, and a sufficient number of bits is retained after each calculation, **the number of bits output from the filter is not relevant to the fidelity of the output signal. The fact that some manufacturers advertise, for example, 18-bit digital filtering is in itself a meaningless claim.** What is relevant is how those bits are employed AFTER the filter.

D/A conversion architectures

Linear 18 Bit Conversion

As already noted, a 16-bit D/A converter cannot perfectly reproduce the 16-bit audio data from a Compact Disc. Inevitable conversion losses always result in something less than 16 bits of information returning to the analog domain. As explained in an earlier Onkyo white paper, there are several very real advantages in using 18-bit D/A converters to reproduce 16-bit data from a CD. **A linear 18-bit converter can provide a much more accurate reproduction of those 16 bits, hence providing measurably lower noise and distortion in the audio signal.**

Pseudo 18 Bit Methods and Their Limitations

Some manufacturers seek the same benefit through pseudo 18-bit methods. For example, they might use bit switching through a 16-bit D/A converter, or use parallel 16-bit D/A converters. While workable, such designs usually introduce problems. A major hurdle, for example, in a bit-switching system is the high speed analog level adjustment that accompanies the digital bit shifting. These rapid level switches can produce audible glitches or other unwanted anomalies that are totally avoided by true linear 18-bit D/A conversion.

A Comment On 20-Bit Designs

A seemingly logical question must be asked: if 18-bit conversion offers real advantages over 16-bit, doesn't 20-bit offer similar advantages over 18? The answer, surprisingly, is no.

To fully understand this, remember that every compact disc carries information in the form of 16 bit words and that the job of ANY D/A converter is to convert that digital information as accurately as possible. 18-bit conversion, as already described, addresses real world limitations of 16-bit converters **but 20-bit conversion provides no demonstrable benefits because of flaws in its current implementation.**

Right now, no integrated circuit manufacturer supplies a linear 20-bit D/A converter for use in CD players. This lack, caused by several very difficult design and manufacturing considerations, has led some companies to combine 16-bit and 4-bit IC converters, or 18-bit ICs and separate 2-bit discrete circuits, in a so-called 20-bit conversion scheme. However, temperature differences between the two converters often preclude accurate synchronization. In addition, the circuit used to sum the outputs of the different converters adds unnecessary complexity to an already strained design.

D/A conversion (cont.)

20-bit designs do offer a theoretical improvement in signal-to-noise performance, possibly 12 dB better than linear 18-bit conversion designs. But this must be balanced by the fact that ultimate performance depends not on the capabilities of the players but rather on the inflexible 16-bit limitations of the discs themselves. In other words, this theoretical improvement is of little practical value.

As of this writing, 20-bit conversion appears to be more of a marketing statement than an engineering accomplishment. However, the arrival of fully integrated linear 20-bit conversion ICs may well warrant a reconsideration of this opinion in the future.

The real question—D/A conversion linearity

D/A converter accuracy is even more important than the number of bits processed by the D/A converter. **Conversion Accuracy, also known as Linearity, really determines the fidelity of the audio signal.**

A D/A linearity test measures the converter's ability to reproduce various analog signals, particularly less intense ones like soft musical passages, that directly reflect the value of the digital word from the disc. Any deviation, or nonlinearity, results in harmonic distortion in the audio signal.

For example, when a bit changes from 1 to 0, the analog output must decrease exactly by a proportional amount. Of course, the amount that the analog voltage changes depends on which bit has changed. That's because each bit has a different influence on the analog signal. The most significant bit (MSB) accounts for a change in fully half of the analog signal's amplitude, while the least significant bit (LSB) in an 18-bit word represents a very minor amplitude change of less than four parts in a million!

Most good D/A chips include a means to calibrate the converter. This allows the manufacturer to compensate for minor differences between chips that might otherwise cause variations in sound quality.

Some D/A chips offer calibration of the MSB only, while others offer calibration of the four most significant

bits. Because these most significant bits steer the converter's output, proper calibration greatly improves overall accuracy.

This accuracy is most significant at low levels (e.g. quiet musical passages), usually below -60 dB. These non-linearities can easily be heard; for example, an industry standard test disc produced by CBS contains a "fade to silence" test tone. Poor D/A linearity is plainly audible as a pronounced variation in the desired steady decrease in loudness as the tone is being played. Similar problems arise with music but the effects are more subtle because music's constantly changing dynamics tend to mask some of the unwanted variations.

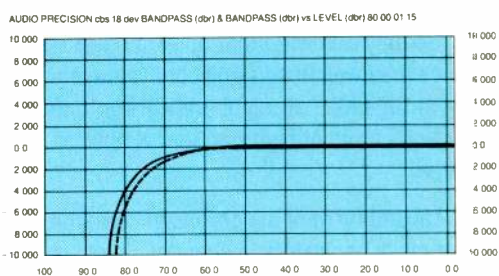
However, although chip designers realize the importance of calibration, apparently some CD player manufacturers do not. Some CD players are not even designed to make use of the calibration pins on the D/A converter chip. Perhaps even worse are the well-documented instances where, despite provision for calibration, some players evidence no attempt at adjustment; during production the calibration is often overlooked or set incorrectly. Many researchers and audio critics have found cases of calibration trim pots simply set in the middle of their adjustment range—a very suspicious alignment.

Linearity measurements

Although the audible effects of non-linearity may be somewhat subtle to some listeners, the results of poorly calibrated D/A converters are plain to see.

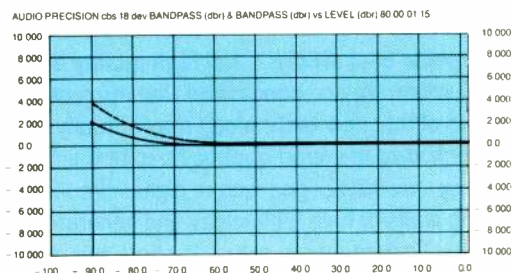
The following graphs, all containing information about the accuracy of various D/A converters, were plotted on a sophisticated computer-driven test instrument that shows any inaccuracies as a deviation from an ideal "straight line" response.

For example, the figure below shows a CD player with inaccurate conversion, particularly at levels lower than -60 dB where both channels begin to show considerable nonlinearity.



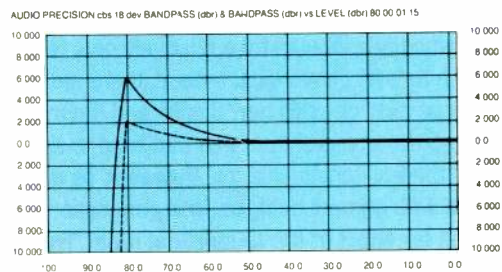
As you can see, a -70 dB signal reproduces at an amplitude of -71 dB, and a -80 dB signal at -84 dB. At -90 dB the nonlinearity is even more considerable. Clearly, this expansion of low level dynamics can alter critical background or ambient sounds that affect our perception of the acoustic environment in which the music was recorded.

The next figure shows another CD player with a different kind of nonlinear output.



Here, a -70 dB signal reproduces at -69 dB, a -80 dB signal at -79 dB or -78 dB (depending on the channel), and a -90 dB signal at -88 dB or -86 dB (again, depending on the channel). This non-linearity results in compression of low level information. Again, the affect could be audible.

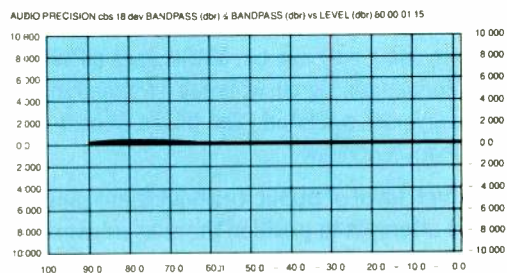
The following figure shows a CD player with extreme nonlinearity problems.



Here, the D/A converter compresses the output signal through: -80 dB, then suddenly expands it in a radical manner. Any low level audio waveform reproduces in a highly nonlinear fashion. The resulting distortion could greatly detract from the overall fidelity of music reproduction.

From this, we can easily see that unless the manufacturer is willing to purchase high quality converters and adjust them during production, the results can be highly unpredictable and unsatisfactory. On the other hand, when good converters are individually calibrated using the MSB adjustment described above, the results can be impressive.

For example, the next figure shows the output of a highly linear 18-bit CD player. Although there is a small error at the very low signal level of -90 dB, it is barely measurable and is not audible.



The secret, then, is careful D/A converter selection, and calibration of individual converters in each player. By adjusting the four most significant bits, or the MSB itself, linearity can be greatly improved. Tests show that this also improves the fidelity of the audio signal.

Clearly, the number of bits in a D/A converter is usually not the most relevant measure of its quality. In fact, it is a somewhat artificial way of determining conversion quality. Certainly, an 18-bit converter would be preferable to a 16-bit model, but only if the D/A converter is of high quality and properly calibrated. A poor 18-bit converter can be considerably inferior to a good 16-bit converter. As we have seen, it is adjustment for maximum linearity that most influences the bottom line—measured and audible performance.

The new One-Bit architectures

Several equipment manufacturers are now proclaiming performance advantages for a relatively new "single bit" approach to D/A conversion. Indeed, there are several differences between this new design and the more mature conversion architectures that tend to support some of the less fanciful claims. **However, as is often the case with all new designs, first generation efforts often fall far short of the theoretical ideal. This is indeed the case here.**

First, a short recap is needed to understand what has and, perhaps more importantly, what has not been said about single-bit designs.

The mainstay of virtually all digital audio products is the so-called parallel conversion of audio data words, whether 16- or 18-bits. And for good reason. This architecture has proven to be highly successful. As we have seen, extremely accurate conversion results from careful D/A design and calibration. However, these D/A converters are expensive and the labor intensive calibration procedures add to the manufacturing cost. **Understandably, some manufacturers have been unwilling to expend this effort, and have developed alternative conversion systems which are less complex and thus less expensive than conventional designs.**

Two different approaches have emerged so far: MASH (Multi Stage Noise Shaping) and "bit streaming." Both methods convert sampled data to an analog waveform using only one bit. MASH uses a PWM (Pulse Width Modulation) signal, whereas bit streaming technology uses a related PDM (Pulse Density Modulation) technique.

The high level of publicity about these single-bit designs attempts to position them as advances to existing conversion technologies. Unfortunately, it conveniently neglects some very real problems which may have a significant effect on the sound quality of CD players using this approach. Bluntly put, today's one-bit designs are examples of inexpensive and immature technologies masquerading as solutions to problems which have already been solved.

One-bit designs claim theoretically perfect conversion linearity at very low signal levels. But, as we have already seen, conventional multi-bit converters offer performance very near this theoretical ideal. However, calibrated multi-bit designs do not suffer from some of the problems unique to the current generation single-bit architectures.

One problem is that single-bit processing is inherently "dirtier" than multi-bit designs in that the

quantization noise bands are potentially more intrusive. A technique called "noise shaping" uses highly sophisticated computations called algorithms to alter the noise spectrum of the signal. However, these algorithms are part of a rapidly emerging branch of applied mathematics and are not as well understood as some would have us believe. **In fact, proper implementation is difficult because of the complexity and high data rate of the algorithm's computation, but is absolutely crucial to successful one-bit operation. Without proper noise shaping, one-bit methods are far inferior to parallel methods.**

As an example of this somewhat unsettled situation, consider this: one of the leading developers of one-bit designs recently admitted that current noise shaping techniques may well pose significant "parasitic coupling" problems that might interfere with the natural reproduction of mid or high frequency musical information.

Jitter, caused by poor synchronization of the various reference clock oscillators in a digital circuit, is also of great concern. Current multi-bit methods divide the signal's amplitude into parts for conversion. One-bit methods divide the signal in time. Although this may seem an obscure point, many engineers are still not satisfied that most conventional designs have fully dealt with the audible effects of clock speed variations. The higher operating speed of one-bit designs raises this question to a new level of importance in that any time-axis variations introduced by clock jitter or other noise are of a proportionately larger magnitude. **In short, jitter could disastrously disrupt a one-bit system.**

Although we firmly believe that one-bit architectures offer exciting possibilities and one day may provide cost efficient and high quality audio reproduction, we are concerned that current versions of this new technology may actually be a step backward in sound quality. Despite their efficiency, one-bit designs require digital circuits which push the limits of chip technology and generate an extremely high frequency signal. In short, this new technology has already revealed problems of its own. High quality 18-bit converters with proper calibration already offer essentially perfect linearity without the teething problems outlined above.

Right now, the single biggest advantage of one-bit designs is that they are cheaper to produce! Onkyo does not feel that the consumer is well served by playing the role of guinea pig for the sake of manufacturing economies.

Conclusion

Despite all the hype, a few simple facts are all that's needed to evaluate CD player technology.

1) The oversampling rate in a digital filter determines the placement of the quantization noise images. The higher the oversampling rate, the higher the placement, and hence the less critical the analog filter.

2) The number of bits in a digital filter per se is not important, as long as sufficient accuracy is maintained.

3) The greater the bit structure in a D/A converter, the greater the opportunity for higher conversion accuracy of the 16 bits of audio signal from the CD. However, the accuracy of any converter, whether 16 or 18 bits, hinges on the precision of its calibration. This can be easily determined by measuring D/A linearity.

However, the accuracy of any converter, whether 16 or 18 bits, hinges on the precision of its calibration. This can be easily determined by measuring D/A linearity.

4) So-called 1-bit systems have been developed, but their success is still not determined. One thing is clear: a well-calibrated 18-bit D/A conversion system can provide near-perfect reproduction of a digital audio signal. Onkyo believes that the design and calibration used in its players with either 16- or 18-bit converters approaches this ideal performance without encountering problems unique to one-bit architectures.

References

The following list is by no means complete but it does represent a good starting place for anyone who wants to understand the complexity of today's, and tomorrow's, world of digital audio.

Joel M. Halbert and Mark A. Shill: "An 18-Bit D/A Converter for High Performance Digital Audio Applications," AES (Audio Engineering Society) Preprint, New York, October, 1987.

Stanley P. Lipshitz and John Vanderkooy: "Are D/A Converters Getting Worse?," AES (Audio Engineering Society) Preprint Paris, March, 1988.

Ken C. Pohlmann: *The Compact Disc: A Handbook of Theory and Use*, A-R Editions, 1989.

Ken C. Pohlmann: *Principles of Digital Audio*, Howard W. Sams, 1989.

Ken C. Pohlmann, "Eighteen Bit Conversion," *Audio Magazine*, October, 1987.

David Ranada: "The Two-Bit Difference," *High Fidelity* magazine, January, 1988.

John Vanderkooy and Stanley P. Lipshitz: "Resolution Below the Least Significant Bit in Digital Audio Systems With Dither," *Journal of the Audio Engineering Society*, March, 1984.

For More Information



Call 1-800-553-4355

ONKYO®

Onkyo USA Corporation
200 Williams Drive, Ramsey, NJ 07446 201-825-7950

Ever wonder what happened to “cycles per second,” or “cps,” as they were abbreviated until pretty recently? This obvious name for an easy-to-understand phenomenon was changed a few years ago to honor a man for his experiments on electrical wave propagation and measurement. It is quite customary in the scientific world, and especially in the fields of electricity and acoustics, to name physical quantities after their inventor. Electrical quantities such as the watt, coulomb, joule, maxwell, farad, and henry are all named for their prince of discovery. And the three parameters most used by electrical engineers—potential, current, and resistance—are measured in volts (after Volta), amps (after Ampere), and ohms (after Ohm).

The concept of frequency was not so obvious a century ago as today; only a few scientists had any idea of the basic nature of electric and magnetic fields. One was James Clerk Maxwell, who in about 1864 predicted the existence of electromagnetic waves, using what we now know as the Maxwell field equations. These equations form the basis of electric and electromagnetic field theory, of modern radio, radar, telegraphy, television—indeed, of all wireless communication. But they were given only in theory, with Maxwell and his colleagues offering no practical application at the time.

In 1878, Heinrich Rudolf Hertz (like Maxwell a theoretical physicist not prone to doing experimental research) began taking an interest in experimental activities while studying under Hermann von Helmholtz (the Helmholtz resonator!) at the University of Berlin. In fact, Hertz had decided not to study engineering, believing it was too practical for his interests. Under Helmholtz, Hertz wrote his doctoral dissertation on “Induction in Rotating Spheres.”

By 1883, Hertz was an instructor at the University of Kiel. He began to take a more serious interest in Maxwell's theories. While teaching and studying, he furthered his plan to experimentally confirm the propagation of electromagnetic waves. In 1885, he was appointed professor of physics at Karlsruhe Polytechnic Institute, where his major research was done. It was at Karlsruhe that Hertz produced electromagnetic waves in the laboratory, and he succeeded in measuring their length and velocity. He showed there



Heinrich R. Hertz and the Discovery of Electromagnetic Waves

was a natural vibration related to the charging rate on the plates of a capacitor in a circuit and to the natural inductance of the wires. Hertz performed “tuning” of the system by adjusting the distance between wires connected to the parts, and showed that the “tuning” could optimize the natural resonant frequency. His crude experimentation confirmed the calculations he had made regarding the charge rate, the electric field level between the plates, the electromagnetic field around the coil (Hertzian dipole), the rate of oscillation (or tuning), and the damping, or decay, of the alternating charge's vibration.

Other experiments led Hertz to understand that electromagnetic waves obey the laws of refraction, reflection, and polarization. Their propagation characteristics were the same as those of light, except for the large difference in wavelength. He had thus confirmed that light was really just a form of electromagnetic radiation.

Hertz's scientific papers were translated into English and published in three volumes: *Electric Waves* (1893), *Miscellaneous Papers* (1896), and *Principles of Mechanics* (1899). After an illness brought on by blood poisoning, Hertz died in Bonn in 1894.

Like that of so many 19th-century scientists, Hertz's work was the inspiration for those who followed. His experiments with zinc spheres (which comprised the capacitor of his reso-

nant radiating system) intrigued a young Italian physicist, who thought the alternating electromagnetic waves created by a Hertzian dipole could be detected from a great distance. After demonstrating this was so in 1895, Guglielmo Marchese Marconi was able to detect transatlantic signals in 1901. For his efforts, Marconi received the 1909 Nobel Prize in physics.

These beginnings are the foundation of the vast continuum of wireless industries we know today: Radio, TV, radar, satellites, cellular telephones, radar speed detectors, garage door openers, remote controls for VCRs, and so on. Get the picture? So much of today's technology is an outgrowth of the wave theories and experiments of Hertz, Marconi, and Maxwell. Hertz's theories are the basis for today's microwave ovens, radar systems, and high-frequency amateur radio transmitters. The bounty and abundance we enjoy today would have arrived much later had it not been for Hertz and his compatriots, the great researchers of the late 19th century.

And back to cycles per second! In 1935, the International Electrotechnical Commission, a very powerful international standards-setting body, recommended that cycles per second be replaced by hertz as the unit of frequency. In 1948, Heinrich Hertz was once again honored when the worldwide General Conference on Weights and Measures adopted the term. The symbol for frequency became Hz—kHz for kilohertz, MHz for megahertz, etc. Over the past 40 years, textbook authors, institutions, manufacturers, and many others have come to accept the hertz. It is rare that one would not find it used in print nowadays.

In audio, the most-referenced frequencies in specifications sheets and product literature are the audible band and household electric current. The audio band is usually given as 20 Hz to 20,000 Hz (or 20 kHz); this represents a wavelength range of 56 feet to two-thirds of an inch in air, and 9,300 to 9.3 miles on wire. Household electricity's frequency is 60 Hz in the U.S. and 50 Hz in some other countries; it has a wavelength on wire of 3,000 miles.

So isn't it fitting to honor Herr Hertz a century after his groundwork contribution to the study of electric and electromagnetic wave motion? Long live the hertz!

Photograph: Culver Pictures

ALMON H. CLEGG

● THE IDEAL CROSSOVER FOR MULTI-WAY SPEAKER INSTALLATIONS



Bryston 10B electronic crossover

Bryston's Model 10B Electronic Crossover combines ideal signal-handling with an enormously flexible control function. Simple, direct front-panel switches allow any crossover curve to be set instantly, and the signal purity is always maintained.

The Model 10B features independently selectable crossover points for high-pass and low-pass, in case the speaker installation requires slightly overlapped, (or slightly staggered), response curves for the drivers. You can also independently select crossover slope, from 6, 12, or 18dB/Oct., where one driver requires faster cutoff than another in the same system.

The crossover may be used in any of three internal connections: 2-way stereo, 3-way mono, and a special configuration, 2-way mono. This last

cascades the low-pass and the high-pass sections and allows the selection of unusual crossover curves, including, "dual slopes", where the crossover point is effected at a shallow rolloff, and the stop-band is rolled off rapidly thereafter. It also permits the increasingly popular Linkwitz-Riley alignment with steep rolloff curves, 24 or 36 dB/Oct.

All crossover selections are extremely accurate and repeatable, being implemented with 1% selected metal-film resistors and polystyrene capacitors. All switches are heavily gold-plated, for lifetime protection from corrosion. The level-controls are precise 1 dB increments, also derived from gold-plated switches and 1% metal-film resistors. Most important, however, is that the Bryston 10B Crossover uses NO integrated circuits in the signal

path. All internal buffer and amplification stages are Bryston's exceedingly linear and superbly quiet discrete op-amp circuitry. This means the signal is always maintained as "Audiophile Quality", with stability and freedom from noise and distortion unapproached in normal equipment.

From the point of view of adaptability, flexibility and signal integrity, the Bryston 10B Electronic Crossover system is the ideal choice for the widest range of multi-way speaker installations.



57 Westmore Dr., Rexdale, Ontario,
Canada M9V 3Y6
Telephone: (416) 746-1800
Fax: (416) 746-0308
Telex: 06-989548

Brystonvermont Ltd., RFD#4 Berlin,
Montpelier, Vermont 05602
Telephone: (802) 223-6159

BRYSTON'S INTERNATIONAL ACCLAIM

Bryston for over a quarter century has dedicated itself to the recreation of the musical performance. Here is what a few of our critics have to say about Bryston products:



Bryston 12B preamplifier

"The way in which orchestral peaks were handled indicated that the Bryston .5B/2B combination's control over dynamics and attack was very impressive indeed."

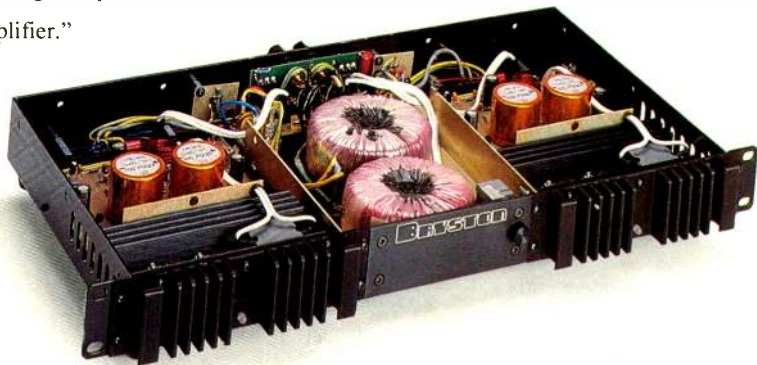
Paul Miller
The New Hi-Fi Sound, Britain

"Overall tonal balance of the system was beyond reproach, and I was particularly pleased with the clean, smooth reproduction of high frequencies using the Bryston .5B preamplifier."

Leonard Feldman
Audio Magazine, U.S.A.

"I would say that the LP playback qualities of the 12B with either moving coil or moving magnet cartridges are state of the art. I have not heard better from other more expensive amplifiers."

Andrew Marshall
Audio Ideas Guide, Canada



Bryston 2BLP power amplifier

"Simply put the Bryston 2B is a giant killer, one of the finest amplifiers on the market."

Gerard Rejskind
Hi-Fi Sound, Canada

"The recreation of ambiance is superbly spacious and gives an impression of pushing back the walls of the listening room. Symphonies and large orchestras are reproduced with extreme realism thanks to the wide stereophonic effect."

Revue De Son
France

BRYSTON

57 Westmore Dr., Rexdale, Ontario, Canada M9V 3Y6 Telephone: (416) 746-1800 Telex: 06-989548 Fax: (416) 746-0308
Brystonvermont, RFD#4 Berlin, Montpelier, Vermont 05602 Telephone: (802) 223-6159

Enter No. 28 on Reader Service Card

**2B-LP, 3B, 4B AND 6B
POWER AMPLIFIERS**

Distortion	
Harmonic	less than 0.01% (for 6B 0.02%) from 20 to 20 kHz at rated power
IM	less than 0.01% from 10 milli-watts to full rated power
Noise	100dB below full output
Crosstalk	below noise 20 to 20 kHz
Slewing Rate	greater than 60 volts per microsecond
Power Bandwidth	
Bandwidth	less than 1 Hz to over 100 kHz
Damping Factor	
Factor	over 500 at 20 Hz, ref. 8 ohms
Input sensitivity and impedance	
2B-LP	.75 volt in for full output, 50 k ohms
3B	1 volt in for full output, 50k ohms
4B	1.25 volts in for full output, 50 k ohms

Features

1. Bridging switch
2. Regulated power supplies
3. Each channel separated back to the linecord
4. Dual-colour LED pilotlights and clipping indicators; green changing to red at clipping
5. Will deliver full output to any phase angle at 4 ohms or higher
6. Warranty: 5 years parts and labour, shipping one way

2B-LP STEREO POWER AMPLIFIER

Rated Power	50 watts per channel, 8 ohms 100 watts per channel, 4 ohms 200 watts, bridged, 8 ohms
Dimensions	19 x 1.75 x 10 inches, 48.25 x 4.44 x 25.4 cm,
Weight	18lbs, 8 kg
• Over 1600 cm ² of heat-sinking (over 3200 cm ² with chassis)	

3B STEREO POWER AMPLIFIER

Rated Power	100 watts per channel, 8 ohms 200 watts per channel, 4 ohms 400 watts, bridged, 8 ohms
Dimensions	19 x 5.25 x 9 inches, 48.25 x 13.33 x 22.85 cm
Weight	35lbs, 16kg
• Over 3200 cm ² of heat-sinking (over 6400 cm ² with chassis)	

4B STEREO POWER AMPLIFIER

Rated Power	250 watts per channel, 8 ohms 400 watts per channel, 4 ohms 800 watts, bridged, 8 ohms (more than 1 horsepower)
Dimensions	19 x 5.25 x 13.5 inches 48.25 x 13.33 x 34.3 cm
Weight	50lbs, 23kg
• Over 6400 cm ² of heat-sinking (over 9600 cm ² with chassis)	

6B MONO POWER AMPLIFIER

Rated Distortion	less than .02% I.M. or THD from 20-20 KHz at rated power or below
Rated Power	500 watts, 8 ohms 800 watts, 4 ohms 500 watts, 2 ohms 800 watts, 1 ohm
Dimensions	19 x 5.25 x 13.5 inches 48.25 x 13.33 x 34.4 cm
Weight	50lbs, 23 kg
• Over 6400 cm ² of heat-sinking (over 9600 cm ² with chassis)	

.5B, 11B* AND 12B PREAMPLIFIERS

Distortion	(any Input, to any Output); less than .005%, IM or THD, any Frequency from 20-20 KHz, at rated output or below
Rated Output	10 volts RMS minimum, from tape or main output (Typically 14 volts RMS available)
Rated Noise (input shorted)	phono; -80dBA referred to an input of 5 millivolts RMS @ 1 KHz high level inputs; -95 dBA referred to an input level of 500 mv at 1 KHz
RIAA Accuracy	within less than ±50mB (.05dB) from 20-20 KHz inclusive
Frequency Response	high level section; within less than ±50 mB from 20-20 KHz inclusive

*without MC transformer

12B MC TRANSFORMER SECTION

Distortion	less than .005% 20-20 kHz with preamplifier driven to full rated output
Noise	equivalent to approximately 1000 ohm metal film resistor (thermal noise greater than -85 dB below 0.6 mv input, unweighted)
Gain	16.5 or 22.5 dB (internally restrappable)
Frequency Response	below 5 Hz to above 30 kHz, within less than ±0.5 dB

10B ELECTRONIC CROSSOVER

Frequency Response	70 Hz-4.5 kHz
Slope	6/12/18 dB per Octave
S/N Ratio	-90 dB
Distortion	0.005%
Normal input level	1 volt
Input impedance	20k ohms
Output impedance	100 ohms
Features	
1. Stereo 2-way monaural 2-way monaural 3-way	
2. Balanced or unbalanced	
3. Independent high and low pass frequency selection	
4. ±5dB of gain on high pass section	
Dimensions	19 x 1.75 x 10 inches, 48.25 x 4.44 x 25.4 cm,
Weight	12 lbs, 5.5kg

For More Information



Call 1-800-553-4355

WORLD DISTRIBUTORS**AUSTRALIA**

Syntec International Pty. Ltd.
60 Gibbes St., Chatswood, N.S.W.,
Australia

CANADA

Bryston Marketing Ltd.
57 Westmore Drive, Rexdale, Ontario
Canada M9V 3Y6

CHILE

Santiago Trading Co.
Box 224 Santiago 10, Chile

CUBA

Comex (Audio Analystes)
1875-D rue Panama, Brossard,
Quebec, Canada J4W 2S8

FRANCE

Audio Quartet SA
2 rue de Penthièvre, 75008 Paris,
France

GERMANY & AUSTRIA

Sun Audio Vertriebs Gmb
Hansjakobstrasse 80 D-8000 Munich
80 West Germany

GREAT BRITAIN

Roksan Engineering Ltd.
21 Ddole Road, Llandringod Wells,
Powys Wales

HOLLAND

Ankermonde BV
Ankermonde 1, 3434 GA Nieuwegein
Holland

ITALY & SWITZERLAND

Transaudio di L. Tamburini & C.
via Rosselli, 3, 10015 Ivrea (TO) p.i.v.a.
04992700015 Italia

KOREA

Cremyth Assoc. Corp.
C.P.O. Box 3732, Seoul, Korea

SOUTHEAST ASIA*

Richcoin Company Limited
11/F, Block B, Wo Kee Bldg., 585-609
Castle Peak Rd., Kwai Chung, N.T.
Hong Kong

SPAIN

Craftsmen S.A.
Juan Gamper 22-24
Barcelona 14, Spain

U.S.A.

Brystonvermont
R.F.D. #4, Berlin Montpelier, Vermont
U.S.A. 05602

U.S. DEALERS**ALABAMA**

Audition
2829 S. 18th St., Birmingham, AL
35209

Campbell's
2212 Whitesburg Dr., Huntsville, AL
35801

CALIFORNIA

Audible Difference
805 El Camino Real Palo Alto, CA
94301

Audio Excellence
425 Washington St. San Francisco,
CA 94111

Christopher Hansen Ltd.
646 N. Robertson Blvd. Los Angeles,
CA 90069

Keith Yates Audio
3019 D St.,
Sacramento, CA 95816

COLORADO

Listen Up Audio
685 Pearl St., Denver, CO 80209

Listen Up Audio
2034 E. Arapahoe Rd.,
Boulder, CO 80203

Listen Up Audio
324 North Tejon Colorado Springs, CO
80909

CONNECTICUT

Take Five Audio
105 Whitney St.
New Haven CT 06511

FLORIDA

Sound Components
1536 South Dixie Highway
Coral Gables, FL 33146

GEORGIA

Lee Kramer's Hi Fi SSS
322 E. Paces Ferry Rd. NE
Atlanta, GA 30305

ILLINOIS

Audio Consultants
1014 Davis St., Evanston, IL 60201

Audio Consultants
757 N. Milwaukee, Libertyville, IL
60048

Audio Consultants
110 East Ogden Avenue, Hinsdale, IL
60521

Paul Heath Audio
2036 N. Clark St., Chicago, IL 60614

INDIANA

Sound Pro
2146 East 116th St., Carmel, Ind. 46032

Sound Pro
409 Kirkwood Ave., Iowa City, IA
52240

LOUISIANA

Wilson Audio
8001 Maple St., New Orleans, LA
70118

MAINE

Hi Fi Exchange
Foreside Mall, Falmouth, ME 02138

MASSACHUSETTS

Goodwin's
870 Commonwealth Ave., Boston, MA
02215

Music Box

58 Central Wellesly, MA 02154

Waltham Stereo

361 Moody St., Waltham, MA 02154

MICHIGAN**Classic Stereo**

4428 South Westnedge, Kalamazoo,
MI 49008

Classic Stereo

2968 28th St. S.E., Grand Rapids, MI
49508

MINNESOTA**Audio Perfection**

7401 Lyndale Avenue S., Minneapolis,
MN 55423

NEW JERSEY**Sounding Board**

75 Franklin St., Ridgewood, NJ 07450

Woodbridge Stereo

751 Amboy Avenue, Woodbridge, NJ
07095

Woodbridge Stereo

Paddock Plaza, Rt. 36, W. Long
Branch, NJ 07764

Woodbridge Stereo

127 Village Blvd., Princeton-
Forrestal Vlge., Princeton, NJ 08540

NEW YORK**Audio Visions**

10676 Montauk Hwy., West Babylon,
NY 11704

Lyric Hi Fi

1221 Lexington Avenue, New York,
NY 10028

Lyric Hi Fi

2005 Broadway, New York, NY 10023

Lyric Hi Fi

146 East Post Road, White Plains, NY
10601

NORTH CAROLINA**Audio Advice**

3532 Wade Avenue, Raleigh, NC
27607

OHIO**Hoffman's Stereo**

Emery Green Plaza, 23031 Emery
Rd., Warrensville Hts. OH 44128

Audible Elegance

9464 Montgomery Rd., Cincinnati, OH
45242

Audio Encounters

4271 W. Dublin-Granville Rd., Dublin,
OH 43017

PENNSYLVANIA**David Mann Audio**

NewMarket 59, Hdhse Sq.,
Philadelphia, PA 18704

Summit Audio/Video

569 Pierce St., Kingston, PA 18704

PUERTO RICO**On Top Audio**

322-B Jesus t. Pinero Ave., Rio
Piedras, PR 00927

RHODE ISLAND**Soundings**

Polo Cntr., 700 Aquidneck,
Middletown, RI 02840

TEXAS**Audio Insight**

13929 N Central Expsrway, Dallas, TX
75243

VERMONT**Sound Directions**

56 1/2 Merchants Row, Rutland, VT
05701

WASHINGTON**Definitive Audio**

6017 Roosevelt Way N.E., Seattle, WA
98115

WISCONSIN**Specialized Sound**

621 S. Gammon Road, Madison, WI
53719

CANADIAN DEALERS**ALBERTA****Loyalty Sound**

1107 - 8th ST. SW, Calgary, AB T2P
1G3

Audio Ark

10746-124th St., Edmonton, AB T5M
3H1, (403) 453-6624

QUEBEC**Audio Connaisseurs**

2035 Lapinière Drive, Brossard,
Quebec J4W 1L8

C.O.R.A. Incorporated

131-18th St., Quebec City, PQ G1L 2C6,
(418) 522-1397

Le Domaine Du Son

1100 Boul. Des Recollets, Trois
Rivieres, PQ G8Z 3X2, (819) 373-1218

Le Palais de la Musique

484 Boul Du Seminaire, St. Jean, PQ
J3B 5L3, (514) 348-3000

Opus Audio Limited

5181 DeCarie Boulevard, Montreal,
PQ H3W 3C2, (514) 481-0363

St. Gelais Electronique

1526 Boul. Talbot, Chicoutimi, PQ G7H
4C2, (418) 545-2828

R.S.V.P. Electronique

1960 Mellon St., Jonquiere, PQ G7S
3H2

Studio 1006

1006 Fleury, Montreal, PQ H2C 1P7,
(514) 384-2215

B.C.**Commercial Electronics Ltd.**

1305 Burrard St., Vancouver, BC V6Z
1Z9, (604) 669-5525

Smith's Colour T.V.

236 - 13th St. N., Lethbridge, Alberta
T1H 2R7

NOVA SCOTIA

Stereo Shop Ltd.
6065 Cunard St., Halifax, NS B3K 1E6,
(902) 422-6571

P.E.I.

Hirtle's Stereo Inc.
100 Trans Canada Hwy., W. Royalty,
PEI C1E 1E7, (902) 894-7666

NEW BRUNSWICK

Magic Forest Music Store
546 Queen St., Fredericton, NB 3E8
1B9, (506) 459-1112

SASKATCHEWAN

Harry's Hi-Fi Ltd.
1239 Albert St., Regina, SK S4R 2R5,
(306) 522-2668

ONTARIO

Audio Appointment Ltd.
132 Mississauga St. E., Orillia, ON
L8V 1V7, (705) 825-4040

Audio Center
1493 Merivale Rd., Ottawa, Ontario
K2E 5P3

Audio Center
782 York St., London, Ontario N5W
2S9

Bay Bloor Radio
55 Bloor St. W., Toronto, ON M5J 2H8,
(416) 967-1122

Brack's Electronics Ltd.
129 Jarvis St., Toronto, Ontario M5C
2H6

J.L. Sound Systems
250 King St. E., Hamilton, ON, L8K 1T1,
(416) 527-6863

Pro Sound & Acoustics
78 Cedar St., Sudbury, ON P3E 1A5,
(705) 674-8478

Stereo Land Ltd.
1251 Ottawa St., Windsor, ON N8X
2E5, (519) 253-7836

Summit Sound and Visions
544 Niagara St. N., Welland, Ontario
L3C 1L8

Whitby Audio Ltd.,
400 Dundas St. W., Whitby, ON L1N
2M7, (416) 668-0787

Wizard Stereo Ltd.
264 Red River Rd., Thunder Bay, ON
P7B 1A8, (807) 344-4544

MANITOBA

Advance Audio Center
1300 Portage Ave., Winnipeg, MN
R3G 0V1

Auto Reverse

*Q. I note in the Audio "Annual Equipment Directory" that many decks are listed as not having automatic reverse—even the most expensive ones. To me, auto reverse is like an automatic transmission compared with the old clutch type in automobiles. I would appreciate information on this—*Glenn Callendine, North Canton, Ohio

A. I doubt that comparing auto reverse with an automatic transmission is a good analogy. With rare exceptions, decks do not perform equally well in both directions. Wow and flutter tend to differ in each direction. Probably more important, azimuth alignment tends not to be equally good, resulting in impaired treble response in one direction or the other. However, auto-reverse decks have steadily improved, so you may find something on the market which is satisfactory for your needs.

About Dolby HX and HX Pro

*Q. Please briefly explain the function of the Dolby HX system. What does it add over ordinary Dolby B NR? How does HX differ from HX Pro? Why was Dolby HX discontinued?—*Michael R. Witas, Whitefish Bay, Wisc.

A. Dolby B NR and C NR are noise reduction systems. Dolby HX and HX Pro seek to prevent tape overload at high frequencies; they are independent of Dolby NR.

Bias current, typically 100 kHz or higher, is required to maximize the signal recorded on the tape and to minimize distortion. Unfortunately, bias has an erasing effect that increases with rising signal frequency and amount of bias. To help compensate for bias loss and for other magnetic losses, substantial treble boost is employed in recording. Such boost may raise the treble level high enough to saturate the tape, resulting in distortion and treble loss, sometimes called fold-over. Many combinations of bias and treble boost can produce flat response. The deck manufacturer seeks an optimum combination—one that results in satisfactorily low distortion and does not require excessive treble boost. The slower the tape speed, as in cassette decks, the more difficult it is to achieve this optimum level.

HX Pro is based on the idea that some of the required bias for satisfac-

torily low distortion is supplied by the high-frequency content of the program material; the rest and major part, of course, is supplied by the deck's oscillator. To the extent that program material supplies some of the bias, the amount required from the oscillator can be reduced. Less oscillator bias signifies that less treble boost is needed, which reduces the risk of tape saturation; in other words, more headroom for high frequencies is attained.

Accordingly, HX Pro reduces oscillator bias in proportion to the amount of high-frequency content in the program material. It seeks to keep constant the sum of oscillator bias and the biasing effect of the high-frequency content.

Dolby HX was a short-lived, more complex scheme which sought to reduce both bias and treble boost in the presence of strong high frequencies. It seems that HX was too complex to work well—particularly in consumer equipment, where cost is important.

Flatness of Response

*Q. Why is it that the accuracy with which various equalizations are achieved is not the same? In the case of phono preamps, equalization is such that response is typically within ± 0.2 dB, whereas for the best tape decks, it is ± 3 dB from 20 Hz to 20 kHz. Should the tape medium or the heads be blamed for this?—*C. Rama Murthy Hyderabad, India

A. Phono equalization is a matter of one or two equalization circuits in a preamp, receiver, integrated amplifier, or tuner/preamp. Through careful selection of resistors and capacitors, it can very accurately conform to the RIAA phono playback characteristic. The response of a tape deck is dependent on many more factors: Record equalization, playback equalization, amount of bias current in recording, correct azimuth alignment, narrowness of the playback head gap, magnetic characteristics of the tape, and when Dolby noise reduction is used, correct matching of the record and playback levels to ensure flat treble response. Δ

If you have a problem or question on tape recording, write to Mr. Herman Burstein at AUDIO, 1515 Broadway, New York, N.Y. 10036. All letters are answered. Please enclose a stamped, self-addressed envelope.

BAROQUE 'N' RECORD



A few months ago, I received a note from an old friend risen high, Jac Holzman, chief technologist for Warner Communications, chairman of the board of Cinema Products, ex-chairman of Panavision, and without a doubt a top mogul in a dozen or so further corporate ensembles. I knew Jac Holzman when he was an aggressive and determinedly bright kid of 19 or so, approximately penniless. The elevation, you can see, has been large. Holzman included a sheaf of equipment leaflets from one of his companies, Cinema Products (he wrote on the stationery of still another, First Media), just for my general interest. Lavish color displays of equipment, very much like those in our own professional equipment industry.

Was I interested! It's one thing to peruse the publicity in a field that at least is moderately familiar, as audio is to me, and quite another to barge into a wholly new area, right at its technical center. Absolutely awesome, this cinema gear—incredible machines that are not cameras but auxiliary to them. It took me awhile to realize that these huge agglomerations of gears, wheels, and motors were developments of the simplest originals—the camera tripod, for instance.

These machines are the present stock-in-trade for that huge film industry which turns out most of our big movies of all sorts, plus a remarkably large part of the originals for big-time video—whether TV, cable, VCR, or any other format, including, of course, the video ad.

From his position in the film biz, I learned by reading the brief Holzman article, my old friend is very much concerned with the crucial battles now going on between the present two utterly different technologies in the moving-picture business: The electronic video picture, analog or digitalized, and the long-established and highly developed film technology, out of George Eastman and Thomas Edison. It seems to me significant that Holzman is adamantly on the film side of this argument, particularly in respect to the present agitation over new "high-fidelity" video standards, as proposed (as usual) by the Japanese. That might seem conservative, but Jac Holzman is no conservative. Far from it. There are better reasons.

Holzman is one of those people—as I could begin to see even in his penniless stage as a kid—who grab opportunity with lightning speed and foresight, while the rest of us just sit and

gape. He's the guy who always gets the best seat in a game of musical chairs. One must look at such people with wary respect—now what are they up to? Where they move, lightning fast, others are extremely likely to follow, later or maybe too late. So why is Holzman now into film technology? *Hmmm*, is my thought. Interesting.

A good many readers will recall that Jac Holzman has not been exclusively a film man, and hence the reason for writing these words. He is another of audio's recent pioneers, a man of great enterprise and success in the recording business. For years, he was all audio—his own record labels—and not a picture in sight (if you discount public relations). This gives me a fine excuse for writing, and I intend to follow through on his *Broadcast Magazine* article when the proper permissions are in place. (One does not borrow other people's work without a good reason for comment.) First, then, a look at the Holzman audio background, another big part of audio history.

The present film equipment magazine, if I can call him that, began his obviously meteoric career producing LP and 45 records from tapes, via his own new labels. You know them today—Elektra and Nonesuch, the first generally pop, the second generally classical. He started Elektra still technically a kid, and on a good deal less than a shoestring. (He tried to borrow \$200 from me, and I indignantly refused!) From its tiny start, Elektra took right off—one of the first of the new "hi-fi" LP and 45 stereo labels, like today's all-CD labels. Remember The Doors? That was one group in the Elektra stable, and there were plenty more.

Then, a few years later, Holzman went on, with a big tad more capital in his till, toward a venture he once told me had been his ambition from the beginning: A classical LP label, Nonesuch. That was in the early '60s. The LP was in its second florescence after more than a dozen years, sparked by the big changeover to stereo. Nonesuch was neatly timed, just as stereo playing equipment began to straighten itself out from the mess occasioned by the new two-channel consumer hi-fi, so that mass stereo sales had become practicable, yet before the stereo medium had really explored new market-

ing possibilities. In its first years, Nonesuch produced dual releases, mono and stereo, both necessary while mono equipment continued to exist. But stereo was the base.

In the 10 years between the introduction of the LP, then the 45, and the advent of stereo on disc, when Holzman was a child, a new dynamic force entered the musical end of recording, thanks to tape. I can very well remember the excitement, for me at least, of the many new LP labels that sprang up to complement the old standard outfits—Victor (RCA), Columbia (CBS), and the other 78-rpm biggies, Decca and Brunswick here and His Master's Voice (HMV) and plenty more in European imports. We had always had these imports, from the earliest electrical days, and for many of us, they were the chief source of the more esoteric (as some would put it), larger area of music that lay outside the standard concert stuff that was mostly available on big-company 78. Now, with early tape, all sorts of novel "travelling" record labels hauled recorders into an astonishing variety of places and brought out the results on mono LP. I remember vividly, for instance, the successive releases of the once-unique Haydn Society, delving into great quantities of Haydn which most record collectors (not to mention live audiences) had never heard before and never expected to hear. (The standard critic's phrase was, "It has not maintained a place in the repertory.")

This spate of utterly new material, almost exclusively from Europe and played largely by unknown musical organizations and soloists (unknown, that is, to us), was a sensational thing, opening up all sorts of new musical perspectives for the listener.

But from a present-day audio viewpoint, that market was smallish, and the sound was not much—tolerable, if you were really interested. In fact, it varied from reasonable to awful. So did the LP pressing. We had yet to refine our vinyl to a point where what I used to call a forest of ticks—not bugs, but noises—and an obtrusive hiss—combining surface noise, tape hiss, and hum—made listening sometimes worse than a mediocre 78. There was still plenty of recorded distortion, and pitch was notoriously wobbly—some-

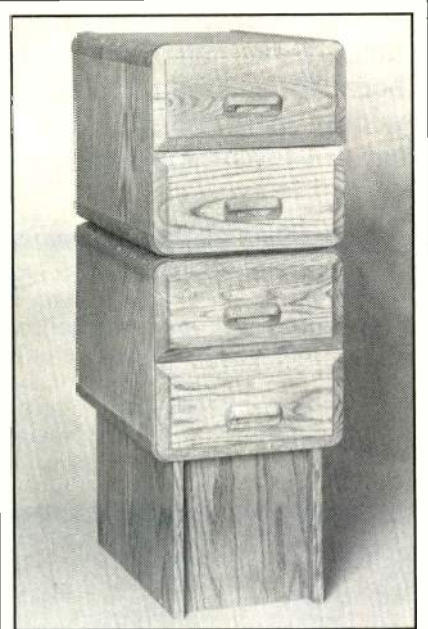
times shaky, sometimes determinedly off from beginning to end, this thanks to unstable and unknown current sources at the nominal 50-cycle a.c. rating used in Europe. No—no handy rechargeables then.

So this material was new but not yet for the multitudes. The LP catalog grew mightily but, if I am right, sales were not *that* good. Enough to keep the small labels going; not enough to build fortunes on mass production.

With his usual sense for having the right idea at the right time, young Holzman realized correctly (as I see it) that with the wider musical vision of stereo and the improving quality and quantity of both records and equipment, the time was ripe for a much bigger musical expansion via stereo; that indeed millions in the U.S., millions of *us*, were ready to bust out all over and, at the right price, buy up almost anything and everything *not* in the standard classical repertory! So true, so true.

Elektra and Nonesuch were hardly the only outfits of their type, I hasten to say. Some—like Vox, for example—had a long technical precedence in point of time, and there were the burgeoning record clubs, some catering in that format to the same opportunity, setting prices for maximum appeal. Even so and nevertheless, I have always felt that they were following on the marketing heels of Holzman, who did it first in stereo—if by a few hairs and dollars. In terms of market upheaval, in terms of new musical audience, Nonesuch was the outstanding classical success of the day.

As the fastest moving company, Nonesuch did indeed find an extensive new audience for records—particularly among young people of college age, not yet musically committed but avid for anything new to listen to in stereo or even mono. And so I credit this label (yes, I was involved in the backside annotations) with a profound influence on our classical tastes to this day. Nonesuch brought the hugely diverse music of the Europeans and especially the so-called baroque (Vivaldi, Telemann, Bach, Handel, and a host of others) to an American market that had been dominated, both on records and in concerts, by the "50 pieces," as Virgil Thomson called them—the standard symphonic repertory.



***** NEW *****

from

**SPECIALTY
WOODWORKS**

MediaPhile 200

The Media Storage System For Media Lovers Of All Kinds.

- Store 200 CDs in an incredible 2.5 cubic feet.
- Movable drawer partitions can be configured for CDs, videos or cassettes.
- Each drawer holds 100 CDs or 23 videos or 99 cassettes.
- **STACKABLE!!!**
- Store 800 CDs in a 15"x 22.75" floor-space!
- DataPhile 1000 available for 3.5" and 5.25" computer disks.
- Natural, Medium, Dark, Black Oak or Walnut.
- Silky Smooth full extension drawer slides.
- Optional pedestal stand (shown above) available.
- Optional Keyed Lock available.
- Ship Via UPS.
- Suggested Retail Price \$299.00

Call (904) 725-6951

for free color literature and the name of a dealer near you.

Remember our classy line, too.

**SPECIALTY
WOODWORKS**

7211 Pottsborg Dr./Jacksonville, FL 32216



Intended or no, baroque is largely Jac Holzman's baby because he made this music widely available to a very significant new audience.

As we all know, baroque became a major classical fad, an all-out craze that affected mainly the younger listeners of that time and thus altered our whole future perspective on music of the past. Now the young "college" people (many weren't) have metamorphosed, after a quarter century, into

middle-age affluence and still are enthusiasts for baroque and plenty more. Now they enthuse also for our current upscale equipment, which, shall I say, is for them affordable.


These same record buyers, without knowing much about it, have really solidified our interest in the baroque big

beat, so good for the recorded medium, and the apt amplification that brings small-scale music to us as forcefully as the big concert works. By now, these things have thoroughly penetrated our musical consciousness, and (predictably) on into the commercials—fake baroque, composed to fit. Even on the harpsichord! You hear it everywhere. Just try some recent airline ads. It's pretty sad, this commercial baroque (and never longer than one minute!), but it has the popular baroque sound all right. The ads, I might add, always chime right in—20 years late. Even Mozart hasn't yet been able to unseat baroque.

Jac Holzman single-handedly, in a metaphoric sense, had a lot to do with this very baroque phenomenon. Even if perhaps by accident, at the time. He first built up the Nonesuch label from licensed European tapes, and that's where the baroque came from, take it or leave it. Intended or no, baroque is largely his baby because he made it widely available to a significant new audience.

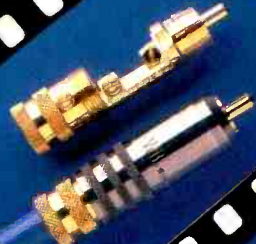
True, people like myself, inside music, discovered this music much earlier. We called it "old music." But we were musical freaks, very esoteric. The Nonesuch audience was America.

My further suggestion is that the present wave of CD expansion—with even more "unknown" performers, still more musical treasures unearthed into sonic reality—is very obviously parallel to that earlier wave of LP stereo in which Jac Holzman was a prime mover. That makes him a sort of industry grandfather today, as the second wave moves on to its new frontiers.


Nonesuch and Elektra still exist as part of a complex of labels, but they are different in a different time. When Nonesuch went to Warner Communications, Holzman was not exactly kicked upstairs—he shot, self-propelled, straight into the managerial stratosphere from which, you can guess, he reaches a long finger down into his old business whenever he fancies. I seem to see the evidence, now and then. Meanwhile, it's on to ever more mogulish occupations as Warner Communications combines with Time Inc. Including, maybe, retirement. And thence further into cinema? Good place to retire. 




Precision made connectors for the distinguished user



WB-0108
coaxial RCA
the solderless
crimping plug



cutaway view of
WB-0200 coaxial jack, RCA
with active spring adaption



WB – the crucial soundlink
for all good equipment

... or would you buy a Mercedes with bicycle wheels?

For more information contact:

may audio marketing inc.

P.O. Box 1048, Champlain, N.Y. 12919 · Tel.: 518-298-4434

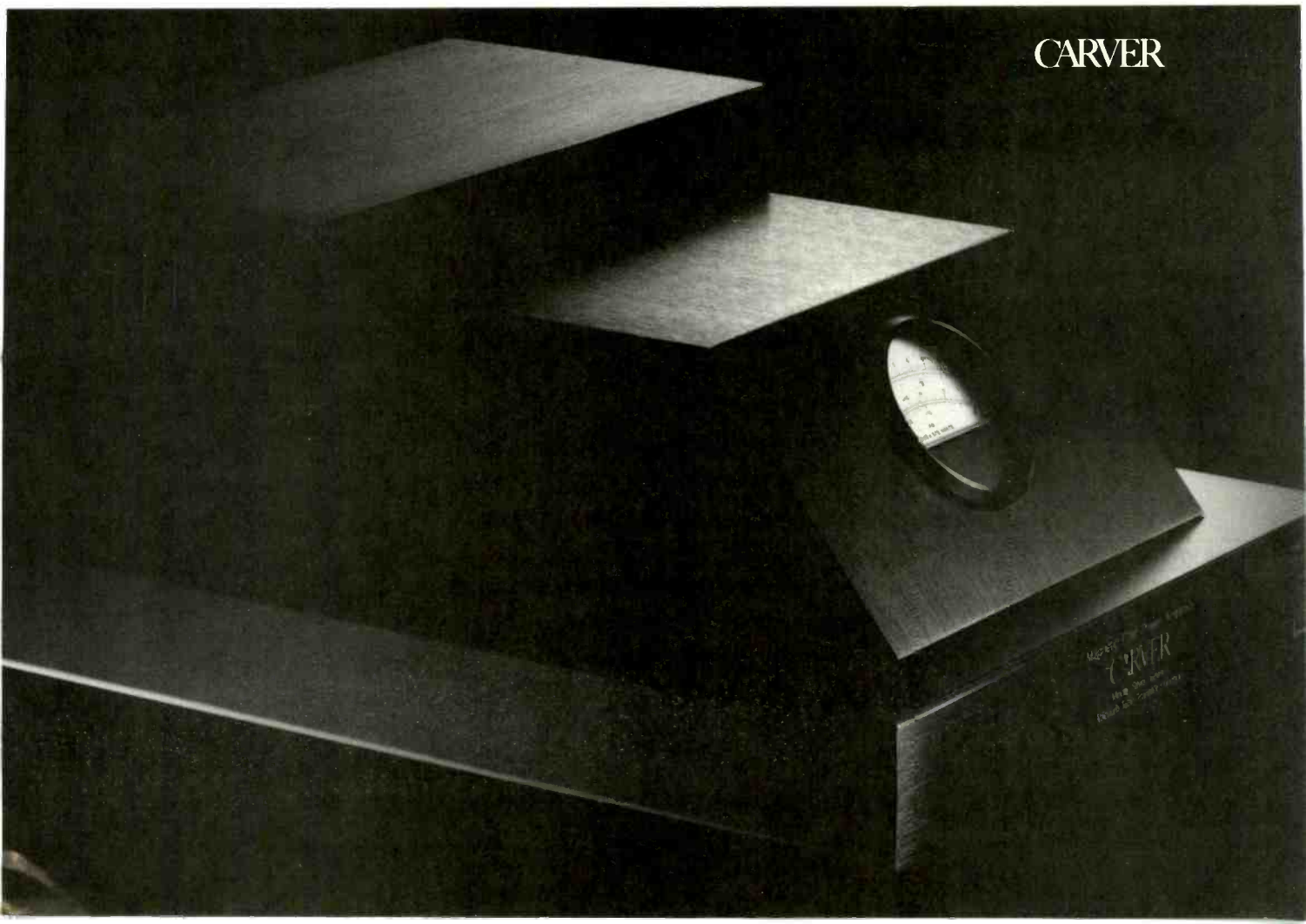
Carver for 1989

POWERFUL

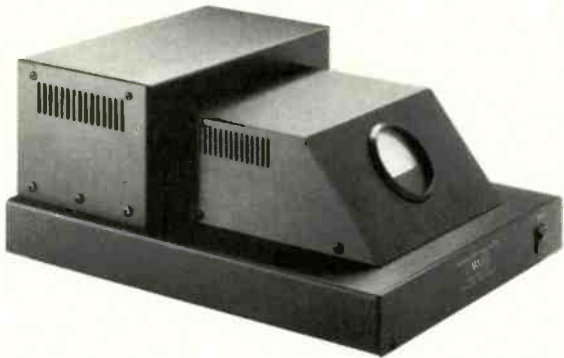
MUSICAL

ACCURATE

CARVER



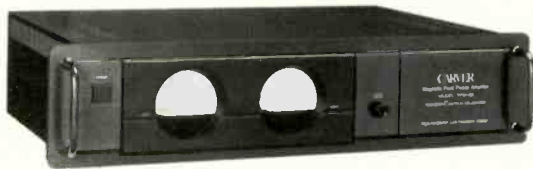
Silver Seven-t



Simultaneous High Current/High Voltage Monoblock Reference Magnetic Field Power Amplifier

- Silver Seven t-mod design
- **575 watts min. RMS into 8 ohms, 20-20kHz with no more than 0.5% THD**
- 900 watts into 4 ohms, 20-20kHz with no more than 0.5% THD
- 1000 watts into 2 ohms, 20-20kHz with no more than 0.5% THD
- Analog power meter

TFM-45



Simultaneous High Current/High Voltage Magnetic Field Power Amplifier

- Silver Seven t-mod design
- **375 watts min. RMS/channel into 8 ohms, 20-20kHz with no more than 0.5% THD**
- 500 watts RMS/channel into 4 ohms, 20-20kHz with no more than 0.5% THD
- 1000 watts bridged mono into 8 ohms, 20-20kHz with no more than 0.5% THD
- Analog power meters

TFM-42



Simultaneous High Current/High Voltage Magnetic Field Power Amplifier

- Silver Seven t-mod design
- **375 watts min. RMS/channel into 8 ohms, 20-20kHz with no more than 0.5% THD**
- 500 watts RMS/channel into 4 ohms, 20-20kHz with no more than 0.5% THD
- 1000 watts bridged mono into 8 ohms, 20-20kHz with no more than 0.5% THD
- LED power meters

TFM-25



Simultaneous High Current/High Voltage Magnetic Field Power Amplifier

- Silver Seven t-mod design
- **225 watts min. RMS/channel into 8 ohms, 20-20kHz with no more than 0.5% THD**
- 350 watts RMS/channel into 4 ohms, 20-20kHz with no more than 0.5% THD
- 350 watts bridged mono into 8 ohms, 20-20kHz with no more than 0.5% THD

TFM-22



Simultaneous High Current/High Voltage Magnetic Field Power Amplifier

- Silver Seven t-mod design
- **225 watts min. RMS/channel into 8 ohms, 20-20kHz with no more than 0.5% THD**
- 350 watts RMS/channel into 4 ohms, 20-20kHz with no more than 0.5% THD
- 350 watts bridged mono into 8 ohms, 20-20kHz with no more than 0.5% THD
- LED power overload indicators

Magnetic Field Power Amplifier Technology

Quite simply, Carver power amplifiers deliver more current, more power and more voltage than competitively-priced designs. They also deal with the *true* realities of overall speaker impedance. While many amplifier designs claim "low impedance capability" their output voltage or current suffer in the process—all three specifications are linked by basic laws of physics. Carver Magnetic Field Amplifiers are capable of delivering both high voltage and high current simultaneously into the wide impedance range which typifies today's top loudspeaker designs. The key is Carver's patented power supply system, a *fully regulated* design of a type normally used only in esoteric aerospace electronic instrumentation. It can access more of each AC line voltage cycle and is able to draw 200% MORE CURRENT than conventional designs. With dynamic switching between three power "rails" depending on demand, and a distributed capacitance system which is able to achieve more joules of energy storage than traditional "soup cans"; Carver Magnetic Field amplifiers can deliver up to 500% MORE CURRENT during musical peaks. At impressive power outputs and into a wide range of both resistive and reactive speaker loads.

Transfer Function Technology

The "T" in Magnetic Field Power Amplifier model numbers signifies the t-modification process which Bob Carver has perfected over the last two decades. A process which can give you many of the sonic characteristics of a \$17,500 esoteric tube amplifier in solid state designs costing a fraction as much. Every amplifier design 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 perfected the art of precisely measuring an ultra-expensive, esoteric amplifier's transfer function, and then *closely duplicating* it in a different amplifier design! This process is not magic and cannot turn a low quality design into an audiophile power amplifier. In fact, the amplifier being "t-mod-ed" must, in many ways, be the equal of the design whose transfer function is being replicated. Only after these parameters are met, (as they have been in our new TFM-series) does Bob Carver apply his t-mod wizardry. Each design is "fine tuned" so that its transfer function closely matches that of the Silver Seven, Carver's well-received, ultra-high end, vacuum tube monoblock design.

Preamplifiers

NEW FOR '89

C-19



Vacuum Tube Reference Preamplifier

- 5 inputs including MM phono, MC phono and CD Direct
- Individual L/R tone controls with variable turnover points
- Spectral Tilt full range tone control
- Dual external processor loops
- Dual tape monitors with dubbing
- Headphone output with speaker defeat switch
- Infrasonic filter
- Stereo/mono switch
- Absolute phase switch
- Headphone output

C-16



Preamplifier with Sonic Holography*

- 5 audio inputs including MM and MC phono
- Sonic Hologram Generator with Blend Control
- Individual L/R tone controls with variable turnover
- Spectral Tilt full range tone control
- Dual external processor loops
- Dual tape monitors with dubbing
- Headphone output with speaker defeat switch

C-11



Preamplifier with Sonic Holography*

- 5 audio inputs including MM and MC phono
- Sonic Hologram Generator with Precognition circuitry
- Individual L/R tone controls
- Loudness equalization
- Infrasonic filter
- External processor loop
- Dual tape monitors with dubbing
- Headphone output with speaker defeat switch

H-9AV



Audio/Video Sonic Hologram Generator with Precognition Dynamic Video Sound Enhancement

- Adds Sonic Holography* to any preamplifier, integrated amplifier or receiver with tape monitor or external processor circuitry
- Precognition circuitry for optimized video soundtrack Sonic Hologram Generation
- Precognition level control
- Vocal Zoom dialog processor
- Additional L+R and L-R outputs for advanced multi-channel installations

AV-Sixty Four



3/4-Channel Special Applications Magnetic Field Power Amplifier

- Designed for surround sound, multi-room and satellite/ subwoofer use
- **60 watts, 4 channels driven into 8 ohms, 20-20kHz with no more than 0.5%**
- 100 watts, 4 channels driven into 4 ohms, 20-20kHz with no more than 0.5%
- 3-channel operation: 180 watts into 4 ohms, 20-20kHz with no more than 0.5% THD. (ch. 1), 60 watts/channel into 4 ohms, 20-20 kHz with no more than 0.5% THD (ch. 3&4)
- Built-in 18dB/octave electronic crossover with 75 Hz turnover point
- Rear panel trim/balance controls

Sonic Holography® Technology

Sonic Holography® recreates sound the way nature intended us to hear it. By definition, conventional stereo cannot. During a live performance, each ear hears just one sound arrival from a sonic event. At home (because both ears are exposed to both stereo speakers), our ears receive two sound arrivals, one from each loudspeaker. This confuses our brain's neural processing, resulting in a collapsed sound field which is a pale imitation of natural sound. Sonic Holography® detects, analyzes and cancels spurious second sound arrivals, restoring the wide spatial sound field of a live performance. The performance (or movie soundtrack) seems to engulf the listener with a sound field that is higher, wider and deeper than the loudspeakers.

CARVER

CARVER CORPORATION, LYNNWOOD, WASHINGTON, U.S.A.
Distributed in Canada by EVOLUTION AUDIO INC. 1-(416) 847-8888

For more information about Carver products call
1-800-443-CAVR, 8AM-4PM M-F Pacific Time

Receivers

NEW FOR '89

HR-752



Remote Control Sonic Holography Receiver

- 100 watts/channel RMS into 8 ohms, 20-20kHz with no more than 0.5% THD
- 5 audio inputs
- Sonic Hologram Generator
- Asymmetrical Charge-Coupled FM Detection circuit
- 20 FM/AM presets
- Preset scan and auto/manual tuning
- Motorized volume control
- 3-band tone controls
- Matrix surround sound synthesizer
- Dual tape monitors with dubbing
- Pre/main outputs
- Integrated remote control
- Remote compatibility with Carver CD Players

HR-722



Remote Control Sonic Holography Receiver

- 60 watts/channel RMS into 8 ohms, 20-20kHz with no more than 0.5% THD
- 5 audio inputs
- Sonic Hologram Generator
- Asymmetrical Charge-Coupled FM Detection circuit
- 20 FM/AM presets
- Preset scan and auto/manual tuning
- Motorized volume control
- 3-band tone controls
- Dual tape monitors with dubbing
- Integrated remote control
- Remote compatibility with Carver CD Players

Tuners

TX-12



Remote Control Asymmetrical Charge-Coupled Detection FM/AM Tuner

- Advanced, logic-controlled Asymmetrical Charge-Coupled FM Detection circuit for dramatically reduced multipath and noise
- 20 FM/AM presets
- Preset scan
- Auto/manual tuning
- Stereo/mono switch
- Analog signal strength meter
- Dual antennal inputs
- Multi-function remote control

TX-11b



Asymmetrical Charge-Coupled Detection FM + Stereo/Mono AM Tuner

- Ultra-High Performance Asymmetrical Charge-Coupled FM Detection circuit for dramatically reduced multipath and noise
- 13 FM/AM presets
- 3-week battery back-up preset memory
- Preset scan
- Auto/manual tuning
- Wide/narrow FM band selection
- New AM stereo circuitry
- Full 20-15kHz frequency and 70dB noise in AM Stereo tuning mode
- AM Gain and AM Noise Elimination circuits

TX-10



Asymmetrical Charge-Coupled Detection FM/AM Tuner

- Asymmetrical Charge-Coupled FM Detection for dramatically reduced multipath and noise
- 20 FM/AM presets
- Auto/manual tuning
- LED signal strength meter

Asymmetrical Charge-Coupled FM Detection Technology

Because FM stereo transmission is inherently prone to multipath interference, even the most "advanced" conventional tuner circuitry is forced to deal with a potentially flawed signal. Only Carver ACCD Tuner Circuitry is capable of restoring—literally transforming a multipath-ridden FM station into a clean, clear signal. It separates the FM signal's stereo (L-R) and mono (L+R) components, rejecting up to 80% of the fragile, distortion-filled stereo signal. The 15-20% of the signal which is "clean" is used to accurately recreate the rest of the stereo signal. You hear clean, clear FM with accurate frequency response, wide dynamics and ambient stereo information... even when a high portion of the L-R (stereo) FM signal is being ravaged by multi-path.

Preamplifier Tuner

NEW FOR '89

CT-17



Remote Control Preamplifier/Tuner with Sonic Holography and Dolby Pro Logic

- Dolby Pro Logic 5-channel surround sound processor
- Full remote control including rear channel volume
- Sonic Hologram Generator
- Asymmetrical Charge-Coupled FM Detector
- 20 FM/AM presets with preset scan, stereo/mono, auto/manual controls
- 2 video inputs with dubbing
- 7 audio inputs including CD Direct
- Hall and stadium effects synthesis
- Simulated stereo synthesis for mono video
- 3-way tone controls
- Dual tape monitors
- High cut filter
- Integrated remote control with separate input/record selector and extra remote volume control for room-to-room capability

Compact Disc Players

TL-3300



18-Bit/8X Oversampling Remote Control Compact Disc Player

- 352.8kHz oversampling
- Dual D/A converters
- Digital Time Lens sound enhancement circuitry
- 22-track programming
- Search, repeat, skip, scan functions
- Full-function random access remote control
- Remote compatibility with Carver Receivers

TL-3200



16-Bit/8X Oversampling Remote Control Compact Disc Player

- 352.8kHz oversampling
- Dual D/A converters
- Digital Time Lens sound enhancement circuitry
- 32-track programming
- Shuffle play random music programming
- Delete programming
- Intro scan
- Search, repeat, skip, scan functions
- Full-function, random access remote with volume control
- Remote compatibility with Carver Receivers

TL-3100



16-Bit/4X Oversampling Remote Control Compact Disc Player

- 176.4kHz oversampling
- Dual Analog Filters
- Digital Time Lens sound enhancement circuitry
- 16-track programming
- Search, repeat, skip, scan functions
- Full-function random access remote control
- Remote compatibility with Carver Receivers

Dolby Pro Logic® and Sonic Holography®: Complementary technologies for video realism.

Pro Logic is Dolby's second generation in Surround Sound decoding technology. It provides the means to extract multi-dimensional information from stereo video soundtracks with an accuracy previously unattainable in consumer electronic components. Pro Logic is an active process designed to enhance sound localization through the use of high-separation decoding techniques. The system is a direct descendant of the one used in Dolby Stereo cinema processors. It uses a center channel output to complement left and right front channels as well as rear surround speakers (Carver refers to it as a 5-channel system because that's how many amplifier channels are required).

Because Sonic Holography® works on front channel stereo information, its enhancements are independent of Pro Logic surround sound (although it benefits from Pro Logic's ability to achieve better channel separation). A soundtrack which sounds impressive with Dolby surround sound will have even more width, depth and spectacular realism with the CT-17's Sonic Hologram Generator engaged.

Digital Time Lens Technology

A significant portion of analog-to-digital (AAD) compact disc releases exhibit audible differences when compared with well-mastered analog versions of the same recording. For various technical reasons, AAD discs often have 1) overall octave-to-octave energy balance shifted towards more midrange above 4kHz, 2) a significant reduction in the amount of L-R signal which provides crucial spatial information. Bob Carver's Digital Time Lens circuitry restores both the spectral balance originally intended by the musician and recording engineer while restoring ambient effects. The result is a warmer, more natural sound that places you in the same space with performers.

Dolby Stereo and Dolby Pro Logic are registered trademarks of Dolby Licensing Corp.

CARVER

CARVER CORPORATION, LYNNWOOD, WASHINGTON, U.S.A.
Distributed in Canada by EVOLUTION AUDIO INC. 1-(416) 847-8888

For more information about Carver products call
1-800-443-CVR, 8AM-4PM M-F Pacific Time.

Amazing Loudspeaker Systems

NEW FOR '89



Platinum Edition Amazing Loudspeaker

- 60-inch full range ribbon driver
- 4 specially-designed 12-inch long-excursion subwoofers
- 23-40kHz frequency response ± 3 dB
- 121 dBA maximum SPL
- 800 watt power handling
- 30" W x 66" H x 10" D
- Now available in natural oiled oak or high gloss black finish

The Silver and Platinum Edition Amazing Loudspeakers are pure, uninterrupted line sources of proprietary ribbon drivers, edge-mounted in a specially shaped trapezoidal panel with a phalanx of state-of-the-art planar subwoofer drivers delivering solid bass support. The infinitely detailed, electrostatic-like high end, pure midrange and sonorous high bass have a coherency and immediacy which is at once musical and yet totally transparent and uncolored. Yet at the same time a remarkable un-enclosed subwoofer system produces stunningly tight low bass—without a trace of the resonant boom normal enclosures can produce.



Silver Edition Amazing Loudspeaker

- 40-inch full range ribbon driver
- 3 specially-designed 12-inch long-excursion subwoofers
- 23-40kHz frequency response ± 3 dB from reference level
- 119 dBA maximum SPL
- 600 watt power handling
- 27½" W x 54" H x 10" D
- Natural oiled oak or high gloss black finish



ECS-U Electronic Speaker Control System

- 5 sonic enhancement/adjustment circuits for any speaker system
- Line level signal processor loop operation
- Sonic Hologram Generator optimized for planar loudspeakers
- Adjustable Sub-Bass restoration
- Gundry Perspective presence circuit
- Variable Bass "Q" adjustment
- High frequency trim
- 108dB S/N ratio, 0.01% THD

Many of Carver's special technologies are unique in the world of high fidelity music reproduction. We are currently offering informative White Papers and Product Sheets pertaining to Simultaneous High Current/High Voltage, Transfer Function Modification, Sonic Holography, Spectral Tilt, Precognition Matrix, and the theory and operation of the Amazing Loudspeaker. Each is available free by calling 1-800-443-CAVR, 8AM-4PM M-F, Pacific Time.

CARVER

Dolby Stereo and Dolby Pro Logic are registered trademarks of Dolby Licensing Corp.

CARVER CORPORATION, LYNNWOOD, WASHINGTON, U.S.A.
Distributed in Canada by EVOLUTION AUDIO INC. 1-(416) 847-8888

For more information about Carver products call
1-800-443-CAVR, 8AM-4PM M-F Pacific Time.

ALTERNATE ALGORITHM

In the October 1988 issue of *Audio*, I reported on the very sophisticated Wadia 2000 Digital Decoding Computer. Now, one year later, the Wadia 2000 has further evolved, with a number of significant improvements and updates, and there is also a new lower-cost processor, the Wadia DigiMaster Decoding Computer.

Anticipating the rapid developments in digital audio technology, the Wadia 2000 employed modular construction so that worthwhile advancements could easily be incorporated into the basic design of the device. As noted in the original article, the Wadia 2000 utilized proprietary "Frenchcurve" processing software—a digital decoding algorithm different from the digital or analog filter processing of conventional CD players and outboard D/A converters. The Frenchcurve algorithm was programmed into eight easily replaceable EPROMs (electrically programmable read-only memories).

Now Wadia has developed a new digital decoding algorithm known as "DigiMaster." Essentially, the new DigiMaster decoding software is a proprietary combination of decoding interpolation theorems, including a 12th-order Spline, optimized in the time domain. It combines the highly sophisticated decoding technology of the Frenchcurve with the heretofore difficult-to-implement technology of Spline decoding algorithms.

Spline decoding technology languished in the laboratory for a long time, principally because of the need for high computing speeds in a reasonably sized package (a condition fulfilled by the computing power of the Wadia 2000, at 72 million instructions per second) and the unfortunate ten-

dencies of Spline algorithms to "ad lib" (to supply data to digitized music waveforms when none was required).

It is difficult to give an analogy for a Spline, which, in the context of the DigiMaster algorithm, is a mathematical function. However, in ship-building language, a spline is a thin, flexible wooden strip used to draw the curves of a ship's hull on a design board.

Ongoing Wadia research found a way to overcome the technical constraints of conventional Spline programs. It is known that, for music reconstruction, a 12th-order Spline is extremely resilient. The DigiMaster software mixes in a Spline component that is the only polynomial known that presents second-order accuracy at the sample points—i.e., it regenerates the slope of the signal as it moves through the sampling points. This algorithm is optimized to reproduce transients and non-periodic impulses without ringing, and intertransient silence is better than analog.

Lately, there has been a lot of misleading information on a type of decoding known as $(\sin X)/X$. This is used by a number of D/A converters currently on the market. They are optimized around sinewaves, not the parameters of live music with its transients and impulses. These devices exhibit ripple in the passband, and there is no such thing as intertransient silence.

The "vogue" for $(\sin X)/X$ decoding began when some "experts" stated that, according to the Fourier theorem, all signals are made up of sinewaves. Professor Fourier, of fast Fourier transform fame, was misquoted; what he actually said was, "If a time function is periodic [not a transient or impulse] and satisfies certain conditions, it may

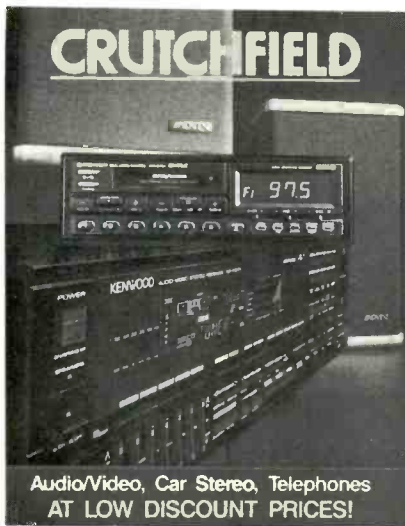
be approximated in the frequency domain by sinusoidal components approaching an infinite number [which is obviously impossible], each having frequencies which are harmonically related to the fundamental." This means that the theorem wouldn't apply to frequencies above 11 kHz on a CD, since the first harmonically related frequency is out of band at 22 kHz. $(\sin X)/X$ decoders measure as very accurate when tested with sinewaves or other steady-state signals, but they are still pushing their digital numbers through a brickwall digital filter, with its consequent generation of digital artifacts and spurious.

As was apparent from my original article on the Wadia 2000, I was quite amazed by the performance of this decoder in the playback of CDs, as compared to high-quality conventional CD players. In terms of a fuller, more open sound and greater ambience presentation, along with striking resolution of all orchestral instruments and immediacy of transient attack, listening to CDs became quite a revelatory experience. All of this was a consequence of hearing the CDs through the Frenchcurve time-domain decoding algorithm of the Wadia 2000.

I was quite happy with this very high level of CD reproduction. Then, a few weeks ago, Wadia sent me eight new EPROMs programmed with their new DigiMaster decoding algorithm. It took a matter of minutes to unplug the Frenchcurve EPROMs and replace them with the DigiMaster units. These DigiMaster EPROMs had been preceded by much technical information on the new algorithm, most of which I have reported on in the above paragraphs. As interesting as the technical data may be, as always, it is a question of whether the new technology translates into an improvement in sound quality.

Frankly, I didn't expect the sonic "lily" of the Frenchcurve to be "gilded" very much by the new DigiMaster software. Thus, I was a bit taken aback, but nonetheless delighted, when I found that the DigiMaster decoding further expanded the limits of sonic perception in CD reproduction and afforded a more probing, deeper, and clearer look into the heart of the music. An apt analogy is that of the 200-inch





Audio/Video, Car Stereo, Telephones
AT LOW DISCOUNT PRICES!

You'll find the most helpful shopping information in the 116 page Crutchfield catalog.

FREE Stereo Catalog

Refer to the Crutchfield catalog before buying your next car stereo, home stereo, or video product:

- 116 pages of helpful articles, consumer tips, charts, and installation guides.
- Color photos, complete descriptions and technical specifications on hundreds of the finest brand name products.

You get more value shopping Crutchfield:

- Toll-free product advice, ordering, and customer service.
- 24 hour shipping.
- Absolute satisfaction guaranteed.
- Full 30-day return privileges.
- Discount prices on Sony, Pioneer, JVC, Jensen, Proton, Advent, Clarion, Kenwood, AR, Infinity, Bose, and many more!

Call or send this coupon now for your FREE Catalog

800-336-5566

Be sure to mention *Audio* when calling

Name _____

Address _____ Apt. # _____

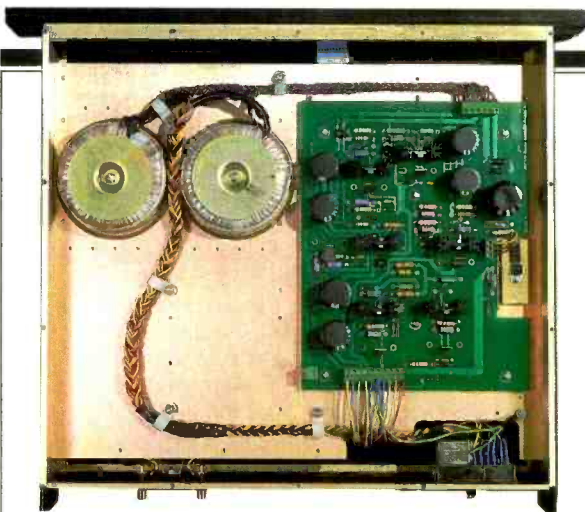
City _____ State _____ Zip _____

Optional: Do you have space in your home that you use as an office? Yes No

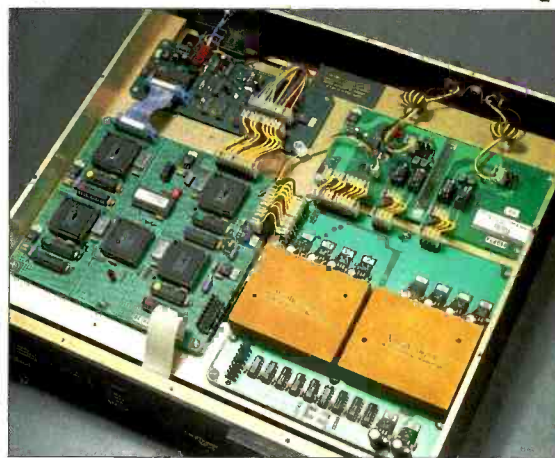
CRUTCHFIELD

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

I didn't expect the sonic "lily" of the Frenchcurve to be "gilded" very much by Wadia's new DigiMaster software. I was wrong.



Power supply section of the Wadia DigiMaster decoder. Note the large toroidal transformers (upper left).



The DigiMaster's digital and analog audio sections use summed-multiport transversal delay-line D/A converters (flat boxes at lower right).

telescope on Mt. Palomar. It can take us to the far reaches of the universe, but it will soon be eclipsed by a much smaller orbiting satellite telescope which, unimpeded by the obscuring veil of Earth's atmosphere, will provide a much brighter, clearer view of the heavens.

The DigiMaster decoding provides even more open and airy sound and greater ambience retrieval than its predecessor. This is dramatically apparent in playing the London/Decca CD recording of Tchaikovsky's Manfred Symphony performed by Chailly and the Concertgebouw Orchestra in their own Grote Zaal (Great Hall). The ambience presentation is so rich and realistic, it seems almost palpable! Psycho-acoustically, you are in the hall.

The DigiMaster decoding also excels in resolution of transient response. It brings a new dimension to piano sound, from bass keys through mid-range and top end, with transient attack so fast it can only be compared to

live piano. On timpani and bass drum, you can perceive the skin tone of the drumheads. On snare and bass drum rolls, the sound is not amorphous; each beat component of the roll is separate and distinct. Pizzicato strings, guitars, and harps all have instantaneous response. In addition, the DigiMaster decoding provides an overall smoothness of frequency response and a high degree of musical veracity that is quite beguiling. I hasten to add that DigiMaster will not improve poor recordings. In fact, it will lay bare the "warts" for all to see. With top-quality CDs, DigiMaster decoding clearly reveals how good these recordings can be.

The Wadia 2000 can be retrofitted with new DigiMaster EPROMs for a dealer list of \$495. Another upgrade for the Wadia 2000 is a fully regulated separate power supply for the DigiLink 30 fiber-optic communicator. It will carry a dealer list price of around \$250. The latest upgrade for the Wadia 2000

DigiMaster decoding further expands the limits of CD's sonic range and offers a deeper, clearer look into the heart of the music.

is the most significant of all the improvements: A new buffer output for the analog signal provided by the D/A converters. The current Wadia 2000 models have non-buffered outputs, since the unit's designers subscribe to the "purist philosophy," which argues for fewer pieces of intervening electronics. This means short analog cables between the Wadia and the pre-amplifier, and high input impedances (47 to 100 kilohms) at the preamp input. Under these circumstances, the current and voltage output can comfortably drive the short cable runs (8 to 20 feet) to power amplifiers that are typically found in consumer audio.

On the other hand, professional users, who often employ cable runs up to several hundred feet and those who use cables which present difficult loads wanted Wadia to develop high-current, high-voltage buffer outputs for the Wadia 2000. In the course of research on this buffer, many measurements and much subjective testing indicated there were very considerable sonic benefits in using this type of output buffer in consumer CD playback, as well.

Once again, the modular construction of the Wadia 2000 enables easy installation of the new output buffer boards, which have 11 layers. Since the p.c. board traces are thin, power and ground planes were laid out as entire layers, not just surface traces, within the boards.

The new buffer output has a slew rate of 1,300 V/ μ S (the typical CD player has an output around 35 V/ μ S). The current drive capability of the buffer output averages 200 mA, with a peak output of 400 mA (a typical CD player has around 10 mA). The buffer has a voltage swing capability of 27 V peak to peak, with a power bandwidth of over 100 MHz. The buffer output rise-time is 3.6 nS (a typical CD player has an output rise-time of 1 μ S, which is 1,000 nS). The buffer has a settling time of 50 nS (typical CD players have settling times 1,000 to 10,000 times longer). The buffer is absolutely phase linear and is said to have no signal coloration. Output resistance of the buffer is 3 ohms and is designed to drive 600-ohm load impedances without signal degradation, but it can drive loads as low as 50 ohms.

An interesting aspect of the research on the buffer output was a study done on the digital coaxial outputs of typical CD players. It was learned that they vary considerably among different players. It was also found that few CD players conform to the Sony/Philips differential specifications; that is, the digi-

tal outputs of many CD players are not within tolerance for rise and fall times, pulse droop, or jitter. Many of the players have varying clock rates. You would be surprised how many CD players suffer these anomalies, including some expensive and prestigious units!

"Music heard so deeply that it is not heard at all, but you are the music..." T.S. Eliot



Paradox Interconnect



Standard/Analog Standard Interconnects



Original Interconnect



Pandora Interconnect

"Bellissimo."

"Amazing"

"Magnificent"

QUOTE WORTHY

Join the worldwide move to the musicality of SPACE & TIME Audio Cables. The only cables in the world that accurately reveal the music as it was originally recorded.

The proprietary single solid-core conductor used in every SPACE & TIME Interconnect avoids the multiplicity of signals produced by traditional stranded cables. This unique conductor delivers the musical signal in perfect time and with perfect harmonic structure, allowing an amazing soundstage to be created right in your living room. Individual instruments are delineated with stunning reality and musical colors are recreated so vividly you can almost reach out and touch them.

SPACE & TIME Interconnects are available in price ranges every music lover can afford. Experience the audible advantage of SPACE & TIME Audio Cables at select dealers worldwide and the next breathtaking quote will be yours.



Tara Labs, Inc. 2567 Siskiyou Boulevard Ashland, Oregon 97520 503-488-6465

Enter No. 126 on Reader Service Card

The Wadia's new DigiMaster decoding algorithm and its buffered outputs are synergistic and make for remarkable performance.

I installed the new output buffer boards for the Wadia 2000 without incident. After burning in a while, I heard CD sound with a "meaty" authority and weight, an expanded soundstage, more depth perspective, and stunning dynamic expression. On really good CD recordings with wide dynamic

range, the effortless reproduction of great fortissimo passages was thrilling. Contrabass, bass drum, and organ pedal were very clean and had great sonority and impact. Massive brass fanfares were projected with visceral power by the Wadia DigiMaster Decoding Computer.

There is no doubt that the new DigiMaster decoding algorithm and the new buffered outputs of the Wadia 2000 are synergistic, which makes the resulting performance of the 2000 remarkable.

It should be noted that all future production of the Wadia 2000 will be equipped with the new regulated power supply for the Digilink 30 fiber-optic unit, the DigiMaster decoding software in the EPROMs, and the new output buffer boards. The dealer list will be \$7,750. As mentioned earlier, there is now a new processor, the Wadia DigiMaster Decoding Computer, which will sell for \$4,950. The new Wadia processor is a single-chassis unit with a massive front panel that permits rack mounting. It has an internal regulated power supply with toroidal transformers. The chassis itself uses heavy metal plate construction rather than bent sheet metal. The internal components and circuit topology are identical to the original Wadia 2000 (see "Behind the Scenes," October 1988, for details). However, it uses the DigiMaster decoding algorithm, has the same high-speed computer operating at 72 million instructions per second, provides 64-times oversampling, and uses the same proprietary 18-bit D/A converters. Input is from the digital coaxial output of a Compact Disc player (no fiber optics here), and output is unbuffered via RCA jacks.

Like the 2000, the Wadia DigiMaster decoder uses modular construction. Thus, the unit can be equipped with the new output buffer boards (which, in this case, include XLR balanced outputs) for a dealer list of \$750. With a total price of \$5,700—some \$2,050 less than the Wadia 2000—the new Wadia DigiMaster Decoding Computer provides virtually all of the facilities of the 2000 on a single chassis.

Is the performance of the new unit comparable to that of the Wadia 2000? There are subtle differences, possibly due to the lack of the fiber-optic communicator. I would say that on really high-quality audio systems, there would be more overall refinement and a somewhat smoother sound with the 2000. In matters of performance, however, no doubt many people would decide that both Wadia processors are kissin' cousins!



IT'S TIME YOU EXPERIENCED

SSI SURROUND SOUND™ WITH DYNAMIC LOGIC

What is SSI's Dynamic Logic ?

Dynamic Logic, available only in surround sound decoders from SSI Products, Inc., is a proprietary logic steering system designed and perfected by our engineering staff.

Like other logic circuits, Dynamic Logic provides accurate sound placement within the designated soundfield using center channel for dialog as a reference point.

What Makes Dynamic Logic Unique ?

We have designed our steering circuit to handle the special parameters and listening habits normally found in a home... not a movie theater. In a small listening environment like the average living room or den, special attention must be paid to the room's dimensions and the available seating arrangements.

What Does Dynamic Logic Accomplish ?

Dynamic Logic faithfully reproduces the dynamic levels of the original soundtrack. Dynamic Logic provides improved imaging with life-like movement and depth, expanding the soundfield to create the ultimate HOME THEATER experience.



SSI's SYSTEM 4000 WITH DYNAMIC LOGIC



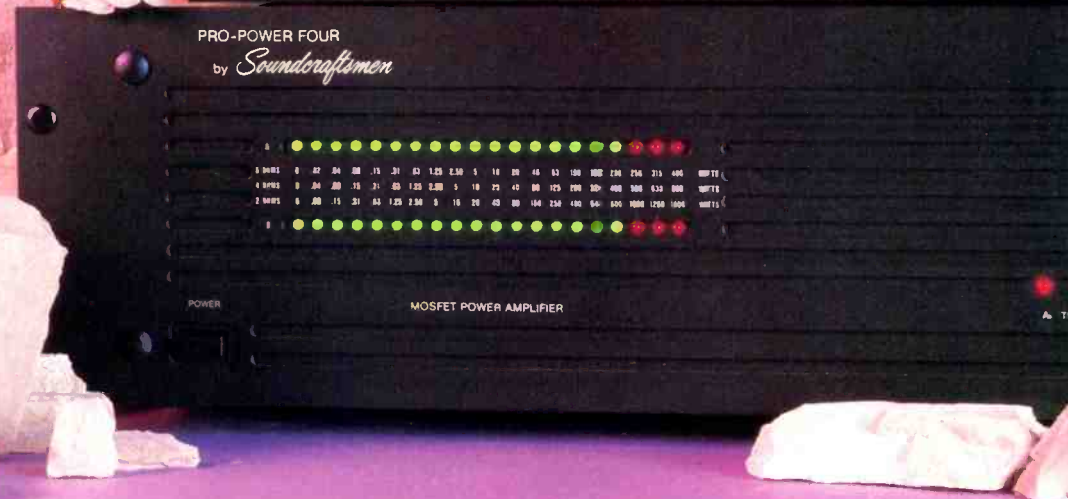
SSI Products, Inc. 400 South Date Avenue,
Alhambra, California 91803 Tel: (818) 282-9419

** SURROUND SOUND
is a trademark of SSI Products, Inc.
Dolby® is a registered trademark of
Dolby Laboratories, Inc.

Soundcraftsmen

DESIGNED AND MANUFACTURED IN
SANTA ANA, CA USA

1990 EDITION...



the *Soundcraftsmen* STORY



SECTION OF PRODUCTION AREA IN MAIN PLANT



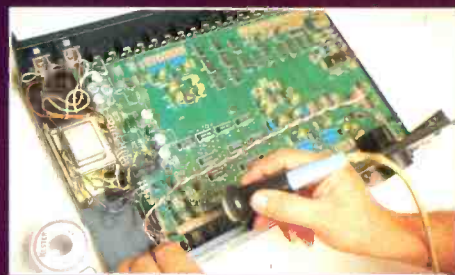
One hundred percent quality control is seen on EVERY unit manufactured. EVERY completed unit is electronically tested for specification accuracy and then EVERY unit is connected to a high fidelity system and listened to—just like you would at home. If your unit meets or exceeds the critical standards set forth on these tests, it is then packaged for shipment.

INDIVIDUAL CERTIFICATE OF PERFORMANCE WITH EVERY AMPLIFIER



Soundcraftsmen celebrates its 20th year of manufacturing audio components for the discriminating audiophile.

Soundcraftsmen engineers are highly respected in audio design circles as being very forward thinking, yet practical, when engineering new products, by using proven design principles from the past with tomorrow's technology.



From the finest equalizers, the most accurate analyzers, to the unique preamps, to the revolutionary Class H and Power MOSFET amplifiers, you cannot purchase finer audio components.

The next few pages will answer many of your questions. If you have more, our customer service department will be pleased to assist you by telephone or letter. We invite your questions and appreciate your interest.



Amplifier Review Highlights

Audio

The Pro-Power Four amplifier represents another Soundcraftsmen innovation and advancement in power-supply design. The unique circuit employs what the company calls Phase Control Regulation, but it has nothing to do with audio phase response of the amplifier itself. Rather, PCR is a highly efficient means of controlling the average power supplied to the amplifier's output stages.

This method of regulating the power supply has a lot to do with the Pro-Power Four's power output capabilities. Most conventional amplifiers have poor supply-voltage regulation. As the load demands more power, the amplifier's d.c. supply voltages tend to drop. This can significantly reduce power output during operation at high volume levels, especially when dynamic peaks of more than a few milliseconds are encountered. Soundcraftsmen's approach differs from others in that they believe continuous power to be of greater importance to accurate musicality than peak power. The test of dynamic headroom which I perform on amplifiers involves the use of a 20-mS burst of a 1-kHz signal, followed by 480 mS of a 1-kHz signal at a level 20 dB lower. This is designed to replicate what happens to an amplifier when it is handling short-term musical peaks. Almost all amplifiers can deliver power levels well above their continuous ratings for such a short period. Soundcraftsmen's engineers maintain that accurate musical reproduction of the complex content of a very loud musical note requires far more than a 20-mS time frame. Thus, in their high-powered amplifier designs (of which the Pro-Power Four is certainly one), the emphasis is on maintaining high output power over the long term, or continuously, rather than for 20 mS as dictated by the IHF Dynamic

Headroom test.....

The output stages utilize power MOS-FETs particularly suited to the high current requirements that are of such importance when reproducing digital program sources. The use of MOS-FETs eliminates the need for conventional current-limiting protection circuitry.....MOS-FETs are costlier than bipolar devices having similar power ratings, but the extra expense is evidently balanced out by cost savings in the Pro-Power Four's power supply (brought about by the PCR circuit) and by somewhat simpler mechanical packaging.....

Measurements

Connected to 8-ohm resistive loads, the Pro-Power Four did not reach its rated THD + N of 0.05% until it was delivering 231 watts of continuous power per channel, both channels driven, at 1 kHz, as against only 205 watts claimed by Soundcraftsmen. For a 20-Hz test signal, output power for rated THD + N was 214 watts; at 20 kHz, output power reached 226 watts for the same distortion level. At the rated power output level of 205 watts per channel, THD + N measured a very low 0.004% at mid-frequencies, 0.005% at 20 Hz, and 0.018% at 20 kHz. SMPTE-IM distortion was only 0.005% at rated output; the amplifier could be driven to 233 watts per channel before the IM reading increased to its rated value of 0.02%.....

Damping factor at 8 ohms, referred to a 50-Hz test signal, was 205, allowing for the minimal resistance of my heavy-gauge speaker cables. Signal-to-noise ratio measured 82 dB referred to 1 watt output. Soundcraftsmen chose to quote S/N with respect to full rated output. Since 205 watts is 23.12 dB greater than 1 watt, that would put my reading relative to rated output at 105.12 dB, almost exactly the figure quoted by Soundcraftsmen. Input sensitivity for 1 watt output was

75 mV referred to 8-ohm loads.

CCIF IM (twin-tone intermodulation distortion) measured an almost imperceptible 0.0025% at 8 ohms and 0.003% at 4 ohms. Frequency response extended from 5 Hz to 60 kHz for the -1.0 dB roll-off points and from 2.5 Hz to 125 kHz for the -3 dB cutoff points.

Use and Listen Tests

I hooked up this powerful amplifier to a variety of speaker systems, including my reference KEF 105.2s and a pair of B & W Model 300s. I even used a pair of fairly low-cost units, DCM's Time Frame TF250 speakers, being careful not to exceed their 100-watt maximum power rating. One way of describing the performance of this carefully designed amplifier is to say that it brought out the best in all of the loudspeaker systems with which I tried it. I sensed an effortlessness about the musical crescendos reproduced from some of my CD "spectaculars."

After having confirmed the fact that great gobs of dynamic headroom are not necessary if you have adequate continuous power available, I settled down to more musical fare and confirmed, in my own mind, what Soundcraftsmen in the final paragraph of a recent letter to me. "Above all else in importance is musicality. We have listened to A/B tests of each one of our MOS-FET amplifiers, including the Pro-Power Four, and in each case we find it absolutely impossible to detect any real difference in superb sound reproduction between our models and the very finest amplifiers made." I'll amplify this a bit and say that there is a major difference between the Pro-Power Four and some of the finest amps I've ever listened to. That difference is price! In my view, you can spend two, three, even five times as much as what the Soundcraftsmen Pro-Power Four costs but you won't get a better, more reliable, or more musical-sounding power amplifier. Leonard Feldman

Mosfet Power Amplifiers

Pro-Power Four

DESCRIPTION: The New PRO-POWER amplifiers are especially designed for the extended Dynamic Range requirements of today's Compact Disc players and Hi Fi VCRs. The ULTRA HIGH CURRENT design offers you incredibly high power without sacrificing distortion-free performance, superb reliability, and the utmost in sonic purity. These new amplifiers operate flawlessly under all operating conditions. It is well known that most of today's highly regarded loudspeakers exhibit impedance curves which drop to 1 or 2 ohms at some frequencies, and in conventional amplifiers this results in severe clipping and the triggering of protective circuitry. However, our new PRO-POWER Phase Control amplifiers continue to operate even under those extremely low impedance conditions. Current limiting had been eliminated entirely by the use of the latest POWER MOSFET technology, thus avoiding the sonic degradation typically found when limiting circuitry is employed.

FEATURES: MOSFET amplification stages provide the utmost in sonic purity, rivaling that of vacuum tube amplifiers...Precision-Calibrated LED power meters (0-400 watts at 8 ohms)...Speaker switching for two pair of stereo speakers...True clipping indicators for each channel...Ultra high storage capacity filter capacitors, as witnessed by True Clip lights remaining on for up to several minutes after turning AC power off...Professional rack-mount front panel...optional hardwood side panels.

SPECIFICATIONS: CONTINUOUS RMS POWER: 205 watts per channel @ 8 ohms, 20Hz-20kHz, 300 watts per channel @ 4 ohms, 20Hz-20kHz, 450 watts per channel @ 2 ohms, 1kHz...DISTORTION: THD—0.05% at rated power, 20Hz-20kHz, IMD—less than 0.05%...FREQUENCY RESPONSE: 20Hz-20kHz, ± 0.1 dB...SIGNAL-TO-NOISE RATIO: Minus 105dB...SLEW RATE: 50 volts/microsecond...DAMPING FACTOR: Greater than 200...PHYSICAL: 19" Wx5 $\frac{1}{4}$ " Hx12" D, 30 pounds...PRO-POWER ONE—8 $\frac{1}{2}$ " Wx5" Hx14" D, 20 pounds.

Pro-Power Three

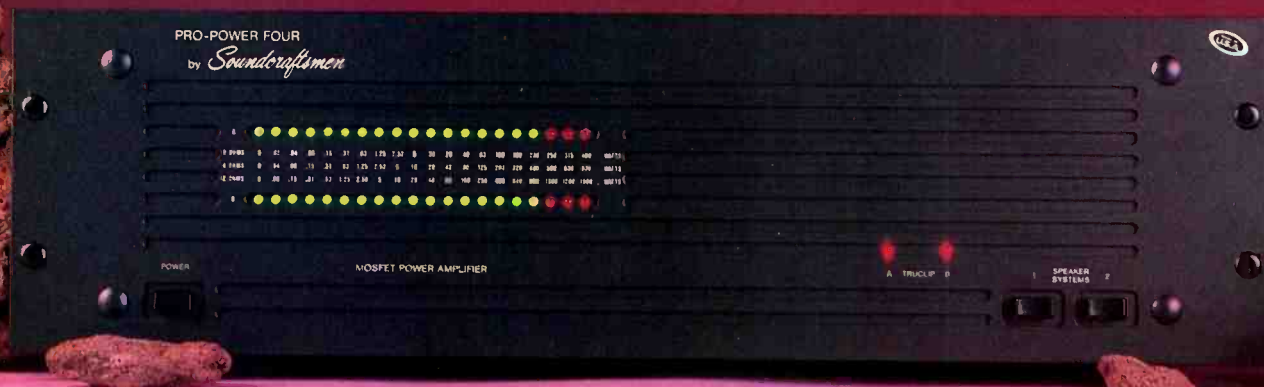
PRO-POWER THREE: If you desire all of the performance features of the highly acclaimed Pro-Power Four (see review highlights on page 3) without the LED power meters, select the Pro-Power Three.

Pro-Power One

PRO-POWER ONE: The NEW PRO-POWER ONE amplifier provides all of the performance features of the PRO-POWER FOUR (see review highlights on page 3) in a smaller, non-rack-mountable chassis.

PCR800

The PCR800 amplifier is similar to the PRO-POWER ONE, rated at 205 watts per channel @ 8 ohms, but with plain overlay front panel.



Pro-Power Ten 2/3/4 Channel

The New Soundcraftsmen PRO-POWER TEN 2/3/4 channel Power Amplifier stands alone, in a class by itself, in power amplifier circles. Designed and manufactured in the USA using State-of-the-Art MOSFET power output stages and our ultra-smart phase control power supply, the PRO-POWER TEN is your best buy in a power amplifier. The MOSFET amplification stages provide superior sonic purity, compared by many to that of vacuum tube amplifiers. Unlike most other supply designs whose supply voltage drops (and hence the amplifier's output capability) when operating at high volume levels

containing dynamic peaks of more than a few milliseconds duration, our smart phase control power supply adjusts its supply voltage to match the demands of the loudspeaker. Helping to maintain this constant supply voltage are ultra high storage capacity filter capacitors and two independent power transformers.

The PRO-POWER TEN front panel features four independent 12-segment LED power output meters (0-800 watts at 8 ohms) and True Clipping indicators for each channel. As in most all Soundcraftsmen components, the new PRO-POWER TEN features a Professional rack-mount front panel with optional hardwood side panels.

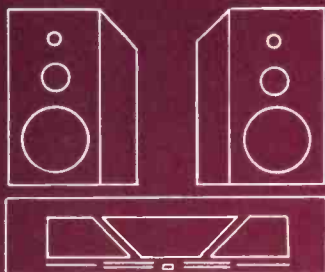
SPECIFICATIONS

POWER: 205 watts per channel (4-channel) @ 8 ohms, 20Hz-20kHz, at less than 0.05% THD...300 watts per channel (4-channel) @ 4 ohms, 600 watts per channel (2-channel) at 8 ohms...**IM Distortion:** less than 0.05%...**Frequency Response:** 20Hz-20kHz, ± 0.1 dB...**Signal to Noise Ratio:** -105dB...**Slew Rate:** 50 volts/microsecond...**Dimensions:** 19" W x 5 1/4" H x 12" D...**Weight:** 55 pounds

TWO-CHANNEL MODE

600 WATTS PER CHANNEL INTO 8 OHMS.

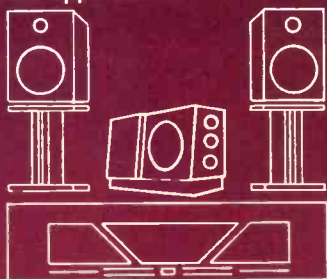
When the PRO-POWER TEN is used in this mode it is transformed into the ultimate in high power amplifiers...If your loudspeakers and/or environment require a lot of power, the PRO-POWER TEN is right for you.



Ultra High Power Systems

THREE-CHANNEL MODE

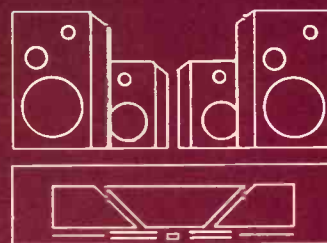
Many of the more modern loudspeaker systems have been designed primarily with the total living environment and/or integrated audio-video systems in mind. These systems incorporate a stereo pair of satellite speakers for reproducing the midrange and high frequencies. Since the very low frequencies are non-directional, and hence non-critical to proper stereo imaging, they are reproduced by a single, large sub-woofer. The PRO-POWER TEN in the Three-Channel mode is ideally suited to these applications.



Sub-Woofer/Satellite Systems

FOUR-CHANNEL MODE

The ultimate in audio/video systems is the Surround Sound system, where the theatre environment is re-created in the home by utilizing front and rear speakers. The PRO-POWER TEN in the Four-Channel mode is the perfect match for these systems. Some higher quality loudspeakers benefit from bi-amplification, i.e. having separate amplifiers for their low frequency and high frequency components. The PRO-POWER TEN in the Four-Channel mode is equally well suited for these types of systems.



Surround Sound Systems



Soundcraftsmen, 2200 So. Ritchey, Santa Ana, CA USA. Prices and specifications subject to change without notice.

Enter No. 30 on Reader Service Card

Pro-Reference Amplifiers

Pro-Reference Two

DESCRIPTION: The new **PRO-REFERENCE TWO** Studio Monitor Amplifier was designed for those applications where sonic accuracy is the utmost goal. **MOSFET** output stages provide Ultra-High Current capability for effortless handling of low impedance loads.

As with all Soundcraftsmen amplifiers, the new **PRO-REFERENCE TWO** uses circuits designed with absolutely no current-limiting, thus eliminating the harsh clipping characteristics associated with current-limited amplifiers. The advantage of **non-current-limited** circuitry is sonically obvious when reproducing peaks at, near or over the onset of clipping.

Ordinary Recordings—even so-called "**audiophile discs**"—are often so limited in their dynamic range that even small, lightweight, low-powered, amplifiers and receivers can reproduce their musical information without serious problems.

However, **COMPACT DISCS** and the newer **DIGITAL FORMATS** have changed all that. Where 20 to 40 watts once was acceptable, not even double that power is enough to reproduce these new recordings without severe "clipping" distortion!

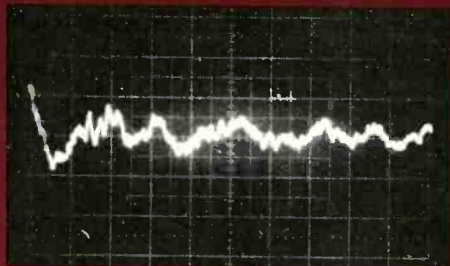
Designed specifically for this new technology, the **PRO-REFERENCE TWO** produces 100 watts per channel continuously with 8-ohm loads and 190 watts per channel continuously with 4-ohm loads and huge power reserves of more than 700 watts

are always available to reproduce the tremendous digitally-generated dynamic "peaks" with absolutely effortless clarity. More than enough power is available for these new wide-range Program Sources. Featuring the latest **POWER MOSFET** circuitry, the **PRO-REFERENCE TWO** offers power, unmatched reliability and the sonic purity of true "tube-like" mosfet amplification.

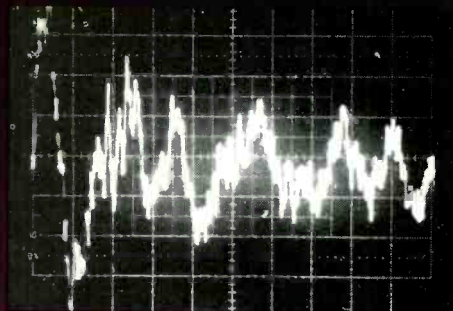
FEATURES: Precision LED output meters calibrated in dB from $-\infty$ to +3dB (200 watts @ 8 ohms)...True clipping indicators for each channel which accurately detect and indicate any signal distortion...Rear panel connections for two sets of speakers with front panel selection of either pair of speakers or both...Professional rack-mount front panel...Optional hardwood side panels.

Pro-Reference One

PRO-REFERENCE ONE: If you desire all of the performance features of the **PRO-REFERENCE TWO** without the LED power meters, select the **PRO-REFERENCE ONE**.



CONVENTIONAL RECORD: Oscilloscope photo shows music playing at normal listening level. Only 1 watt of power is required for average level, but 16 watts are needed to produce "peaks."



DIGITAL AUDIO DISC: Oscilloscope photo shows same music playing at same normal listening level. Again only 1 watt is required for average level, but 500 watts are needed to produce the "digital/dynamic peaks" without distortion!

SPECIFICATIONS: CONTINUOUS RMS POWER: 100 watts per channel @ 8 ohms, 20Hz-20kHz, 190 watts per channel @ 4 ohms, 20Hz-20kHz...DISTORTION: THD—0.05% at rated power, 20Hz-20kHz, IMD—less than 0.05%...FREQUENCY RESPONSE: 20Hz-2kHz, ± 0.1 dB...SIGNAL-TO-NOISE RATIO: Minus 105dB...SLEW RATE: 40 volts/microsecond...19" Wx5 1/4" Hx10 1/2" D...25 pounds.



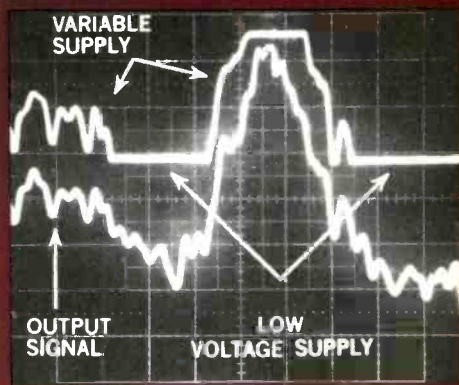
Soundcraftsmen, 2200 So. Ritchey, Santa Ana, CA USA. Prices and specifications subject to change without notice.

Enter No. 30 on Reader Service Card

A5002 Amplifier

DESCRIPTION: Soundcraftsmen's exclusive CLASS H amplifier circuitry establishes a new standard for high-power stereo amplifier technology. Several integral design elements make up CLASS H: the Vari-Portional® dual signal-tracking power supply, Auto-Buffer® and Auto-Crowbar. Here is a brief explanation of CLASS H and its benefits.

VARI-PORCIONAL® SYSTEM: Conventional amplifiers utilize a single power supply which supplies whatever level of voltage is necessary at any given moment to produce the required power output, up to the supply's maximum. This design is inherently inefficient since most of the time the supply is operating at only a small percentage of its potential. This operating



condition causes high heat buildup with its related increase in distortion, as well as high wear and tear on amplifier components. The Soundcraftsmen Vari-Portional® system utilizes a low-power supply which operates very efficiently continuously, and a second, "signal-tracking" supply which operates only when actually needed, and only to the degree needed. In this design, no power is wasted in heat dissipation. The amplifier runs cool, distortion is reduced to almost unmeasurable levels, and reliability is dramatically improved.

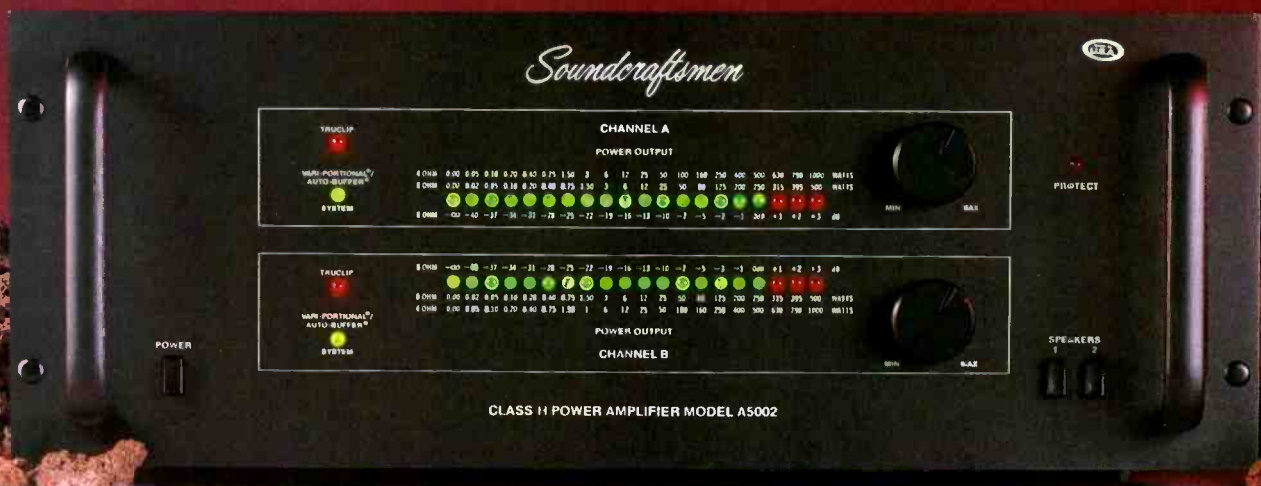
AUTO-CROWBAR: The Soundcraftsmen Auto-Crowbar protection circuit is unique among amplifiers. It uses no fuses, relays or circuit breakers. Auto-Crowbar detects any condition which might be harmful to the amplifier and instantly disconnects all A.C. power to the amplifier. Every few seconds Auto-Crowbar samples the output. If the problem which triggered the Auto-Crowbar has been resolved, the amplifier resumes its normal operation. Conventional current-limiting is *not* used as part of the protective circuitry, as it is in most amplifiers, because current limiting can seriously degrade sound and even damage loudspeakers.

AUTO-BUFFER® SYSTEM: Provides automatic sensing and control of low impedance (2+ ohms) operation. Enables

continuous *non-current-limited-output*, without switches or protection-circuit turn off, when driving paralleled speakers and/or low-impedance loads.

FEATURES: CALIBRATED 20-LED POWER OUTPUT METERS...INPUT LEVEL CONTROLS...TRUE CLIPPING INDICATORS Indicate actual onset of waveform distortion...POWER TURN-ON SURGE DELAY Eliminates loudspeaker turn-on "thump" 16-gauge triple-braced steel chassis...TEST DATA CERTIFICATE Individually serialized, signed by final inspector...Professional rack-mount front panel...optional hardwood side panels.

SPECIFICATIONS: CONTINUOUS POWER OUTPUT: 250 watts per channel @ 8 ohms, 20Hz-20kHz, 375 watts per channel @ 4 ohms, 20Hz-20kHz...DISTORTION: THD—0.05% at rated power, 20Hz-20kHz, IMD—less than 0.05%...FREQUENCY RESPONSE: 20Hz-20kHz, ±0.1dB... SIGNAL TO NOISE RATIO: Minus 110dB... SLEW RATE: 50 volts/microsecond... 19"Wx7"Hx13"D, 50 pounds.



CLASS H POWER AMPLIFIER MODEL A5002

Pro-Control Pre-Amplifiers

The new **PRO-CONTROL** preamplifiers from Soundcraftsmen provide **C-MOS** digital-control electronic switching for noise-free and distortion-free recording and listening enjoyment. All signal routing is accomplished with Soundcraftsmen's new **MOS-TROL**® high-performance electronic circuitry. This method allows all Signal Paths to be optimized and located near the input and output pc-board mounted jacks, which measurably lowers noise and cross-talk. The integration of buffered inputs with **C-MOS** and proprietary circuitry completely eliminates the distortion and degradation caused by other presently available, but now outmoded, electronic switching techniques.

Control Four

The **PRO-CONTROL FOUR** has the capability for handling up to EIGHT input sources: CD/DAT, Phono, Tuner, Tape 1, Tape 2, Vid/Aud 1, Vid/Aud 2 and Vid/Aud 3. The sources selected for Line Out or Tape Out (or both) are indicated by

sequentially selected LED illumination. Automatic muting insures elimination of noise and transients during source selection and all operational switching.

Totally **independent** Line and Tape sections allow for the ultimate in **Control-Center flexibility**—for example, a user can record a Phono source to any or all Tape and Vid/Aud outputs while at the same time be listening to the CD input. EIGHT outputs are available: Normal A & B Line Outputs, "**AUTO BRIDGE**" circuitry that electronically inverts A & B Line Outputs for tripling the power by bridging, an independently amplified Headphone Output, and 5 Tape Outputs: Tape 1, Tape 2, Vid/Aud 1, 2, and 3. Two additional inputs and outputs—External Loops—are provided for processing of either Line or Tape signals, plus Switchable Sub-sonic Filters for both Line and Tape signals, as well as Bass and Treble Controls.

There is also a "**DIRECT MODE**" (**STRAIGHT LINE**) to bypass the External Loops, Sub-sonic Filter, and Tone Controls, creating the ultimate pure signal path, a true "**straight wire with gain!**" The "**DIRECT MODE**" selection eliminates all signal processing and unnecessary signal paths to allow for the utilization of the full capabilities of CD players.

Soundcraftsmen's **DISCRETE** Phono Pre-amps provide the ideal means for superb LP reproduction.

Control Three

PRO-CONTROL THREE: Provides most of the versatility and quality as the **PRO-CONTROL FOUR**, but with only two tape monitors and one signal processor loop.

FEATURES: **AUTO-BRIDGE** circuit triples amplifier power...Illuminated volume control pointer...**Sub-Sonic** filter...**DIRECT** mode for straight-wire performance...**Independent** recording and listening circuits...**Discrete** phono preamps...**Stereo** headphone jack...**Professional** rack-mount front panel...**Optional** hardwood side panels.

SPECIFICATIONS: **FREQUENCY RESPONSE:** High Level—5Hz-100kHz, ± 0.25 dB. Phono Input—20Hz-20kHz, ± 0.5 dB...**THD:** Less than 0.005%...**IM DISTORTION:** Less than 0.005%...**SIGNAL TO NOISE RATIO:** Phono—97dB, High Level—116dB...**INPUT SENSITIVITY:** Phono—2.5 millivolts, High Level—125 millivolts...**MAXIMUM OUTPUT:** 10 volts...**TONE CONTROLS:** Bass—10dB @ 100Hz, Treble—10dB @ 10kHz... 19" Wx3 1/2" Hx10 1/2" D...15 pounds.



Soundcraftsmen, 2200 So. Ritchey, Santa Ana, CA USA. Prices and specifications subject to change without notice.

Enter No. 30 on Reader Service Card

DX Series Pre-Amplifiers

DX4200

DESCRIPTION: The **DX4200** Preamp/Equalizer is the most versatile preamplifier available. It was designed for the most demanding audiophile who takes a "hands-on" approach to his or her music system. The preamp section includes specially-designed "overload-proof" inputs for the latest CD players, with their potential for unsurpassed wide dynamic range. The phono preamp utilizes fully-discrete circuitry instead of the more common IC "chips," eliminating coloration and making it exceptionally quiet. It accommodates most moving-coil cartridges and even permits adjustment in capacitance loading from 50 picofarads to 800 picofarads, in 50 picofarad steps, for exact matching of virtually any phono cartridge. Soundcraftsmen's exclusive AutoBridge® circuitry permits the user to start with one stereo amplifier, and then to add a matching amplifier at a later date, operating both amplifiers in "bridged mono mode," thereby **TRIPLING** per-channel power output with no loss in performance. Ideal for meeting the power demands of digital

audio. Only the finest available parts, are used in Soundcraftsmen preamps. Three-way tape dubbing and two external signal-processor loops add to the DX4200's versatility.

The equalizer section of the DX4200 is the finest high-fidelity graphic equalizer available today. Twenty years of designing and manufacturing equalizers have given us significant performance advantages over other manufacturers, with revolutionary technology like the **Differential/Comparator® 0.1dB True Unity Gain** circuitry, essential for reproduction of the new digital audio disc and wide-dynamic-range recordings without severe limitation of needed "headroom," and for ultra-low noise and distortion. Our Wire-Wound Coil Filter circuitry makes possible **15dB** boost or cut on each **individual** octave and an incredible Signal-to-Noise Ratio of **114dB!**

DX4000

The **DX4000** is a straight-line version of the DX4200 incorporating most of the features of the DX4200. See the Features section and picture below.

FEATURES: DX4200 Dual 10-Band ± 15 dB Equalizer...Dual discrete phono stages...Variable phone cartridge loading with input level adjustment...Moving Coil cartridge input...Auto/Bridge circuit...Sub-Sonic filter...CD player inputs...Three-way tape dubbing...Front panel tape inputs and outputs...Two Signal Processor Loops...Professional rack-mount front panel with optional hardwood side panels. **DX4000** is the same excluding equalizer, cartridge loading and moving coil input.

SPECIFICATIONS: FREQUENCY RESPONSE: Hi-level $\pm 1/2$ dB, 5 Hz to 100 kHz. Phono— $\pm 1/2$ dB, 20Hz to 20kHz...**TOTAL HARMONIC DISTORTION:** .01% at 1 Volt...**IM DISTORTION:** Less than .01% at 1 Volt...**PHONO IMPEDANCE:** 47K or 100 Ohms (DX4200)...**PHONO SIGNAL-TO-NOISE:** 97 dB...**PHONO SENSITIVITY:** DX4200 (ad ustable)—.28 millivots minimum, DX4000—2.8 millivolts...**HIGH LEVEL SENSITIVITY:** 90 millivolts...**MAXIMUM OUTPUT:** 10 volts...**PHYSICAL:** DX4200—19"Wx5 1/4"Hx11"D, 20 pounds, DX4000—19"Wx3 1/2"Hx11"D, 15 pounds.



Soundcraftsmen, 2200 So. Ritchey, Santa Ana, CA USA. Prices and specifications subject to change without notice.

Enter No. 30 on Reader Service Card

Pre-Amplifier Exclusive Features

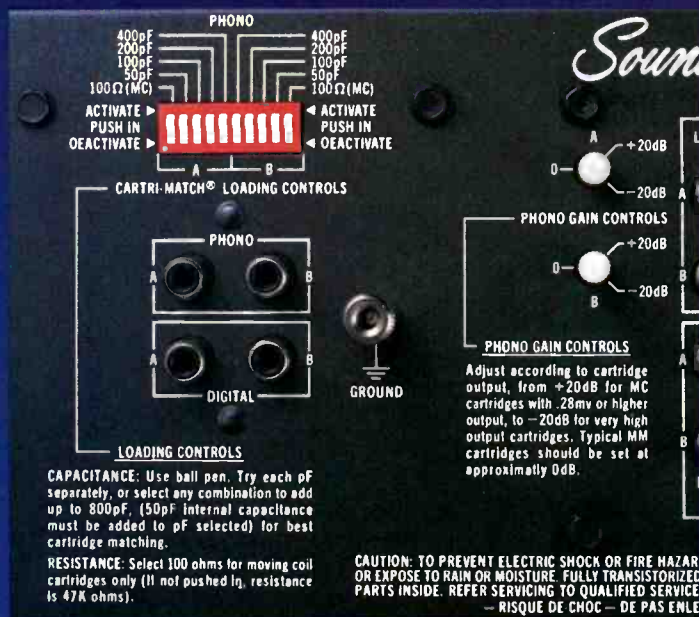
SIGNAL PROCESSING



Four useful and individually costly components are combined in each Soundcraftsmen Preamp/Equalizer: a Ten-Band Stereo Equalizer, a superb Phono Preamplifier, a versatile Patch-Bay Switching Box and a stereo amplifier Bridging Adaptor. With the growing number of

excellent signal-processing devices available, it has become extremely difficult to connect these components to a stereo system and then be able to route any desired combination to loudspeakers and/or tape recorders. With Soundcraftsmen preamps it is as simple as pushing a

button! No more cable-switching; add-on devices are permanently connected to the patch-bay section of the preamp. For the serious tape recordist, this one feature can eliminate hours of frustration associated with the interconnecting of add-on specialty components.

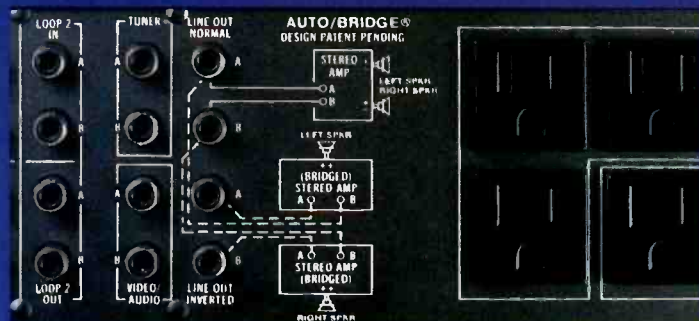


CARTRI-MATCH®

Every magnetic phono cartridge is designed to operate optimally only when it "sees" the correct capacitance and impedance loads at the phono preamp. Improper loading results in degraded frequency response and inaccurate reproduction of recorded material. The Soundcraftsmen DX4200 Cartri-Match® permits proper loading of virtually any magnetic phono cartridge, in 50 picofarad increments up to 800 picofarads. We know of no other preamplifier which makes this crucial matching possible. Cartri-Match® also accommodates any moving-coil-type phono cartridge whose output level is at least .28 millivolts, and independent input level controls are included for precise balancing of left and right phono cartridge channels, and to match the phono level to the other program sources.

AUTOBRIDGE®

The new Digital Audio Discs have, for the first time, the capability of recreating the dynamic range of a live musical performance. A stereo system's ability to reproduce this tremendous dynamic range ultimately depends upon one thing: the availability of adequate amplifier power. Even if one listens to music at an average listening level requiring only **one watt** of power, **over 300 watts** may be needed to reproduce dynamic "peaks" in the music! Soundcraftsmen has developed an active circuit called AutoBridge® to deal with this problem. AutoBridge® allows the normal connection of a stereo amplifier to a Soundcraftsmen DX-series preamp, with the option of adding a second, identical amplifier at a later date, and operating both stereo amplifiers in "bridged mono mode," one for each channel. Bridged operation **triples** the 8-ohm power per channel of Soundcraftsmen stereo amplifiers with absolutely **no** degradation of any aspect of performance. AutoBridge® assures non-obsolescence no matter how elaborate your music system becomes in the future.



Pre-Amplifier Review

Highlights

Audio

The Pro-Control Four preamplifier is another example of Soundcraftsmen's superb engineering and dedication to user convenience and product flexibility. It serves as a true control center without adding complications for the user. The preamp employs an independent solid-state switching technique designed by Paul Rolfes, the company's chief engineer. This switching system lets you route any input to the line outputs while independently routing that signal, or any other, to the five tape-recorder outputs (two nominally for audio decks, three nominally for the audio tracks of video recorders). Front-panel

LEDs make it easy to keep track of system status: green LEDs show which inputs and processor loops have been selected for listening, and red ones tell you which have been selected for recording.

In addition to the multiple tape recorder loops, two more external signal-processor loops connect such components as equalizers, surround-sound processors, and ambience-recovery devices. These two loops can also be switched to function in either the "Listen" (line output) or the "Record" (tape output) mode. This flexibility allows you to conveniently and quickly apply an externally connected processor to the sig-

nal to which you are listening and another to the signal being recorded.

Subsonic filtering is available too, for either the listening or recording mode or for both at once. Conventional bass and treble controls are available in the listening mode only. For those who object to the presence of any signal-processing circuitry in a "pure audiophile-type" preamplifier, all such controls can be eliminated in the mode by touching a front-panel button labelled "Direct."

Measurements

Frequency response for all of the high-level outputs was so flat

Continued on page 14.

DX3000

Compact Disc Player and Stereo Video inputs make this new Preamp Control Center an outstanding addition to the Soundcraftsmen preamplifier and preamp/EQ models, at a new low price breakthrough.

In addition to the two tape monitors and tape dubbing capability, the DX3000 Straight Line Preamp features signal processing capability for insertion of any signal processor into the signal path.

Video/Audio inputs enable simple hook-up of a VCR or Video Disc Player's audio tracks to take full advantage of their extraordinary sound quality and the enhancement opportunities available when played through a fine component stereo system. Compact Disc inputs are especially matched to the high dynamic range capability of these players.

With bass and treble controls as well as a signal processing loop, the new Control Center is ideally adaptable to all

existing stereo component systems, as well as to the new Stereo VCRs and Video systems. The DX3000 features a Professional Rack-Mount front panel with optional hardwood side panels.

SPECIFICATIONS

FREQUENCY RESPONSE: 5 Hz-60kHz +0db, -1dB...**THD & IMD:** Less than 0.01%...**TIM & NOISE:** -95dB...**PHONO S/N RATIO:** -85dB...**DIMENSIONS:** 19" w x 2 3/4" h x 10" d...**WEIGHT:** 10 pounds



Signal Processors

AE2000 ScanAlyzer

Soundcraftsmen's State-of-the-Art, AE2000 Auto-ScanAlyzer represents a landmark in professional quality analyzation/equalization equipment incorporated into one compact chassis. Both a Real-Time Spectrum Analyzer, utilizing Soundcraftsmen's revolutionary Differential-Comparator circuitry (Patent-Pending) with an astounding read-out accuracy of 0.1dB, AND an Octave Equalizer of unparalleled performance. The analyzer's automatic octave-scanning mode makes incredibly fast, accurate analyzation of room acoustics possible and the 100-LED full-frequency spectrum bargraph display constantly shows real-time frequency response. The precision-tuned passive, Wire-Wound Coil Filter circuits (no synthetic IC's) of the equalizer eliminate unwanted noise, hiss, and distortion common to inexpensive equalizers, while Soundcraftsmen's True Zero-Gain circuitry perfectly matches input and output voltages, crucial to the undistorted reproduction of the new wide-dynamic-range Compact Discs and Digital Tapes. The AE2000 is amazingly versatile and is designed to satisfy the most demanding audiophile and professional user alike. The AE2000 features a Professional Rack-Mount front panel with optional hardwood side panels. Electret condenser analyzing microphone included.

—On Test—

INTERNATIONAL
MUSICIAN
AND RECORDING WORLD

...This unit is very versatile and therefore, very useful. It'll help set up an Eq curve for taping, compensating for monitors, recorders, tape, or all three. It can be used to check and troubleshoot individual components, check entire systems, analyze speakers and their crossover networks. With the addition of a parametric (it has an Aux Eq send and receive loop), it'll handle just about any stage feedback problem.

...Don't get me wrong. As always, spectrum analysis/equalizers are not the final word in eliminating acoustic problems by any means. For tough Eq problems (narrow band peaks and dips), you'll also need a parametric. Yet the Soundcraftsmen AE2000 solves the problems of RTA readout, noise source accuracy, and user inadequacies and can accurately analyse and Eq a room in a matter of minutes. With a price of \$699.00, this review is a rave.

Mike Shea

SPECIFICATIONS AE2000: HARMONIC DISTORTION: Less than .01% @ 2V...IM DISTORTION: Less than .01% @ 2V... SIGNAL-TO-NOISE RATIO: 114dB @ max. output...OCTAVE CONTROLS: ± 22 dB boost or cut—each octave (all other octaves set at maximum). ± 15 dB boost or cut—each octave (all other octaves set at "0")... FILTER TYPE: Precision-tuned passive wire-wound coil inductors... DIFFERENTIAL/ COMPARATOR: Measurement accuracy 0.1dB...MIC PREAMP: Input impedance 2K ohms, Gain: 80dB max., Frequency response: ± 0.1 dB 20Hz to 20kHz...PINK NOISE SOURCE: Internal generator... SELECTABILITY: Manual or Auto-Scanning with adjustable scan rate, Electronic switching of Display and Analyzer filters... 19" Wx5 $\frac{1}{4}$ " Hx11 $\frac{1}{4}$ " D...20 pounds.

SPECIFICATIONS PRO-EQ 44: HARMONIC DISTORTION: .01% @ 2V RMS...IM DISTORTION: .01% @ 2V RMS...SIGNAL-TO-NOISE: 114dB-10V RMS output, -100dB-2V RMS output...INPUT CAPABILITY: Maximum 10V RMS...OUTPUT CAPABILITY: 10V RMS...INPUT IMPEDANCE: 47K ohms... OUTPUT IMPEDANCE: 300 ohms... BOOST/ CUT INDIVIDUAL CONTROLS: ± 22 dB (all other controls at max); ± 15 dB (all other controls set at zero)...UNITY GAIN TYPE: CONTROLS: +12dB, -6dB... 19" Wx3 $\frac{1}{2}$ " Hx11" D...15 pounds.



Equalizers

Pro-EQ 44 Third-Octave

The Soundcraftsmen PRO-EQ 44 is a two-channel Graphic Equalizer designed especially for advanced applications in the field of music reproduction. Each of its channels is completely independent of the other and can be used as two monophonic equalizers for Studio or Pro applications. The channels are divided in $\frac{1}{3}$ -Octave center frequencies from 40Hz through 1kHz. From 1kHz through 16kHz center frequencies are at $\frac{2}{3}$ -Octave intervals. All center frequencies correspond with Standard ISO Center Frequencies. This $\frac{1}{3}$ - $\frac{2}{3}$ -Octave arrangement provides maximum flexibility in the critical low and mid frequencies while permitting reductions in both size and cost in the less critical higher frequencies. Soundcraftsmen's exclusive 0.1 dB Differential Comparator Unity-Gain circuitry, combined with Dual Balancing LED's on the front panel, make balancing of input to output voltages fast and exceptionally accurate to within 0.1 dB, thus assuring maximum dynamic range, minimum noise and freedom from overload no matter what the desired EQ curve.

The PRO-EQ 44 features a Professional Rack-Mount front panel with optional hardwood side panels.

DC2215 Equalizer

The Soundcraftsmen DC2215 is the finest high-fidelity graphic equalizer available today. Twenty years of designing and manufacturing have given us significant performance advantages over other manufacturers, with revolutionary technology like the Differential/Comparator[®] 0.1dB True Unity Gain circuitry, essential for reproduction of the new Digital Audio Tapes and Compact Discs without severe limitation of needed "head-room," and for ultra-low noise and distortion.

When both top and bottom Differential/Comparator[®] LED's have been balanced for equal intensity, there is "True Unity Gain" through the equalizer. Unity-Gain means that the equalized output voltage (or musical signal) is exactly the same as the unequalized input voltage. When True Unity Gain is established, the equalizer's full dynamic range is available for undistorted reproduction of wide-dynamic-range recordings. Our Wire-Wound Coil Filter circuitry makes possible 15dB boost or cut on each individual octave and an incredible Signal-to-Noise Ratio of 114dB! The DC2215 features separate tape monitor circuitry with tape and line equalization capability. Computone Charts are included for easy recording of various equalization curves. The DC2215 features a Professional rack-mount front panel with optional hardwood side panels.

Pro-EQ 22 Equalizer

The PRO-EQ 22 sets new high standards in its price range with many of the features of the DC2215. The Soundcraftsmen Differential/Comparator[®] True Unity Gain controls with LED displays are identical to the DC2215, assuring full headroom for Digital Audio Tapes and Compact Discs, with minimum distortion and an outstanding Signal-to-Noise Ratio of 106dB. The PRO-EQ 22 features separate tape monitor circuitry and tape with tape and line equalization capability. Computone Charts are included for easy recording of various equalization curves. The PRO-EQ 22 features a Professional rack-mount front panel with optional hardwood side panels. 19"Wx3½"Hx11"D...15 pounds.

SPECIFICATIONS DC2215: INPUT MONITORING: Differential/Comparator[®] Circuit with LED's for 0.1dB accuracy...**HARMONIC DISTORTION:** Less than 0.1% at 2V...**IM DISTORTION:** Less than .01% at 2V...**SIGNAL-TO-NOISE:** 114dB at 10V output, 100dB at 2V output...**OCTAVE CONTROLS:** ±22dB boost or cut—each octave (all other octaves set at maximum), ±15dB boost or cut—each octave (all other octaves set at zero)...**GAIN/CUT CAPABILITY:** +32dB/-38dB—all controls maximum...**UNITY GAIN CONTROLS:** 13dB range...**FILTER TYPE:** Precision tuned passive wire-wound coil inductors...19"Wx5¼"Hx11¼"D... 21 pounds.



Pre-Amplifier Review

Continued from page 11.

throughout the audio range that any response curve I might plot would simply be a straight line, no matter how much I expanded the vertical scale. There wasn't so much as 0.1dB of variation in amplitude from 20Hz to 20kHz.

The -1.0dB points were reached at 5Hz and 165kHz. As for RIAA equalization, it was accurate to within 0.2dB at 100 Hz and within 0.4dB at 10kHz.

Harmonic distortion plus noise via the high-level inputs, for 0.5 V input and with the volume control set at maximum, measured 0.00045% at 1kHz, 0.005% at 20Hz, and 0.0047% at 20kHz.

Distortion decreased when the "Direct" or bypass mode was used. For example, with 0.5 V applied and the volume control set at maximum, high-level THD + N was only 0.0028% at 1kHz, and 0.0035% at 20Hz.

SMPT-IM distortion measured 0.006% with 1 V input and the volume control adjusted for 2 V output. With 0.5 V in, IM increased slightly, to 0.009%, and with 2 V input, IM increased a bit further, to a still insignificant 0.011%.

Input sensitivity via the high-level inputs was 125 mV for 0.5 V output.

Soundcraftsmen chose to reference an output level of 2V, thereby coming up with a somewhat higher S/N figure than I did. Even so, my signal-to-noise reading for the high-level inputs was an outstanding 95db, A-weighted. I can't remember any other audio amplifier, preamplifier, or receiver that yielded such a high value for S/N. Since 0.5 V is approximately

12dB lower than 2.0 V, I would have come up with a figure of 107dB—actually 2 dB better than claimed—if I had conducted the test as Soundcraftsmen's engineers did.

Use and Listening Test

Although all of the measurements I made of the Pro-Control Four were certainly beyond criticism, my full appreciation for this well-designed component came only when I began to use it and to listen to the different program sources through it. With the tone controls set to their flat positions (easily accomplished thanks to well-defined detents at the controls' midpoints of rotation), I could not honestly detect any difference in sound quality between the normal mode and the "Direct" mode. Perhaps listeners more critical than I will be able to hear some improvements when switching to the "Direct" mode; if they do, fine. For my ears, both settings yielded absolutely clean, uncolored sound that was no different from what I heard when the same high-level program sources were connected directly to the power amplifier. (This is a good test for any pre-amplifier, whose main purpose should be control rather than signal modification.)

My chief delight with the Pro-Control Four was its solid state switching logic. What a joy to be able to switch a program source to a tape-out jack without hearing any switching noise or click in the program I was listening to at the time.

As I think about it, Soundcraftsmen has exhibited audio wisdom

in all aspects of the Pro-Control Four's design. To Paul Rolfes and his crew, my sincere congratulations!

Leonard Feldman

Stereo Review

I suspect that audiophiles who have accumulated a number of accessory devices over the years would be encouraged to re-install them if they had this control amplifier in their systems. I know I was! However you look at it, the Soundcraftsmen Pro-Control Four is a beautiful piece of equipment.

Julian Hirsch

Stereo Review

The Soundcraftsmen Preamp/EQ is obviously a highly versatile control center whose performance and sound quality should satisfy the most critical listener. We obtained fine results using several different phono cartridges—including a high-output moving-coil unit. It should be noted that Soundcraftsmen recommends it only for use with moving-coil cartridges that deliver at least 0.28-mV output...

The greatest appeal of the Soundcraftsmen Preamp/EQ will probably be to people who have definite ideas about the octave-to-octave balance they want to hear from their music systems... a high-quality, very flexible control preamplifier with above-average tape-recording facilities make a fine combination, and the Soundcraftsmen is the proof.

Pro-CD750

Soundcraftsmen's new Compact Disc player provides not only the superb sound reproduction to be expected from a high quality Compact Disc player, but also all of the most-wanted features. We have, in addition, engineered and designed it to conform to the extremely high standards required by Professional users and Commercial installers, where not only the finest quality musical performance, but also full-sized rugged construction with anti-resonant metal chassis and full-floating transport are of primary importance.

We have also designed this new Compact Disc player to be "user-friendly," with selectable and controllable functions that are designed for practical application and simplicity of operation. Our engineering department's development and design of our exclusive **Differential/Compander** circuitry, plus the enhancement provided by our **Spectral Gradient** circuitry, are perfectly suited and are specifically designed for optimum performance from virtually any type or quality of recorded materials. The CD750 features a Professional rack-mount front panel with optional hardwood side panels.

Our **Differential/Compander** is newly developed circuitry designed and made in the U.S.A. by Soundcraftsmen to provide the utmost flexibility for the Compact Disc format...high Dynamic Range for serious listening pleasure...or optional closely-focused dynamic range for casual listening, for recording cassettes for playback on limited-capability systems such as care stereos, portable stereos, etc....In fact, especially with Classical selections, you will find that the **Differential/Compander** is indispensable for background music.

The **Spectral Gradient** is extremely subtle in its operation. This variable circuit enhances the listenability of CD's with

hard or harsh high frequency characteristics, an unusual phenomenon that has been attributed to several different causes, such as imperfect mastering or deficiencies in recording acoustics. The **Spectral Gradient** circuit was designed specifically to soften that harshness without affecting the overall sonic reproduction of the musical passages and is by-passed when not needed.

SPECIFICATIONS—CD750: FREQUENCY RESPONSE: 5Hz–20kHz, ±1dB...DYNAMIC RANGE: 95dB (IHF-A)...S/N RATIO: 99dB (IHF-A)...HARMONIC DISTORTION: 0.005%, 1kHz...SEPARATION: 86dB...WOW & FLUTTER: Not measurable...OUTPUT VOLTAGE: 2 volts...SAMPLING FREQUENCY: 88.2kHz...QUANTIZATION NUMBER: 16 bit linear...POWER CONSUMPTION: 12 watts...SIZE: 19" x 3½" x 12"...WEIGHT: 16 lbs.

Pro-Tuner Four

The new Soundcraftsmen tuner's advanced technology incorporates sophisticated Frequency Synthesized Tuning with a highly stable Quartz Crystal Oscillator that locks onto the broadcast signal and makes station selections precise and drift-free. A Microcomputer Memory System, coupled with Automatic Scanning, provides incredibly simple pre-programming and station selection. Scan to the desired station, then simply push "Memory" and push any station recall button. Your favorite FM and AM stations can be easily pre-set through the Microcomputer System for 16-station

(8-AM, 8-FM) memory programming. Super AM Broad Band Selector expands the normal AM frequency range to provide a "super-broad" frequency response. Program Maintenance Circuitry to hold preset stations in memory. Automatic Scanning: Scans forward or reverse to stop at next usable station. "Scan Manual": Scans forward or reverse to next station frequency. In the Scan Manual mode the tuner will stop at even or odd megahertz to facilitate cable reception. Signal-strength liquid crystal metering indicators. "Stereo" indicator shows usable stereo station signal. "AM" and "FM" mode LED indicators. "Mono" mode selector. "Auto Mute" for inter-station noise-free tuning. 5-digit read-out in 50kHz steps, for possible future U.S. station spacing requirements and worldwide operations. Phase-Locked Loop automatic optimum-tuning circuitry. Digital Quartz PLL Synthesizer circuitry. Deemphasis convertible from 75 to 50 micro seconds for worldwide use. 300 ohm/75 ohm antenna connectors. Professional rack-mount front panel...optional hardwood side panels.

SPECIFICATIONS PRO-TUNER FOUR: FM SECTION:

FM SENSITIVITY: 9.8dBf usable 1.7 microvolt IHF...QUIETING: 36dBf for 50dB stereo. 12dBf for 50dB mono... SIGNAL TO NOISE: 75dB stereo (IHF)...THD: 0.08%...IF REJECTION: 90dB...IMAGE REJECTION: 86dB... CAPTURE RATIO: 1.0dB...STEREO SEPARATION: 50dB...FREQUENCY RESPONSE: +0.5dB, -1.5dB, 25Hz—15kHz.

AM SECTION:

USABLE SENSITIVITY: 25 microvolts... SELECTIVITY: 40dB...ANTENNA: Adjustable ferrite loop... 19" Wx2¼" Hx12" D...10 pounds.



Soundcraftsmen, 2200 So. Ritchey, Santa Ana, CA USA. Prices and specifications subject to change without notice.

Enter No. 30 on Reader Service Card

16 Introducing our new Pre-ceiver[®]the Pro-PT TWO Preamplifier/Tuner



Soundcraftsmen, America's leader in separate components, introduces the new PRO-PT TWO PRE-CEIVER. This new Control-Center/Preamplifier/Tuner combines the outstanding performance and features of our separate tuner and preamplifiers. The PRE-CEIVER offers the sensible alternative to the "all-in-one" receiver, by allowing the freedom to choose a separate power amplifier to match the needs of the speaker systems. This intelligent PRECEIVER approach allows you to avoid the inherent problems and compromises found in today's receivers, and still enjoy the cost-saving of combining the compatible preamplifier and tuner stages on a single chassis.

C-MOS PREAMP SECTION

The PRO-PT TWO's preamplifier section has the quality and features you need as the cornerstone of your audio system. Feather-Touch Digital C-MOS Switching for noise-free and distortion-free listening and recording. Source selections include CD/DAT, Phono, Tuner (built-in), Audio/Video, plus two Tape Monitors with dubbing. Each source has its own push-button and LED for easy selection and verification of signal source desired.

Two pairs of outputs for Surround Sound applications or Subwoofer/Satellite speaker systems. Two switched plus one un-switched AC outlets are provided for powering other audio components. Our unique Variable Contour Loudness Control allows precise and easy selection of frequency balance at any volume level.

PREAMPLIFIER SPECIFICATIONS

TOTAL HARMONIC DISTORTION: 0.008%
 IM DISTORTION: 0.008%
 FREQ. RESPONSE: 20Hz-100kHz \pm 0.5dB
 MAXIMUM OUTPUT LEVEL: 8 volts
 SIGNAL-TO-NOISE RATIO: Phono: 80 dB
 High Level: 100 dB
 INPUT SENSITIVITY for .5 volt output: Phono: 2.5mV
 TONE CONTROLS: High Level: 200mV
 Bass: \pm 10dB @ 85Hz
 Treble: \pm 10dB @ 12kHz
 DIMENSIONS: 19" x 3 3/4" x 11 1/4" WEIGHT: 14 pounds

Due to space and technical design limitations, ordinary receivers cannot be equipped with the high-current, high-voltage power stages found in even modestly-priced separate power amplifiers. In a receiver, these heavy-duty power stages, necessary for high dynamic range amplification, would generate levels of heat, hum, and noise unacceptable to the tuner and preamplifier's low level, sensitive circuits. The new PRE-CEIVER eliminates all of these compromises by keeping the low-level preamplifier and tuner stages completely separate from the incompatible high-level power amplifier stages; thus providing a near-perfect and distortion-free output signal to drive any amplifier.

DIGITAL PLL TUNER SECTION

The PRO-PT TWO Tuner section's advanced technology incorporates a digitally synthesized, quartz-referenced crystal oscillator which guarantees unparalleled tuning accuracy and drift-free reception. Multipath distortion, common in urban areas where many strong stations exist, has been virtually eliminated by a specially designed RF stage. In rural areas, where low signal levels are common, the PRE-CEIVER'S high sensitivity assures you of distortion-free and noise-free reception. A Micro-Computer memory system, coupled with Automatic Scanning allows extremely simple programming of 32 stations of your choice (16 FM and 16 AM). Direct access retrieval of any of your preprogrammed stations is as simple as pressing one or two buttons. The Scan Selector provides you with easy access to strong stations or direct access to even the weakest of stations. The Mono/Mute-Off selector allows noise-free listening of very weak stereo broadcasts.

TUNER SPECIFICATIONS

IHF SENSITIVITY: 10.3dBf
 SIGNAL STRENGTH for 50dB quieting:
 Mono: 12.5dBf
 Stereo: 36 dBf
 CAPTURE RATIO: 1.2dB
 ALTERNATE CHANNEL SELECTIVITY: 80dB
 SEPARATION @ 1kHz: 52dB
 THD @ 1kHz: Mono—.04%, Stereo—.08%
 S/N RATIO: Mono—85dB, Stereo—75dB



The World's Finest Stereo Components
Are Still...MADE IN U.S.A. !

Soundcraftsmen

FREE!

\$19.95 SYSTEM EVALUATION KIT, includes 1-12" LP Frequency Spectrum Analysis test record, 2-sets of Computone Charts, 1-Connector Cable for comparison test, 1-instruction folder. WRITE TO US FOR FAST ACTION, OR CIRCLE READER CARD, and we'll send you FREE SPECIAL OFFER DETAILS, and 16-page COLOR BROCHURE.



2200 So. Ritchey, Santa Ana, California 92705, U.S.A./ Telephone (714) 556-6191 FAX: (714) 662-0750 • International Telex: 910 595 2524
Enter No. 30 on Reader Service Card

Krell Digital CD Player

Perhaps the most noticeable feature of the Model MD-1 is the top-loading turntable design, which is said to eliminate problems associated with drawer-loading mechanisms and bearings. An electronic sensor confirms when a disc is on the turntable. The transport uses a design based on the Philips single-beam CDM-3 swing-arm motor drive mechanism. The machine's electronics section uses toroidal transformers and two-stage regulation to limit self-noise to the lowest levels possible. Suspension components are machined from solid aluminum and are mounted to a solid aluminum base plate. The transport is mounted in acrylic plastic, which, the maker says, keeps extraneous resonances from reaching the assembly. Additionally, four suspension towers isolate the system from unwanted noise or vibrations in the area where the MD-1 is situated. Price: \$4,000. For literature, circle No. 100



M & K Subwoofer

Television signals often contain surprising bass, while TV-set speakers surprise you if they have any bass at all. The MX-1000 powered subwoofer is therefore built into a pedestal with a top 28 inches wide, designed to hold a large-screen



TV set (the one pictured is a 26-inch model), and shielded so as not to affect the on-screen picture. A built-in amplifier, rated at 400 watts peak, drives a pair of horizontally opposed 12-inch woofers; response is rated at 20 to 125 Hz, ± 3 dB. Price: \$1,495. For literature, circle No. 101



Sparkomatic Car CD/Receiver

The Model SR600 incorporates a CD player, FM/AM tuner, and external amplifier at a low price. Features of the CD section include scanning of the first 10 S of each track, a "standby" memory which allows disc play to be interrupted for radio listening and then resumed from the same spot, and 20-track random programming. The tuner section has memories for 12 FM and six AM stations, and station scan. The stereo amplifier delivers 25 watts per channel at 10% THD, and line-out jacks are provided for an external amplifier to feed the rear or additional speakers. Price: \$399.

For literature, circle No. 102



Hitachi CD Changer

With dual six-disc magazines, the DA-C70 not only holds 12 CDs but allows the owner to change one magazine while the other plays, to ensure

continuous music. All 12 discs can be played in order, and up to 32 selections can be preprogrammed. Dual oversampling is used. Also featured are a 41-key remote control, and a built-in, programmable, on/off clock timer. Price: \$499, including remote. For literature, circle No. 103

MARTIN-LOGAN LTD.

AUTHORIZED DEALERS—1989

AL Huntsville, Campbell Audio Video

AZ Phoenix, Sound Advice, Inc.; Tucson, Wilson Audio, Ltd.

CA Canoga Park, Upscale Audio; Concord, C&M's Stereo Unlimited; Encinitas, Stereo

Vision; Fairfield, C&M Stereo Unlimited;

Huntington Beach, Havens & Hardesty Audio;

La Jolla, Stereo Vision; **Los Angeles**,

Christopher Hansen Ltd.; **Orange**, Absolute

Audio; **Pasadena**, GNP Audio Video;

Sacramento, Keith Yates Audio; **San Diego**,

Stereo Design; **San Francisco**, *Audio

Excellence; **San Luis Obispo**, Audio Ecstasy

CO Denver, Soundings

CT New Haven, Take 5 Audio

FL Ft. Lauderdale, Audio Center, Inc.;

Melbourne, Sound Gallery; **Tampa**, Audio Visions

GA Atlanta, Stereo & Video Designs; **Smyrna**, The Stereo Shop

ID Boise, The Stereo Shoppe

IL Champaign, Champagne Audio; **Evanston**,

Audio Consultants; **Hinsdale**, Audio

Consultants; **Libertyville**, Audio Consultants

IN Indianapolis, Ovation Audio

KS Lawrence, Kief's Gramophone Shop

KY Lexington, Ovation Audio

LA Metairie, Audio Resource

MA Wellesley, The Music Box

MO Ellicott City, Gramophone, Ltd.;

Lutherville, Gramophone, Ltd.

MI Birmingham, Almas Hi-Fi Stereo; **Dearborn**,

Almas Hi-Fi Stereo; **Farmington Hills**, Almas

Hi-Fi Stereo; **Grand Rapids**, Classic Stereo,

Ltd.; **Kalamazoo**, Classic Stereo, Ltd.;

Rochester, Almas Hi-Fi Stereo

MN Minneapolis, Audio Perfection

NC Charlotte, Stereo Showcase; **Durham**, Audio Visions

NH Nashua, Audio By A.J. Conti

NJ Englewood, Stuart's Audio Video;

Lawrenceville, Hal's Stereo & Video;

Westfield, Stuart's Audio Video

NM Santa Fe, The Candyman

NY Albany, Altair Audio; **Brooklyn Heights**,

Innovative Audio; **Goshen**, Longplayer Stereo

Center; **New York**, Sound By Singer;

Scarsdale, *The Listening Room; **West**

Babylon, Audio Visions

OH Cincinnati, Audible Elegance; **Dublin**,

Audio Encounters; **Warrensville Hts.**, Hoffman's Stereo

OR Portland, Corner Audio

PA Berwyn, Soundex Electronics; **Pittsburgh**,

Better Sound Concepts; **Selinsgrove**, The

Stereo Shoppe; **Willowgrove**, Soundex

Electronics

TN Memphis, Underground Sound; **Nashville**,

Cumberland Audio

TX Amarillo, Sound Systems Ltd.; **Austin**,

Audio Systems; **Houston**, The Esoteric Ear

UT Salt Lake City, Audition Audio

VA Alexandria, Excelibur Audio; **Newport**

News, Sound Approach; **Richmond**, Audio Art

WA Tacoma, Advanced Audio Systems

*Statement System Dealer

the electrostatic loudspeaker technology company

AUDIOCLINIC

JOSEPH GIOVANELLI

Four Outputs from Two Inputs

Q. My tape deck has two line inputs and two line outputs. I also have a piece of equipment with a couple of sets of inputs and four output channels. The instructions say two of these outputs are for surround sound. If all I have are two audio channels going in, how can I have four output channels? How can I get quadraphonic sound from my tape deck?—David Hicks, Rogers, Ark.

A. Yes, it is possible to obtain four channels of audio from just two channels. It is accomplished by a mathematical trick known as "matrixing." The phase of each channel is examined and the difference in phase is used to separate the signal into four channels.

Even some tapes which were not purposely encoded to take advantage of surround-sound decoders may still yield interesting sonic results. Along the same line, note that surround-encoded tapes can be copied using ordinary equipment. When the copy is played using the appropriate decoder, the four audio channels will be present in the loudspeakers.

Intermittent Amplifier Output

Q. I lose output from the left or right channels of my receiver, a condition that does not "play favorites" with either channel. I have taken the unit to two reputable stereo repair shops, only to be told nothing is wrong. However, the last time the repairman connected it to his speakers, the problem occurred. He put it on the bench and gave it a good going over. When I got the equipment home, the problem had temporarily disappeared. Three months later, it returned.

It does not matter whether I play the tuner, cassettes, or CDs. If the right channel quits, I've found that turning the balance control completely to the right and increasing the volume to dangerous levels will bring the volume previously a whisper, to loud but proper levels. I can then turn down the volume and have the system work normally. If the left channel drops out, I can do the same with the balance control—moving it to the left, of course. Can you help?—Name withheld

A. As with so many questions of this kind, there can be a number of causes for your equipment's erratic behavior.

My first thought—and I'm not at all convinced it's the right one—is that you are driving your receiver so hard that the protection circuits are invoked. The problem here is that they would still not permit normal operation when you advance the volume as high as you described.

It is certainly possible that there are dirty contacts on the various switches, including the program, mode, and speaker selectors as well as the volume and balance controls. Considering the "cure" you use, it is likely the problem is downstream from the volume and balance controls.

Another possible source of trouble is poorly soldered connections, especially in circuits which follow the volume and balance circuits. I have also had problems with defective capacitors, which I "cured" with a method similar to the one you described.

Because the problem occurs in both channels, I tend toward the idea of dirty switches: There must be something in common with both channels, and a switch is certainly something in common. Further, each set of contacts on such a switch is equally subject to oxidation.

Hum in a Tube Preamp, Part I

Q. I have an old tube preamplifier which I built from a kit. It served me well, but now it has developed an annoying, intermittent hum. About a year ago, I started to hear hum in the left channel—but on an intermittent and unpredictable basis. I am not sure if this hum is 120 Hz or perhaps some other low frequency. I can always squelch the hum by turning the preamp's power off and then back on, but the hum starts again after awhile. This condition only occurs when I play phonograph records. What can I do to eliminate the problem?—Gerald S. Fox, Bethpage, N.Y.

A. In most instances of this sort, the hum you describe can be attributed to aging electrolytic capacitors. I suggest that you change all of the plate decoupling capacitors as well as the filter

If you have a problem or question about audio, write to Mr. Joseph Giovanelli at AUDIO Magazine, 1515 Broadway, New York, N.Y. 10036. All letters are answered. Please enclose a stamped, self-addressed envelope.

capacitors. If you want to really do a complete job, change the cathode bypass capacitors as well. I doubt that changing these latter caps will solve the hum problem, but they may result in improved bass response.

Although I have suggested that you change all electrolytic capacitors, it is reasonable to assume that those associated with the phonograph stage are responsible for the hum. If the frequency of the hum is 120 Hz, it is the result of ripple from the power supply affecting the phono stage. Alternatively, ripple in the filament supply could find its way into high-gain grid circuits. If the hum is produced at some frequency other than 120 or perhaps 60 Hz, then it is the result of positive feedback between stages, and it's the purpose of the decoupling capacitors to prevent this.

Hum in a Tube Preamp, Part II


Q. Thank you for replying to my letter about my old but good preamplifier. Your guess that the hum is the result of aging electrolytic capacitors was a good one, but I don't think it is correct in this case. I have examined the schematic and the circuit itself and find no capacitors which are common to just the left channel—the channel on which the hum appears. I realize that the "can-type" units have many sections, but none of the individual sections serve this left channel.—Gerald S. Fox, Bethpage, N.Y.

A. Well, that's what happens when I have to guess about a problem because I don't have a schematic to go on. I figured that each capacitor would serve only a single stage.

Still, my guess could be right. It is possible that there is a leaky heater/cathode in the triode section representing the left channel of the phono circuit. If so, it would affect just that channel. If there is an intermittent in the filament power-supply capacitor, it would mean that when the value of that capacitor drops, ripple would be present in the filaments. Because of the leak to cathode, the ripple could be passed along to the rest of the circuit via the feedback loop associated with that cathode.

Even where a decoupling capacitor serves both channels, it is still possible for hum to be heard from just one. This

can be accounted for because of ground layout problems, because "ground" is not always true; there will be some d.c. resistance. If hum appears across this resistance, a voltage will also appear across it in accordance with the frequency and amplitude of the hum.

It is also possible that the hum could be the result of problems with your tonearm wiring, including connections to the cartridge, connections from the inside tonearm wiring to the "outside world," and the skirt of the phono connector not being as tight as it actually should be. 



Over two years ago the staff at Madrigal Audio Laboratories began accumulating convincing evidence that solid conductors of rectangular cross-section would do a better job of carrying musical signals. Years of listening and engineering tests making use of ribbons of specially processed, high-purity copper with teflon insulation and the highest quality terminations, have resulted in the new Madrigal HPC and CPC cables.

Visit your Madrigal dealer and hear what these original designs can do to improve your music system.

HPC and CPC cables are designed by, and manufactured exclusively for
Madrigal Audio Laboratories, P.O. Box 781, Middletown, CT 06457 ITT TLX 4942158

ARIA. SUMO proudly introduces a revolutionary new planar loudspeaker, Aria, which after years of development promises to change our conception of reproduced music.

Aria provides a remarkably coherent, almost tactile, soundstage. A presentation so natural, so believable that we are left without adjectives – or words. Only the experience of having heard what is truly one of the most important loudspeakers to be offered in decades.

Like ripples spreading in a pond, sound emerges in nature to reach our ears with an integrity that is clearly different from reproduced sound. This is particularly true of musical instruments; whether plucked, struck, or blown.

Aria recreates sound in much the manner it occurs naturally. Like many other planar loudspeakers, Aria's radiating surface is a thin polyester membrane. There are no cone drivers. However, unlike other designs – whether conventional or planar – Aria does not attempt to move air as a piston. Instead, drive is precisely applied to a small area at the center of the diaphragm, elegantly approximating a point source. A series of controlled traveling waves then spread passively from the middle of the diaphragm, producing a spherical waveform – the virtual ideal. Energy is distributed with remarkable uniformity across the audible band. Treble dispersion is excellent. And with a single element generating sound, there is an incredibly coherent sonic picture.

Aria reproduces sound the way it occurs in nature. Much the same way that a pebble thrown into a still pond spreads waves across the water's surface. As a single element full range loudspeaker, its design is also a clear departure from approaches that have gone before. There are no crossovers. There are no delay lines. There is no response shading; nor are there associated electronics, either active or passive. Aria breaks new ground to such an extent that patents have been applied for and are pending worldwide.

Designed and manufactured exclusively for SUMO by Highwood Audio in Canada, Aria will be available at only a few very select dealer locations. Among those dealers displaying Aria are:

PRO AUDIO CONSULTANTS
57 East Main Street
Chester, NJ 07930
201 879-8373

MYER-EMCO
3511 Carlin Springs Road
Bailey's Crossroads, VA 22041
703 379-8800

THE NATURE OF BALANCE.

The logo for SUMO, consisting of the letters S, U, M, O in a stylized, outlined, blocky font.

SUMO PRODUCTS GROUP, 21300 Superior St., Chatsworth, CA 91311 818/407-2427
SUMO CORP CANADA, 1305 Odium Dr., Vancouver, B.C. V5L 3M1 604/254-5148



ANDROMEDA II. With a staggering 200 amperes of peak available current, Andromeda II is SUMO's newest and most powerful amplifier. It is the culmination of over a decade of work done on amplifier design and sits at the end of an impressive path that includes such products as Ampzilla, the GAS 500, the SUMO Half Power, and Andromeda. Andromeda II is the latest expression of a consistent attitude about music reproduction.

Andromeda II is also the beneficiary of a purist design philosophy. Characterized by symmetry and balance, this philosophy is evidenced by the exclusive use of discrete push-pull circuitry throughout. Andromeda II is also fully balanced, input to output. Signals are actively amplified from both sides of the amplifier, positive and negative – as opposed to normal practice where one side is referenced to ground. Since both sides of the loudspeaker are then driven symmetrically by matched, but separate sources, greater control over piston (or diaphragm) motion is achieved. The result is more precise imaging, a better, more stable soundstage, and enhanced spatiality.

Balanced amplifiers also offer high common mode rejection and lower attendant noise. Much has been written lately about the superiority of this approach; and recently a number of other high end companies have joined SUMO in the manufacture and marketing of balanced designs – at an average retail price of over \$5,000!

Andromeda II benefits from the most recent advances in semiconductor technology. Its output stage, for example, utilizes 16 individually measured and matched mosfets in a symmetrical push-pull arrangement. These devices, only recently introduced, are stunningly fast and stable. Their performance is further enhanced by a proprietary output linearizing circuit that reduces crossover notch distortion to levels more typical of Class A amplifiers. As a result, air is reproduced around acoustic instruments with a naturalness that must be heard to be appreciated. Massed strings are warm and vibrant; and their overtones luminous – all without a hint of hardness or strain.

Andromeda II is also a low negative feedback amplifier. Its rated power is 200 Watts per channel into 8 Ohms. And there is no protection circuitry or intrusive current limiting to constrict sound quality. All told, Andromeda II is a remarkably natural and faithful reproducer of music, and an amplifier that should be considered for any application where smoothness and power are the prime requisites. As with all SUMO electronics, Andromeda II is designed and manufactured in the United States.

Among those select dealers stocking our products are:

UNITED AUDIO CENTERS
900 North Michigan Avenue
Chicago, IL 60611
312 664-3100

SOUND ADVICE
2275 Palm Beach Lakes Blvd.
West Palm Beach, FL 33409
407 471-2777

SYMMETRY AND BALANCE

The logo for SUMO, consisting of the letters S, U, M, O in a stylized, outlined, blocky font.

SUMO PRODUCTS GROUP, 21300 Superior St., Chatsworth, CA 91311 818/407-2427
SUMO CORP. CANADA, 1305 Odium Dr., Vancouver, B.C. V5L 3M1 604/254-5148



THE NEW BALANCE
OF AUDIO

ATHENA. The preamplifier is in many ways the most telling component in the audio chain. All too often technical absolutism results in sound quality that is sterile, unappealing, or aggressive. Yet bad lab performance almost always indicates poor sonic integrity. With Athena, Sumo demonstrates a new balance. A preamplifier that is both a stunning performer in the areas of quickness, linearity, and freedom from overload. Yet a warm, faithful, and exciting reproducer of music.

Athena represents the culmination of a major effort at Sumo. As such, it sets new standards for dynamic headroom and freedom from overload. Utilizing high voltage power supply rails, passively linearized circuitry, and a high current toroidal transformer, Athena can faithfully reproduce music at levels far in excess of the peak output of signal sources. As a result, compact discs display dynamic range without high end pain. And complex passages come through intact and unstrained.

Sonic purity in Athena is enhanced both by careful component selection and the exclusive use of pure Class A circuitry. Low noise 1% metal film resistors and metalized polypropylene capacitors are used throughout. Components are mounted on a military grade glass epoxy printed circuit board. And all external connections are made via gold plated input and output jacks. Further, a bypass function allows the user to totally remove the high level section of the preamp from the signal path. When selected, this provides both direct line-drive for high level sources (such as a CD player), as well as direct phono out.

At various times and for various products, we hear the words powerful, impactful, detailed, delicate, accurate, transparent, smooth, natural and a variety of other flattering adjectives. But one word is repeated more frequently than all the rest, and it is that for which we have strived above all. Musical. Athena is above all gloriously musical.

As with all Sumo products, Athena is designed and manufactured in the United States. Among those select dealers stocking our products are:

HOME ENTERTAINMENT
939 Bellevue Way NE
Bellevue, WA 98004
206 453-2837

ROGERSOUND LABS
15251 Beach Blvd.
Westminster, CA 92683
714 893-7558

THE NEW BALANCE.

The logo for Sumo, featuring the word "SUMO" in a stylized, outlined, blocky font.

SUMO PRODUCTS GROUP, 21300 Superior St., Chatsworth, CA 91311 818/407-2427
SUMO CORP CANADA, 1305 Odium Dr., Vancouver, B.C. V5L 3M1 604/254-5148

Enter No. 4 on Reader Service Card

ELMO

POWER ON

TAPE COPY

INPUT

VOLUME - BALANCE

ATHENA

STEREO
MONO

LF

FILTER

NORMAL

BYPASS



Carver CD Player

The TL-3300 uses 18-bit digital electronics with eight-times oversampling and dual D/A converters. It also features a "Digital Time Lens" circuit, designed to restore ambience and frequency balance, which are

sometimes altered when analog recordings are remastered for CD. Random programming of 22 selections is available from the front panel or the remote control. Price: \$699, including remote. For literature, circle No. 104



Sherwood Cassette Deck

Economically priced, the DD-1030 nonetheless offers high-speed and synchronized

dubbing and Dolby B NR. In addition, its dual wells allow sequential play of two tapes. Frequency response is 30 Hz to 16 kHz. S/N, with Dolby B NR, is 65 dB. Price: \$159. For literature, circle No. 105



Portland Instrument CD Carrier

Compact Disc jewel boxes are awkward to carry around and open, yet portables and in-dash car CD players give us reasons to carry CDs. The CD/Mate 10 Pack holds 10 discs in individual pockets lined with soft, anti-static cloth.

Sony Headphones

The MDR-CD999 headphones feature a closed-ear oval ear pad to block sound, and a large, soft head cushion. The transducers use 50-mm amorphous, diamond-evaporated diaphragms supported by a ceramic composite panel. The concealed, one-sided cord is of linear-crystal, oxygen-free copper Litz wire, and has a gold-plated plug. Frequency response is rated at 3 Hz to 30 kHz. Price: \$250. For literature, circle No. 106



Self-adhesive hook-and-loop fasteners are provided, for attaching the CD/Mate to a portable player (as shown) or to a convenient spot in the car. Price: \$16.95. For literature, circle No. 107

SATELLITES & POWERED SUBWOOFERS

Throughout the audio world, M&K Sound is synonymous with high performance Satellite and Powered Subwoofer speaker systems. And while other manufacturers are discovering the substantial advantages of this concept, we are applying fifteen-plus years of loudspeaker design and audiophile recording experience to create a new, fifth generation of innovative products.

Think of these as *component* speakers — speakers with the flexibility to adapt to *any* listening environment, especially that of the multi-channel Surround Sound system. Although compact in size, M&K Satellites actually outperform large conventional speakers — and M&K Powered Subwoofers give you the universally recognized superiority of a separate subwoofer for the ultimate in bass performance.

With mid and high frequency drivers mounted in optimally shaped enclosures, M&K Satellites deliver sharp detail and clarity with pinpoint imaging — going far beyond the “boxy” and “canned” sound of conventional speakers. Our precise driver alignment and unique crossover design insure that sounds reproduced by both drivers reach you simultaneously — giving M&K Satellites the rare ability to produce the sharp transients and presence of live musical instruments. *Close your eyes and the speakers seem to disappear — the sound is live!*

M&K's component speaker concept perfectly meets the sonic and aesthetic needs of the '90s. And our newest innovations are advancing audio/video system performance with pedestal subwoofers, high-performance center channel and other speakers optimized for Dolby Surround Sound.

No other company has over fifteen years of experience in the design and manufacture of Satellites and Subwoofers. This experience, combined with the audio industry's only six Satellite, eight Subwoofer line makes M&K “the only choice.”

MILLER & KREISEL
SOUND CORPORATION



DEEP BASS

MX-2000



MILLER & KREISEL
SOUND CORPORATION

**MX-2000 Push-Pull
Dual Driver
Powered Subwoofer**

The Ideal Subwoofer:

It would be a speaker that lets you experience the richness, variety, and power of *real* deep bass — from the faint vibration of a gently bowed string bass to the thunderous impact of hard rock.

Technically speaking, it would be capable of high sound power levels all the way down to 20 Hz. High levels at low frequencies are necessary because the human ear has less sensitivity in the low bass portion of the sound spectrum than it does in the midrange portion — and this difference becomes progressively greater the lower the midrange sound power levels get.

Its response curve would avoid irregularities that produce coloration, and its distortion would be quite low to assure a *real* sound in musical instruments. And last but not least, it would have rapid response and

low overhang to avoid a 'muddy' sound.

Unfortunately, most subwoofers fail to meet one or more of the above criteria. Some provide fine detail but often lack the high output necessary at lower frequencies. Others provide high output, but concentrate it in a narrow range of the sound spectrum to produce that all too familiar and irritating "Boom-Box" sound.

Neither of these approaches is destined for greatness. For a subwoofer to be worth the attention of a discerning ear it must be able to render fine detail and provide high power — the attributes of the MX-2000.

The MX-2000

Bringing together great clarity; tremendous low frequency power and impact; plus the ability to seamlessly blend with any speaker, the MX-2000 establishes a new benchmark

MX-2000

**MX-2000 Push-Pull Dual Driver
Powered Subwoofer**

for subwoofer excellence.

Housed in the MX-2000's cabinet is M&K's most powerful amplifier and two proprietary high-performance drivers — mounted in M&K's Push-Pull Dual Driver configuration. These elements perform in harmony to deliver outstanding performance under both steady-state and dynamic music conditions.

Furthermore, driven by a 300 watt continuous RMS bridged power amplifier with a high-current power supply, the MX-2000 allows you to experience high output and wide dynamic range.

The Horizontal Push-Pull Dual Driver System

One of the key elements enabling the MX-2000 to achieve its high level of performance is the Horizontal Push-Pull Dual Driver System. This side-mounted, side firing, dual driver configuration lowers harmonic distortion, reduces cabinet coloration, and couples very effectively to the listening room in virtually any location.

The Physical Setup

Two side-firing 12-inch drivers are used in the MX-2000 — one on the left and one on the right side of the cabinet. The driver on the left side is mounted conventionally, revealing the front of its speaker cone with the grill cloth removed. The driver on the right side, however, is *inverted*, i.e., faces inward, revealing the back side of its speaker cone along with its magnet and frame. Although mounted opposite each other in the cabinet, both drivers "point" in the same direction (see diagram), and both share the same internal cabinet air space.

The Push-Pull Concept

In the MX-2000, when the left driver's cone moves out, pushing air away from the left side of the cabinet, the *back* of the *right* inverted driver's cone also moves out, simultaneously pushing air away from the right side of the cabinet. In the next (inward) half-cycle, both drivers' cones move in. The cones always move either towards each other or away from each other, and because they are mounted on opposite sides of the cabinet, the resulting output is a nearly spherical pressure wavefront emanating from the cabinet.

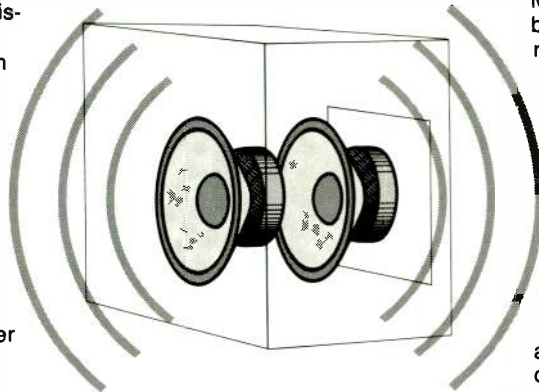
What substantially cancels the even-order harmonic distortion produced by the twin drivers is the fact that the left driver's cone is always located in the exact opposite

position, relative to its own magnet and internal structure, as is the right inverted driver's cone.

Pulsating Sphere Sound Propagation

The powerful pressure wavefronts generated by the Horizontal Dual Driver configuration radiate deep bass into the room much like a pulsating sphere.

DEEP BASS



Plus, the Dual Driver system in the MX-2000 practically doubles its efficiency — giving you even greater output and dynamic range than you would get from a single 12-inch subwoofer with a 300 watt amplifier.

Dynamic Balance

A common obstacle to clean sound reproduction in high-performance speakers is sound coloration caused by the cabinet itself. The MX-2000 addresses part of this problem with the Horizontal Push-Pull Dual Driver system — which *dynamically balances* some of the tremendous forces generated by the speaker drivers. This technique reduces vibrational energy imparted to the cabinet as a whole, thereby contributing to the MX-2000's ability to reproduce sound with clarity and detail. Additionally, vibration of individual panels is minimized by substantial internal bracing.

The M-2 Speaker Driver

The MX-2000 incorporates the new, M&K designed, M-2 driver. The M-2's large voice coil and magnet assembly give it an extremely high power handling capability, plus the ability to start and stop very rapidly in response to a musical signal. The M-2 is the tightest, cleanest, and most powerful driver M&K has ever offered!

By using two of these drivers, the MX-2000 achieves superior transient capabilities, and gets more radiating area than it would with a single 15-inch driver.

300 Watt RMS Power Amplifier

For high output levels — especially at the lowest musical frequencies — a large amplifier is a must. The faithful reproduction of deep bass requires *power*! And it is the MX-2000's 300 watt RMS internal amplifier, based on M&K's time tested and highly reliable amplifier topology, that gives it this power — making it one of the most powerful amplified subwoofers available.

Furthermore, a newly introduced high current power supply gives the MX-2000 outstanding transient capabilities plus exceptional dynamic headroom.

Building on Excellence

M&K's 15+ years of experience in the design and manufacture of subwoofers is unmatched. Each M&K powered subwoofer achieves optimum performance through careful matching of its cabinet, speaker drivers, and internal amplifier. Moreover, maximum flexibility is built in, making it easy to connect and sonically balance to your own system.

You can drive the MX-2000 with any amplifier, electronic crossover, or preamp. An independent control lets you set the bass level wherever you choose. And, a separate continuously variable adjustment lets you set the upper roll-off frequency anywhere from 50 Hz to 125 Hz.

The Only Choice

Building on M&K's legendary high level of subwoofer excellence, the MX-2000 becomes M&K's finest achievement in a subwoofer — blending seamlessly with any high performance speaker — from M&K Satellites to the best electrostatic panels. And, with its remarkable output capability, superb transient response and low distortion, it is "the only choice".

Amp Power: 300 watts RMS
Frequency Response: 20 — 125 Hz \pm 3db
Impedance: Preamp Input 15K ohms
Power Amp Input 600 ohms
Weight: 105 lbs.
Dimensions: 23" (H) x 18 $\frac{1}{2}$ " (W) x 25 $\frac{1}{2}$ " (D)

10391 Jefferson Boulevard, Culver City, CA 90232
(213) 204-2854
TELEX 18-2429
FAX (213) 202-8782



MILLER & KREISEL
SOUND CORPORATION

DESS



M X • 1 0 0 0

POWERED PEDESTAL SUBWOOFER

MILLER & KREISEL SOUND CORPORATION

M X • 1 X 0 0 0

BASS — that deep, rich, thunderous sound that moves your body as it excites your ear — M&K brings it alive in a form that will delight and astound you:

The MX-1000

As a powered pedestal subwoofer, the MX-1000 does two remarkable things: It integrates a high-performance subwoofer into a pedestal — for your large screen television or monitor, and it achieves a sonic breakthrough that makes it outperform conventional speakers and subwoofers.

Virtually no other upgrade to your system will enhance your audio and video experience so dramatically — capturing the impact and realism of a live performance.

Rarely Does a Product Achieve So Much

SOUND: As part of the most advanced audiophile systems, the MX-1000 performs virtually without peer — achieving a new level of power and authority in the low end, with even greater transient speed and clarity.

Building on M&K's tradition of smooth and extended deep bass, the MX-1000 advances audio technology to create sound with an energy you can feel.

PEDESTAL SUBWOOFER:

Functioning as both a subwoofer and a pedestal for your large-screen television or monitor, the MX-1000 is a major achievement in "form follows function" — and M&K is the first to bring you this integrated capability in a high-performance speaker.

Placing a conventional speaker, especially a subwoofer, too close to a television can severely distort the picture, due to the magnetic field generated by the powerful driver magnets — with your only option being to locate the speaker up to several feet from your television — until now!

Designed so the high-power driver magnets do not interfere with your television's picture, the MX-1000 combines this important function with a significant sonic advancement to help you create the ultimate home theatre.

SCULPTURAL FORM: As a thing of beauty in itself — the unique design of the

D E E P
BASS

POWERED PEDESTAL SUBWOOFER



MX-1000 sets it apart from conventional speakers. Its sculptural form, satin finish, and graphite color make it an ideal complement to the colors and lines of contemporary audio and video equipment.

Use it as a free-standing pedestal/table or combine it with other components to create a spectacular audio/video surround-sound home theatre. Either way, the MX-1000 elegantly complements the 1980's interior.

APPLAUSE: In recognition of its unique design, the MX-1000 was selected as one of 1988's most innovative products by a panel of industry representatives and writers, and showcased at the Consumer Electronics Show's prestigious Design and Engineering Exhibition.

Technically Ingenious —

The Back-to-Back, Horizontal, Dual Driver System

The MX-1000's impressive advancements come together to set new standards for smooth and deep bass; superb transient response; wide dynamic range; and low distortion.

Key to this performance is M&K's unique *back-to-back, horizontal, dual driver system* — a configuration in which each of the 12-inch drivers couples to the other, practically doubling the MX-1000's efficiency.

Equally important is a brand-new 12-inch subwoofer driver designed by M&K engineers. Utilizing a high-power magnet and voice coil assembly, it even further enhances the MX-1000's performance. And, by employing two of these drivers, it gives you more bass radiating area than you get with one 15-inch unit.

M&K's "back-to-back" configuration is a true advance, achieving the virtual equivalent of a pulsating sphere in the base of the MX-1000 — generating pressure wave fronts that you can feel from across the room.

Building On Excellence

M&K's 15 years of experience in the design and manufacture of subwoofers is unmatched. Each of M&K's powered subwoofers achieves optimum

performance through careful matching of its cabinet, speaker drivers, and internal amplifier. Moreover, maximum flexibility is built in, making it easy to connect and balance it to your own system.

You can drive the MX-1000 with any amplifier, crossover, or preamp output — even your television's built in amplifier. An independent control lets you set the bass level wherever you choose. And a separate adjustment lets you set the upper roll-off frequency between 50 and 125 Hz.

The Only Choice

The MX-1000 redefines the subwoofer standard, and it scores a dramatic achievement in audio/video product design. But best of all, it brings alive — in your home theatre — a level of realism that will astound you!

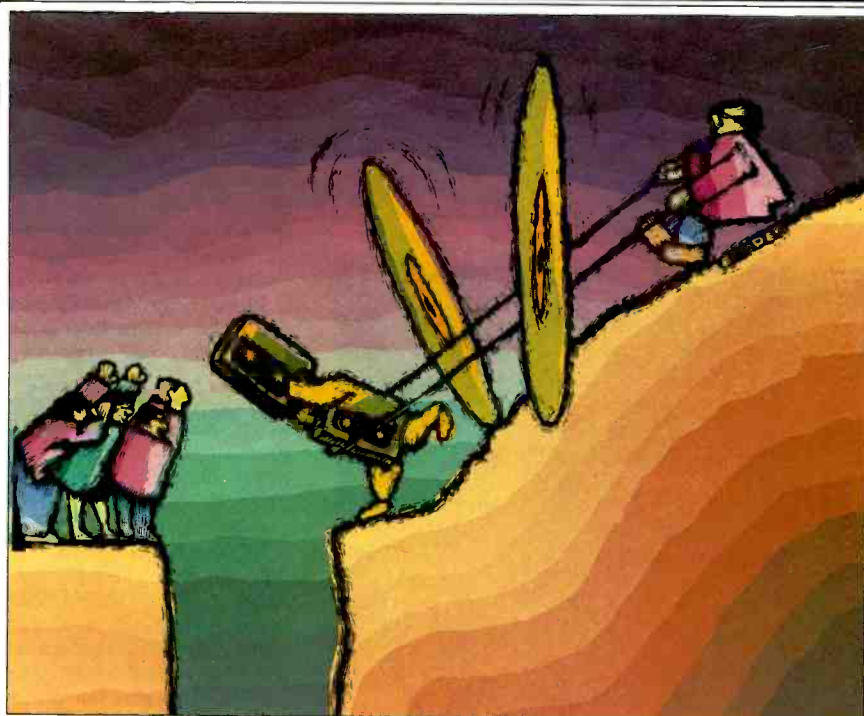
• • • • •
Amp Power: 400 watts peak
Frequency Response: 20 — 125 Hz ± 3db
Impedance: Preamp Input 15K ohms
Power Amp Input 600 ohms
Weight: 115 lbs.
Dimensions: 26" (H) x 28" (W) x 21.5" (D)

10391 Jefferson Boulevard, Culver City, CA 90232
(213) 204-2854
TELEX 18-2429
FAX (213) 202-8782



**MILLER & KREISEL
SOUND CORPORATION**

DAT DEAL'S DONE



At last there is hope that we long-suffering audio consumers may be able to purchase R-DAT recorders through legitimate retail channels. They have, of course, been available from so-called "gray marketers," who bring over a few at a time from other parts of the world where recording companies have less influence than they seem to have in the U.S. However, after two years of fiercely resisting the importation of R-DAT machines into this country, the record industry has finally come to an agreement with the makers of these state-of-the-art digital tape recorders. After over a year of insisting that Congress mandate the incorporation of a flawed copy-inhibiting system in DAT machines before they could be accepted, that "solution" was dropped when the National Bureau of Standards agreed with *Audio's* own finding that the Copy-Code scheme was unreliable and degraded musical quality. After broadly hinting that only a foolproof method of royalty collection for each "copy" of a record or tape made by a consumer for personal use would satisfy them, the record companies finally agreed to a solution that involves no royalties whatsoever—at least as far as R-DAT recording is concerned.

Only a few months ago, I reported on the details of the digital Solo copy-inhibit system, which was developed by the Philips Company of The Netherlands ("Spectrum," July). Philips engineers described the way the system worked to me and several other visitors from the U.S., and I could do nothing but accept their word that there was only one kind of Solo—despite persistent rumors that there were variations on the Solo theme that went by such names as Solo Plus or Solo II. Well, with all due respect to those Philips engineers, I'd like to give them the benefit of the doubt and say that perhaps when I was given those details, there was only one version of the Solo copy-prohibit system. This was the version I described as permitting one lone digital-to-digital copy to be made of a digital program source such as a Compact Disc or a prerecorded DAT.

The compromise was reached at a meeting held in Athens, Greece, on June 9th and 10th of this year, at which representatives of the Recording Industry Association of America (RIAA), the International Federation of Phonogram and Videogram producers (IFPI), and the DAT hardware makers were present. It involves not Solo, as it was originally described to me, but the new

Serial Copying Management System (SCMS). Here's how SCMS will work.

As previously reported, with Solo and now with SCMS, as well, you will be able to make one digital-to-digital copy of any digital program source. The current anti-copy "bit" flag found on nearly all CDs will permit a previously non-copyable CD to be copied once. Let's assume you recorded a single digital-to-digital copy of whatever program source you desired. If you then tried to make a copy of the copy, in the digital domain, you would be unable to do so. You could, however, take a new blank tape and repeat the single-copy process as many times as you wished. This arrangement will allow users to make compilations or even DATs of an entire CD, for example, for use in car DAT players, etc. (This, as we all know but as the RIAA was reluctant to admit, is the main reason why most people make tapes of recordings in the first place.)

What the SCMS version adds to this involves the *analog* inputs of future R-DAT recorders. Now follow this closely, because it gets a bit complicated. Suppose you connect the *analog* outputs of your CD player to the analog line inputs of your R-DAT recorder. No problem, since the digital "bit" flag on the protected CD would not appear at the analog outputs of your CD player. You make a copy of your CD that's almost as good as the original digital version, and this copy is, of course, a *digital* tape recording made at the consumer sampling rate of 48 kHz. While that digital tape recording was being made, however, an identifying "bit" was added to the subcode area of the DAT. Now suppose you want to edit that tape by making a digital-to-digital second-generation copy onto another DAT, using a second R-DAT machine. Again, you will be able to do that. However, a second identifying "bit" of a different sort will now be added to your second-generation edited tape. If you now try to take that second-generation tape and make a third-generation copy from it, you will be prevented from doing so by the new microprocessor chip/software combination that will be incorporated into all new R-DAT recorders.

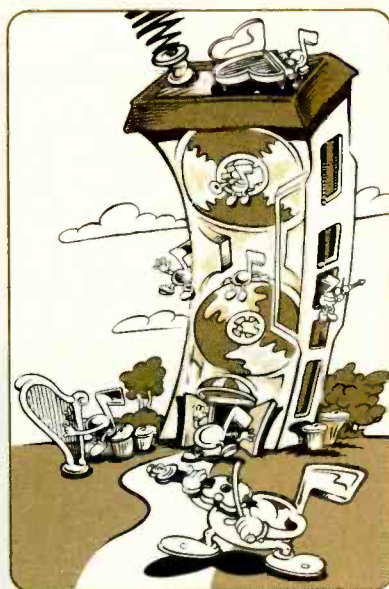
The recording companies' reasoning for this limitation is pretty clear. While

they grudgingly admitted that making a recording via the analog inputs to a DAT recorder does not yield the same quality, S/N ratio, or dynamic range of a direct digital-to-digital transfer, they point out (quite rightly) that once the small loss is sustained, other digital-to-digital recordings made from an analog-to-digital original tape would undergo no additional losses. Further, such subsequent recordings, therefore, would be perfect clones of the marginally degraded original DAT recording made via the analog inputs. This two-copy (original plus edit) limitation addresses those concerns.

As I understand it, however, if you want to keep making single copies of the first DAT tape by using it as the master and putting in a new blank tape for each "second-generation" copy, SCMS will not prevent you from doing so. Thus, from this consumer's point of view, the solution seems to be a satisfactory one. It will only prove to be effective, however, if the parties can induce our government to pass legislation specifically requiring the types of copy-prevention techniques described. Without such legislation, the solution becomes a voluntary one, and there is no guarantee that every manufacturer of audio equipment will agree to abide by it.

Not everyone may be as happy about the solution as I am, however. Consider, for example, the plight of musicians and composers who are just starting out. Together with successful musicians, they formed an organization called "Musicians for DAT" nearly two years ago, when the DAT battle first began. Let's look at how SCMS will affect them.

The young musician who hasn't quite "made it" saves up enough pennies and buys a consumer DAT recorder a year from now. Using microphone inputs—if they are available on the DAT recorder—or a mike mixer feeding into the line-level analog inputs of the DAT recorder, the musician records a new song. Say the recording needs major editing and perhaps some overdubbing. The musician borrows a second consumer DAT machine from another musician friend and, together, they try their hand at editing the "master" tape. So far, so good! SCMS allows them to make a



IS YOUR CLASSICAL MUSIC SUFFERING FROM POOR HOUSING CONDITIONS?



High resonance housing will put any tape in a nasty mood. Especially when pests, such as modulation noise, gnaw on the purity of digitally sourced music.

At TDK, we believe the formula for perfect reproduction includes not only technologically superior tape, but housing that enhances its performance.

Our incredible new SA-X, for example, features an ultra low resonance SP-ARII mechanism. By utilizing our unique co-molding technique, the unified two-layer shell realizes maximum total rigidity to improve reliability. Which drastically reduces modulation noise—an enemy of clear, pure sound that even noise reduction systems are powerless against.

This undesired "noise" is also attacked by SA-X's revolutionary magnetic characteristics and smooth, flat tape surface. First, there are the densely packed and uniformly distributed ultra fine Super Avilyn magnetic particles. Then, there is the advanced dual coating technology.

Together, the result is an unbelievably quiet tape with an exceptionally low bias noise of -61.0 dB. Plus, low and high frequency MOLS of +5.0 dB and -6.5 dB respectively.

And SA-X, which provides transparent reproduction of the most powerful digital sources, is available in convenient lengths of 46, 60 and 90 minutes.



For most, the DAT compromise is a good one, but musicians and composers might not be happy about the solution.


second, edited tape. They discover, however, that the resulting recording still needs further editing. They pop the second-generation tape into one of the recorders and try to make a third-generation tape, using the other machine. Oops! The machine refuses to go into the record mode as it senses the "dou-

ble-inhibit" flags in the subcode areas of the second tape.

Now consider the full impact of this dilemma. The musician, using personal microphones, has recorded personal material. There is no copyright involved, and yet the musician cannot edit and re-edit this recording as many

times as necessary to produce a good audition tape. Caught in this bind, the musician will have only two alternatives. Go back to square one and edit that first master tape again, onto a second tape, hoping that all the editing requirements can be accomplished in one additional pass. If that doesn't work—and more often than not it won't, what with the amount of editing and overdubbing typical on today's most successful recordings—the musician can choose the second alternative: Buy a "professional" DAT recorder, at considerably more cost, that has none of the SCMS restrictions.

For most of us, I think, the DAT compromise is a good one. Nonetheless, it may take several more months until the new R-DAT machines equipped with SCMS chips reach our shores. It is important to emphasize that this solution applies *only* to DAT. In fact, at the meeting, specific reference was made to the fact that future emerging technologies are not necessarily to be bound by the same rules. You can interpret this however you like. To me, it spells future attempts at imposing some automatic or technological means of extracting royalties from consumers who choose to copy copyrighted material—even if only for their own personal, noncommercial use. The next battle likely to occur will begin when someone announces the commercial availability of an affordable, recordable CD.

My guess—and this is strictly my own guess—is that the recording industry suddenly realized that, come what may, there will be a system for erasable/recordable CDs before long. The introduction of such a technology offers no means whatsoever for the record industry to profit, since they are already reaping the profits from CDs. The thinking of the record companies may therefore have been something like this: If recordable CDs arrive before DAT can establish itself as a recording and playback format, DAT could be bypassed entirely in favor of recordable CDs. Thus, perhaps it would be wiser to start issuing some DAT prerecorded software, for whatever few dollars of profit can be made from that medium, before it is overtaken by recordable CDs. And so, the profit motive still works—as always! 



Natural ingredients. The components of a great audio product are like the ingredients of a great recipe. With the help of skilled hands they can become a work of art. Your nearest Accuphase dealer invites you to a feast for your ears.

DP-801. CD Transport
DC-811. Discrete 20-Bit Digital Processor

Accuphase

Exclusive U.S. Distributor **MADRIGAL AUDIO LABORATORIES**
P.O. Box 781, Middletown, CT 06457 ITT TLX 4942158

The International Preview Society

3 COMPACT DISCS FOR JUST \$1
 With No Obligation To Buy Anything ... Ever!

plus shipping and handling with Club membership



Perلمان: Mozart, Sinfonia Concertante 25032

Vivaldi, Concerto "L'Amoroso"; 5 more The English Concert/Pinnock. "Luscious [sound]."—*Billboard* Archiv 25187

Heifetz: The Decca Masters, Vol. 1 Humoreske, Clair de lune, Golliwog's Cakewalk, many more. MCA 00604

Respighi: The Pines Of Rome; The Fountains Of Rome; Roman Festivals • The Philadelphia Orch./Muf. Angel 34443

Rachmaninov, Symphony No. 1 • Concertgebouw Orchestra/Ashkenazy. "Full of churning, driving energy."—*Fanfare* London 15347

The Academy—By Request • Academy of St. Martin-in-the-Fields/Marriner. Sheep May Safely Graze, more. Angel 54094

Beethoven, Symphonies Nos. 2 & 8 • London Classical Players/Norrington. "Brilliantly executed."—*Opus* Angel 00466

Rhapsody In Electric Blue • Jeffrey Reld Baker, synthesizers. Rhapsody In Blue, 3 Preludes, more. Newport Classic 34647

Horowitz Plays Liszt • Sonata in B Minor, Consolation No. 3, more. RCA 00511

Beethoven, Symphony No. 6 (Pastorale); more • Royal Phil./Previn. RCA 43612

D. Scarlatti, 7 Sonatas; Larghetto; more • Narciso Yepes, guitar. DG 15497

Tchaikovsky, Symphony No. 4 Chicago Symphony Orchestra / Solti. London 25038

Holst, The Planets • Montreal Symphony Orchestra/Dutoit. London 15448

Rimsky-Korsakov, Scheherazade • Vienna Philharmonic/Previn. Philips 15415

Rossini, Overtures • Barber Of Seville, more. Orpheus Chamber Orch. DG 15527

Mahler, Symphony No. 4 • Concertgebouw Orchestra/Bernstein. DG 15526

Vivaldi, 9 Concerti a Quattro • I Musici. "A must."—*Fanfare* Philips 15313

Saint-Saëns, Symphony No. 3 (Organ) Montreal Symphony/Dutoit. London 15529

Bach, Brandenburg Concertos Nos. 4-6 The English Concert/Pinnock. Archiv 25417

Berlioz, Symphonie Fantastique • The Philadelphia Orchestra/Muf. Angel 54244

Mozart, Piano Sonatas Nos. 6 & 16 • Mitsuko Uchida, piano. Philips 15377

Vivaldi, 4 Seasons • Simon Standage; English Concert/Pinnock. Archiv 15356

Perلمان: Brahms, Sonatas for Violin & Piano; more • Angel 33760

Mozart, Piano Concertos Nos. 20 & 21 Malcolm Bilson, fortepiano. Archiv 25208

Sibelius, Symphony No. 4; more • Philharmonia Orchestra/Ashkenazy. London 05272

Suppé, Overtures • Light Cavalry, more. Montreal Sym./Dutoit. London 25219

Barry Tuckwell: Mozart, The 4 Horn Concertos • ECO/Tuckwell. London 25419

Beethoven, Triple Concerto • Mutter, Ma. Zeltser. Karajan conducts. DG 05319

Newman: Bach, Organ Works • Prelude & Fugue in C, more. Newport Classic 34604

Barry Douglas: Brahms, Piano Concerto No. 1 • London Symphony Orchestra/Skrowaczewski. RCA 00732

Andrés Segovia Plays Bach • Chaconne, Siciliano, 3 Pieces For Lute, Gavotte en Rondeau, more. MCA 63600

Sibelius, Finlandia; Valse triste; Tapiola; The Swan Of Tuonela • Berlin Philharmonic/Karajan. DG 25399

Krzysztof Zimerman: Chopin, The 4 Ballades • Plus Barcarolle & Fantasia in F Minor. "Dramatic."—*Gramophone* DG 15332

Ravel, Bolero; La Valse; Rapsodie Espagnole; Alborada del Gracioso • Montreal Symphony Orch./Dutoit. London 15199

Jaścha Heifetz: Bruch, Violin Concerto No. 1 & Scottish Fantasy; Vieuxtemps, Concerto No. 5 • RCA 44363

Kronos Quartet: Winter Was Hard • Title piece by Sallinen; Barber, Adagio; more by Webern, others. Nonesuch 00675

Pavarotti At Carnegie Hall Songs and arias by Schubert, Verdi, Pfitow, Liszt, Scarlatti, others. London 15111

Dvořák, "New World" Sym. Cleveland/Dohnányi 15018

Ute Lemper Sings Kurt Weill • Mack The Knife, Speak Low, I'm A Stranger Here Myself, 11 more. London 15163

Copland, Billy The Kid; Rodeo (Complete Ballets) • St. Louis Symphony/Slatkin. "Brilliant."—*Gramophone* Angel 41491

The Performing Piano, Vol. 1 • Live performances by Paderewski, Rachmaninoff, Schnabel, others. Newport Classic 14708

Prokofiev, Peter And The Wolf; Tchaikovsky, Nutcracker Suite • Dudley Moore, narrator. Boston Pops/Williams. Philips 15137

Handel, Music For The Royal Fireworks; Concerti a Due Cori Nos. 2 & 3 English Concert/Pinnock. Archiv 25375

Classic Marches • St. Louis Sym./Slatkin. Rakóczy March, Turkish March, Wedding March, Radetzky March, more. RCA 00996

Adams, The Chairman Dances • Plus Christian Zeal And Activity, more. San Francisco Symphony/deWaart. Nonesuch 00491

Beethoven, Symphony No. 6 (Pastorale); 2 Overtures • Academy of Ancient Music/Hogwood. L'Oiseau-Lyre 25397

Perلمان: Mozart, Violin Concerto No. 1; more • Vienna Philharmonic Orch./Levine. "A pleasure."—*Fanfare* DG 25438

Van Cliburn: Rachmaninoff, Piano Sonata No. 2; Prokofiev, Piano Sonata No. 6; more • RCA 00607

Stravinsky, Petrouchka; Song Of The Nightingale; 4 Studies • Montreal Symphony Orchestra/Dutoit. London 15331

Into The Woods • Bernadette Peters & original cast. Title song, No One Is Alone, many more. RCA 61656



Van Cliburn: Liszt & Grieg Piano Concertos 00606

Strauss, Don Quixote; Burleske • Janigro, cello; Janis, piano. Chicago Symphony Orchestra/Reiner. RCA 63643

Ashkenazy: Rachmaninov, Piano Concerto No. 3 • Concertgebouw Orchestra/Haitink. "Fabulous."—*Hi-Fi News* London 25157

Gregorian Chant • Schola of the Holzburgkapelle. 10 Propers from the "Graduale Romanum", more. Philips 15434

Handel, Water Music • The English Concert/Pinnock. "The playing is everywhere fresh and vital."—*Oravton* Archiv 15306

Mozart, Haffner Serenade; more • Academy of St. Martin/Marriner. "An outstanding version."—*Gramophone* Philips 15533

COMPLETE AND MAIL THIS CARD TODAY!

The International Preview Society

YES! Please accept my membership in The International Preview Society and send me, for 10 days' FREE examination, the 3 CDs I have indicated below, under the terms of this offer. I may return them after 10 days and owe nothing, or keep them and pay only \$1 (shipping and handling added to each shipment). I understand that I'm not obligated to buy anything...ever!

Write Selection Numbers Here: _____

Mr. Mrs. Miss First Name Initial Last Name (PLEASE PRINT)

Address _____ Apt. _____

City _____ State _____ Zip _____

Telephone (_____) _____ Area Code

NOTE: Members will be serviced by the BMG Compact Disc Club. Current members not eligible for this offer. Full membership details will follow with the same 10-day, no-obligation, no-minimum purchase privilege.

Limited to new members; continental U.S.A. only; one membership per family. We reserve the right to request additional information or reject any application. Local taxes, if any, will be added.



The International Preview Society

3 COMPACT DISCS FOR JUST \$1

plus shipping and handling with Club membership

With No Obligation To Buy Anything ... Ever!

James Galway & Kazuhito Yamashita: Italian Serenade • Charming pieces by Paganini, Rossini, Bazzini, others. RCA 73824

Isn't It Romantic • Michael Feinstein sings title song. A Fine Romance, No Other Love. many more. Elektra 72393

Dvořák, Symphony No. 7 The Cleveland Orchestra/Dohnányi. "One of the finest."—*Digital Audio* London 15018

Strauss, Also sprach Zarathustra; Der Rosenkavalier Waltzes; more. Chicago Symphony Orchestra/Reiner. RCA 63627

Joplin, Piano Rags • Joshua Rifkin plays Maple Leaf Rag, The Entertainer, The Ragtime Dance, 14 more. Nonesuch 64055

Pinnock: Bach, 2 Concertos for 3 Harpsichords • With Kenneth Gilbert & others. English Concert/Pinnock. Archiv 25348

The Mystery Of Bulgarian Voices Bulgarian State Radio & TV Female Choir. "Absorbing...haunting."—*Fanfare* Nonesuch 01081

Fête à la Française • Montreal Symphony Orchestra/Dutoit. The Sorcerers Apprentice, more. London 25235

Empire Brass: A Bach Festival • Sleepers Wake, A Mighty Fortress Is Our God, Sheep May Safely Graze, more. Angel 64211

Rachmaninoff, Piano Concerto No. 2; 6 Etudes-tableaux • Evgeny Kissin, piano. London Sym./Gergiev. RCA 00915

Copland, Appalachian Spring (Complete); Cortège macabre (from Grohg); more • St. Louis Sym./Slatkin. Angel 54176

Mozart, Overtures • Magic Flute, Marriage Of Figaro, Don Giovanni, more. Academy Of St. Martin/Marriner. Angel 34267

Leontyne Price & William Warfield: Gershwin, Porgy & Bess (Highlights) • Summer-time, My Man's Gone Now, more. RCA 00994

Itzhak Perlman: Brahms, Violin Concerto Chicago Symphony Orch./Giulini. A Grammy Award Winner! Angel 63343

Mozart, Serenade No. 3; more • Academy of Ancient Music/Hogwood. "Played with... style."—*Fanfare* L'Oiseau-Lyre 15000



Viennese Bonbons/Maazel 15287

Andrés Segovia Plays Rodrigo, Ponce & Torroba • Fantasia para un Gentilhomme, Castles Of Spain, more. RCA 63579

Simon Rattle: The Jazz Album • Rhapsody In Blue, Ebony Concerto, more. London Sinfonietta, others. Angel 72226

By Request • The Boston Pops/Williams. Olympic Fanfare, many more. Philips 25360

Beethoven, Symphony No. 9 (Choral) Kenny. Walker, Power, Salomaa. London Classical Players/Norrington. Angel 00467

Digital Juke Box • John Williams & The Boston Pops play The Girl From Ipanema, More, many more. Philips 25059

Ravel, Mother Goose (Complete); Le Tombeau de Couperin; Pavane; more • Montreal Symphony Orch./Dutoit. London 25197

The Pearl Fishers • Golden Age performances by Jussi Björling with Robert Merrill, Licia Albanese, others. RCA 00992

Canadian Brass: More Greatest Hits Barber, Adagio; Bach, Wacht Aul; more by Gershwin, Bizet, others. RCA 64348

Ashkenazy: Rachmaninov, Piano Concerto No. 1; Rhapsody On A Theme Of Paganini Haitink conducts. London 25153

Bach, Brandenburg Concertos Nos. 1-3 English Concert/Pinnock. "Among the best sounding CDs."—*Fanfare* Archiv 15541

The Legendary Enrico Caruso • 21 favorite arias including Vestì la giubba, La donna è mobile, more. RCA 34274

Kiri te Kanawa Sings Gershwin • Somebody Loves Me, I Got Rhythm, The Man I Love, Summer-time, more. Angel 70258

Pinnock: Bach, 3 Concertos for 2 Harpsichords • With Kenneth Gilbert, The English Concert/Pinnock. Archiv 15338

Mozart, Eine kleine Nachtmusik • Plus Pachelbel, Canon; more. Academy of St. Martin/Marriner. Philips 15530

Itzhak Perlman: French Violin Showpieces • N.Y. Phil./Mehta. Carmen-Fantasy, Tzigane, Havanaise, more. DG 15457

Anything Goes • Broadway revival cast. Title song, I Get A Kick Out Of You, Friendship, many more. RCA 43950

Andrew Lloyd Webber, Variations; William Lloyd Webber, Aurora • Julian Lloyd Webber, cello. Maazel cond. Philips 15473

The Digital Fox • Organist Virgil Fox plays Toccata & Fugue in D Minor; Widor, Toccata; more. Bainbridge 62889

Itzhak Perlman: Mozart, Violin Concertos Nos. 3 & 5 • Vienna Phil./Levine. "Extraordinarily rich."—*Fanfare* DG 15146

James Galway's Greatest Hits • The Man With The Golden Flute plays Memory, Angel Of Music, Greensleeves, more. RCA 73233

SAVE 50%
with our Instant Half-Price Bonus plan.

Unlike other clubs that force you to buy 2, 4, or even 6 CDs before you can get bonus savings, we give you 50%-off bonus savings with every CD you buy at regular Club price...right with your very first purchase.

This remarkable \$1 offer is being made to introduce you to an outstanding classical music membership—with never any obligation to buy.

You'll find hundreds of outstanding albums in each issue of the Society's magazine, which will be sent to you approximately every 3 weeks. That gives you 19 convenient, shop-at-home opportunities a year. But there is no obligation to accept any offering at any time.

You choose only the music you want!
If you'd like to accept the Main Selection, you need not do a thing. It will be sent automatically. If you'd prefer an alternate selection or none at all, just mail back the Notification Card by the specified date. You'll always have at least 10 days to decide. But if you don't, you may return your Main Selection at our expense. You may cancel your membership whenever you wish, simply by writing to us. Or, remain a member and take advantage of future money-saving bargains.

3 Compact Discs for just \$1!
Begin your membership now by choosing any 3 CDs shown here for just \$1, plus shipping and handling. Send no money now. We want you to judge for yourself before you decide to buy. If not delighted, return your 3 albums at the end of 10 days without obligation. (Shipping and handling added to each shipment.)

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 5071 INDIANAPOLIS, IN

POSTAGE WILL BE PAID BY ADDRESSEE

The International Preview Society

PO. BOX 91406
INDIANAPOLIS IN 46209-9987



SUPER SONICS CAR



If you've owned a stereo component system for more than a couple of years—whether it's a car audio system or one housed in your home listening room—you've probably wished, as I have, that you could start all over again, from scratch! When the people at Toyota decided to launch a luxury car, through a totally new division called Lexus, they were in the enviable position of being able to design everything from scratch, including a couple of superb car audio systems. The Lexus LS 400 automobile became available on September 1. A couple of months before its official introduction, several of us were invited to check out the two sound systems that would be available in this luxury car. I not only learned the technical details concerning the components of each of the two available sound systems but was given the opportunity to listen to each system while driving over a 26-mile course that included country roads, major highways, and even some city streets.

The LS 400's suggested list price of \$35,000 includes the "standard" sound system, designed primarily by Pioneer. Plunk down another \$900, and the car will be delivered with a CD six-disc changer. For yet another \$1,000, your Lexus LS 400 will be equipped with a premium system, with electronics designed and built by none other than Nakamichi, whose reputation for quality tape decks and other audio components is justly high.

Before I delve into the details of just what goes into these two sound systems, I must point out that, during both static and road tests, I made sure to check out sound quality in the driver's seat, front passenger seat, and rear passenger seats. Much to my surprise and delight, these were the first car audio systems that sounded as well balanced while sitting in the rear as they did up front. Furthermore, with the fader control set to its midpoint, there was virtually no audible difference in level when I shifted my listening position from front to rear seats.

Both the Pioneer and the Nakamichi systems feature exactly the same number of loudspeaker drivers (seven) and amplifiers (five); I'll discuss the differences between them in a moment. An important feature associated with the radio portion of the system is that the main radio antenna length is adjustable for optimum reception of AM and the high and low ends of the FM band. As far as I know, no other car manufacturer has ever taken the trouble to provide antennas whose length can be altered automatically for optimum reception at different wavelengths. Even more important is the second, or FM diversity, antenna. The use of two antennas to minimize the disturbing effects of multipath distortion and interference in a moving vehicle is not a new concept, and let me tell you, it really works. There were none of the usual "smearing" and "splattering"

sounds caused by multipath problems. All I could hear while driving through the hills of upper Westchester County, in New York State, was an occasional, brief, click-like sound, lasting for no more than an instant as the system analyzed incoming signals and switched, within 250 μ S, from one antenna to the other.

Lexus sound engineers chose to do the switching ahead of the r.f. stages, rather than provide two separate sets of r.f. stages and do the switching at the i.f. level. There are arguments for both approaches, but the fact is that, in the real-world driving conditions I encountered, the Lexus approach to diversity antenna reception worked as well as I could have ever hoped.

The actual physical placement of all seven speaker drivers and electronic components attempts to achieve equal sound quality front and rear. The identical 4½-inch extended-range speakers (in their own bass-reflex enclosures) are in both the front and rear doors, while the separate tweeters are mounted high enough, up front, for their energy to reach rear passengers and the front-seated driver and passenger. The benefits of speakers in each of the four doors were immediately apparent. They contributed to natural front localization for front *and* rear passengers. They produced a balanced four-corner result, with good imaging that extended to each seating location. Also, there were no direct reflections off the windshield or backlight. Finally, they eliminated the uncomfortable localized sound levels to rear passengers typical of speakers mounted in the package tray behind the passengers. The only speaker mounted there was the nondirectional 8-inch subwoofer, which utilizes the entire, carefully sealed trunk volume as its "infinite baffle" enclosure.

Of course, all of these unusual speaker placements were made possible by the fact that the designers of the Lexus automobile and the designers of the Lexus LS 400 sound systems were able to work together right from the conceptual stages of the new car—a luxury rarely afforded to sound equipment engineers, who are often forced to work *around* existing structural features that have been "frozen" into a car design before any consideration is giv-

ARCAM

AUDIOPHILE PRODUCTS
BY A&R CAMBRIDGE

Bringing music to your ears



Integrated Amplifiers

- Tuners • Compact Disc Players • Outboard D to A Converters • Phono Cartridges • Loudspeakers.

Audio Influx
IMPORTERS OF AUDIOPHILE PRODUCTS P.O. Box 381 Highland Lakes NJ 07422 (201) 784-8958

JEFF ROWLAND

ABSOLUTE AUDIO, Orange, CA, 714-538-4434. ADVANCED AUDIO SYSTEMS, Tacoma, WA, 206-472-3133. AUDIBLE ELEGANCE, Cincinnati, OH, 513-793-3737. AUDIO ART, Richmond, VA, 804-644-8903. AUDIO DEN, Van Nuys, CA, 818-781-4700. AUDIO NEXUS, Summit, NJ, 201-277-0333. BEASON'S HI FI, Carlsbad, NM, 505-885-4035. dB AUDIO, Berkeley, CA, 415-548-8733. ESOTERIC AUDIO, Scottsdale, AZ, 602-946-8128. ESOTERIC SOUND SYSTEMS LTD., Stony Brook, NY, 516-689-7444. GOLDEN GRAMOPHONE, Akron, OH, 216-864-4411. GOLDEN STEREO, Prairie Village, KA, 913-648-3750. GREAT LAKES AUDIO, E. Lansing, MI, 517-332-8577. MUSIC BY THE SEA, Leucadia, CA, 619-436-7692. OEM AUDIO CONSULTANTS, Silver Spring, MD, 301-589-1191. OMNI SOUND, Dallas, TX, 214-931-6664. OPTIMAL ENCHANTMENT, Santa Monica, CA, 213-393-4434. PRECISION AUDIO, Moorpark, CA, 805-523-3005. ROSINE AUDIO, Skokie, IL, 312-677-0050. SALON ONE AUDIO, Wisconsin Rapids, WI, 715-421-5910. SELECT AUDIO DESIGN CORP., Ft. Lauderdale, FL, 305-564-0772. SOUNDEX ELECTRONICS, Willow Grove, PA, 215-659-8815. SOUNDINGS, Denver, CO, 303-759-5505. THE SOUND SHOP, Colorado Springs, CO, 719-636-1684. THE STEREO SHOPPE, Boise, ID, 208-344-7603. THE ULTIMATE SOUND, NY, NY, 212-571-3108. NEW ENGLAND AUDIO CO., INC., Cambridge, MA, 617-661-9500.

*At select dealers; please call.

The Lexus diversity tuning system really works. It reduces multipath "splats" and smears to occasional, brief, click-like sounds.



en to the car's factory-equipped audio systems. And, of course, aftermarket installers are often confronted with the same insurmountable and unalterable structural details of a car into which they hope to install a good sounding audio component system.

Since the control layout (with buttons large enough for human fingers to engage) and the number of amplifiers and speakers are the same for both the Pioneer-based LS 400 audio system and the Nakamichi-based system, I was naturally curious to learn why the latter system cost a full \$1,000 more than the standard one. Some of the answers came when I was given the published specifications for each, but the real differences were more obvious during my subsequent road tests.

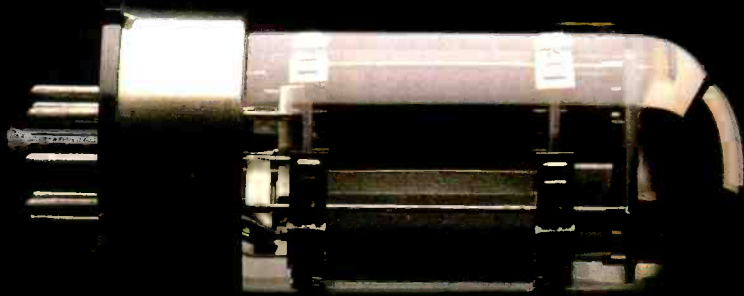
To begin with, the Nakamichi system employs that company's full-logic tape transport system as well as their premium, narrow-gap playback tape head, with 20-kHz response. The subwoofer amplifier used in the Nakamichi system has higher current-output capability, uses a discrete power-output stage, and can deliver continuous power output (below 80 Hz) of 70 watts into 4-ohm loads at less than 0.1% THD. The Pioneer subwoofer amplifier, by contrast, has a continuous power output rating of 25 watts into 2-ohm loads for the same THD rating. As for the four additional door speaker amplifiers, those supplied in the Nakamichi system have a continuous power rating of 14 watts per channel, while those in the "standard" Pioneer-based system offer a continuous power rating of 10 watts per channel. Nakamichi also used balanced inputs in each stage of

their amplifiers to eliminate any noise that might be generated via interstage ground loops. There are differences in the speaker drivers used as well as some other differences in selection of circuit components, etc.; however, the optional Compact Disc player and radio circuitry seemed to be the same for both systems.

On the road, two differences between the systems were readily noticed by me and all of my colleagues who had a chance to test-drive the systems. First, the Nakamichi simply did not "run out of steam." Regardless of the setting of the volume control (a delightful round knob that rotates, as all good volume controls should), there was no evidence of clipping or overload distortion. In this respect, the Pioneer system, if overdriven, did show audible signs of strain—despite the dynamic bass-limiting system incorporated in both systems. The other difference noted was in overall balance. The Pioneer was noticeably brighter in the high end—a response that may appeal to some listeners but that I found a bit harsh. I would hasten to add that this seemingly emphasized treble was easily tamed by the very slightest counterclockwise rotation of the treble control.

Lest you get the wrong impression, I certainly don't want to demean the overall quality of the Pioneer-based system. Both it and the Nakamichi premium system represent a superb effort on the part of a great many people concerned with the introduction of the Lexus LS 400. The results equal, and in some ways surpass, anything I have ever heard in a factory-equipped car audio system. **A**

All the solid state
devices in the world
still can't match
this tube for pure
performance.



*Please turn the page to discover
which manufacturer has developed tube circuitry to set
the performance and value standards of the 1990's.*



The first equipment
that doesn't just
play music, it
recreates it.

To the most discriminating listeners, music isn't a passive hobby. It's an all-out passion.

At Counterpoint, we've never forgotten that.

In our quest for the purest, most natural qualities of sound, Counterpoint has embarked on a decidedly different tack; dictated not by blind obsession with specifications, but rather by absolute devotion to flawless musical recreation. We

Counterpoint.



achieve this by bringing the vacuum tube into the 1990's. Our "New Generation" components are tube-solid state hybrids unlike others. Counterpoint uses as many tubes as previous "all-tube" components. But we also use solid state devices to support (not replace) tube stages. The repeatedly announced marriage of tubes and solid state has finally occurred.

A look inside any Counterpoint component will reveal both leading-edge

sophistication and direct-signal-path simplicity, utilizing the finest parts throughout. Counterpoint bench-measures and listens to every internal part that has the slightest chance of affecting sound quality (what other audio company discovered that copper-plating their chassis resulted in improved sound?). These are just a few reasons why music lovers have chosen Counterpoint as highest in musical performance, and closest to musical truth.

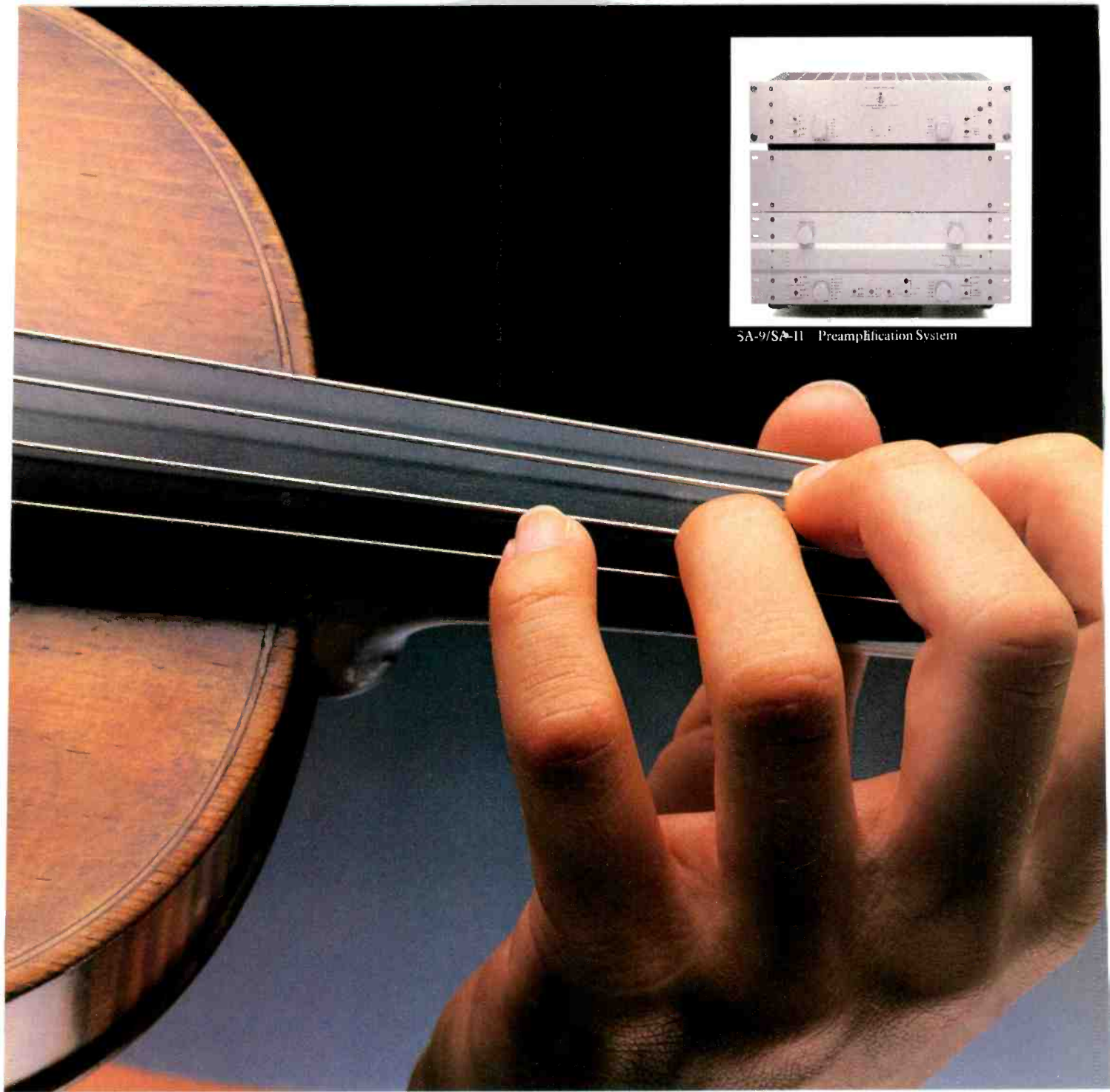


Redefining the art: Counterpoint's best.

Perhaps nowhere is Counterpoint's purity of purpose more compellingly demonstrated than in the SA-11/SA-9 Preamplification System. Together they redefine the traditional preamplifier.

With the advent of the CD, control preamplification need not contain phono circuitry. Indeed, Counterpoint was first to divide the preamplifier into line and phono components, resulting in heretofore unavailable standards of performance for both.

The SA-11 Line Amplifier offers control flexibility for all sources, as well as infrared remote



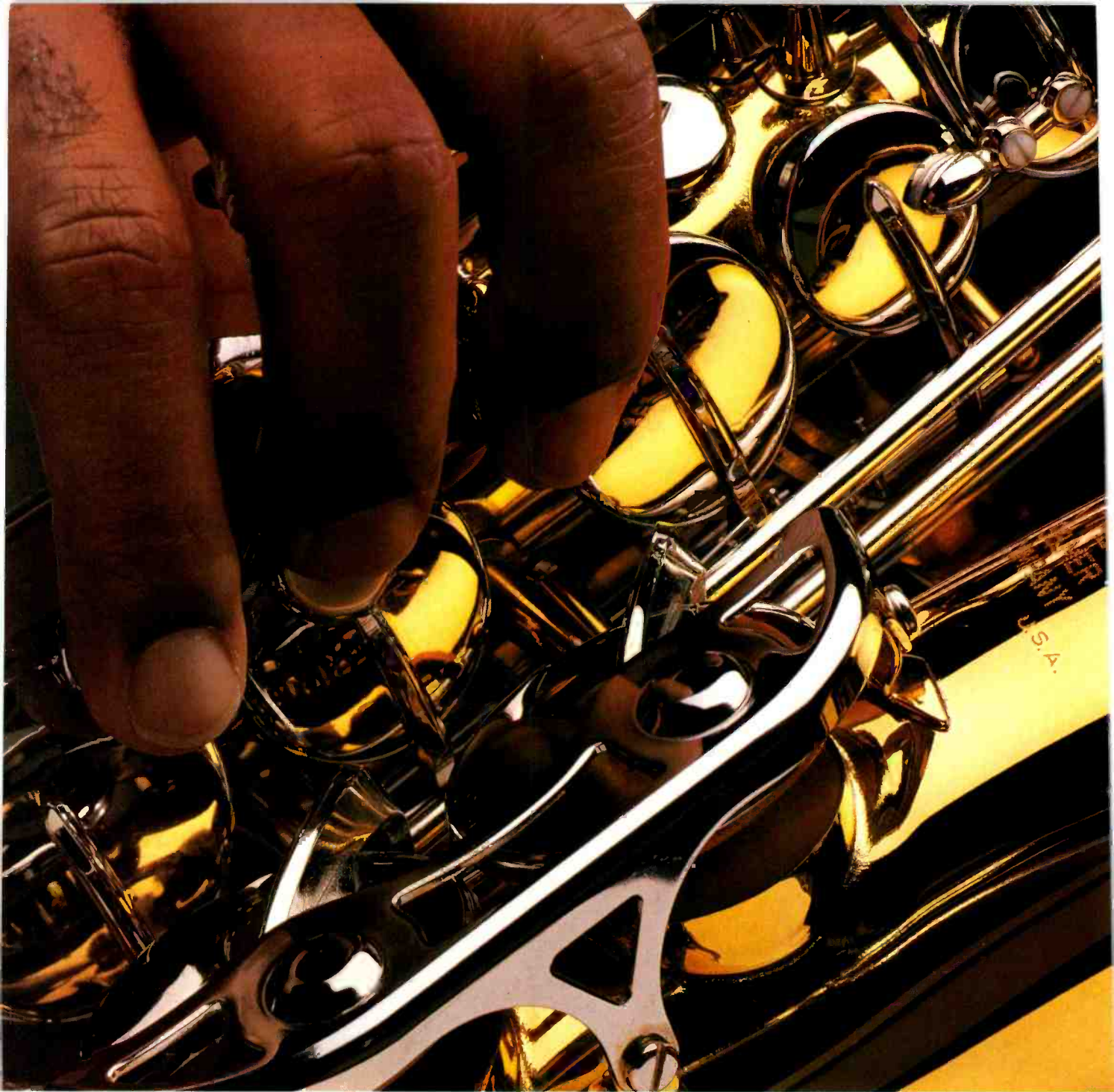
SA-9/SA-11 Preamplification System

control. However, versatile, unequaled musical performance is the SA-11's true forte. The see-through clarity, spectacular soundstaging, and unsurpassed dynamics delivered by the SA-11 make it the clear favorite with music lovers who refuse to settle for second best.

If the SA-11 Line Amplifier can be considered the quintessential heart of any system, the SA-9 Phono Equalizer is its perfectly matched counterpart. Now, during analog's golden period, Counterpoint engineers have created the definitive phono preamp. The SA-9's dual-mono tube/solid

state hybrid design features separate regulation of each audio and power supply circuit stage. Superlatives alone cannot describe the SA-9's faithfulness to the music. We invite you to audition the Counterpoint SA-9 and experience yourself the timeless beauty of analog reproduction just waiting to be discovered anew.

Together or separately, the SA-11 Line Amplifier, and the SA-9 Phono Equalizer have the ability to authoritatively recreate a live musical event better than any other electronics.



For music lovers,
who, instead of
looking for features,
listen for sound.

Providing most of the SA-11/SA-9 performance at more accessible cost is the *raison d'être* for the Counterpoint SA-5000. It's our finest full-function preamplifier, and the epitome of our "New Generation" tube circuitry. The 5000's separate, fully regulated tube power supply is noted for increasing revelation of inner detail, and wide dynamic capability.

The Counterpoint SA-3000 is our best value in preamplifiers. A "straight wire with gain" may describe its circuitry, yet sophistication abounds. The SA-3000 is noted for defined authoritative bass and trebles, accompanying a reference midrange.

Stepping up from your first solid state separates? Counterpoint invites you to experience the SA-1000 Preamplifier, perhaps the first separate unit allowing you to discern



SA-5000 Preamplifier



SA-3000 Preamplifier



SA-1000 Preamplifier



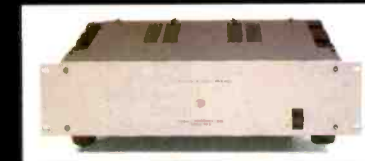
SA-2 Preamplifier



SA-4 Mono Power Amplifier



SA-220 Power Amplifier



SA-100 Power Amplifier

differences between electronics and the music itself. Although the SA-1000 is the junior member of our preamp line, it offers senior performance compared to others costing twice as much.

Most serious music lovers use moving coil cartridges. Yet, most underestimate the importance of amplifying the delicate MC signal-to-phono level. Compromise no more. The all-vacuum tube Counterpoint SA-2 headamp includes a separate, regulated power supply. The SA-2's sheer musicality will provide hours of unfatigued listening pleasure.

Over the years, Counterpoint amplifiers have continually set new standards. Our all-tube SA-4 monoblocks provide 160 watts each of unprecedented tonal purity, provided in part by the output transformerless OTL design. If you're looking for amazingly natural sound, look no further.

Next, we are pleased to present the best value in the "stratospherically priced superamp category." The Counterpoint SA-220 hybrid power amplifier provides 220 high current watts per channel that can drive any loudspeaker with consummate musical authority. Flick a switch to create an astonishing 700-watt monoblock! And yet, the SA-220 is "bulletproof," offering the first protection circuit that does not degrade sound.

With circuitry and sonics similar to the SA-220, the Counterpoint SA-100 power amplifier offers 100 watts per channel, but can deliver close to 800 watts during musical peaks. Among power amplifiers, the SA-100 stands alone, providing consummate value, and absolute faithfulness to the music.

The Experts on Counterpoint:

Wow! So this is what musical heaven is like!

At its CES debut, we ventured the opinion that this was probably the most beautiful sounding line section in the galaxy. We have since put the SA-11 through the wringer in our laboratory. Its performance has proven that it fully earns that accolade and more.

The Counterpoint SA-11 is not only the most beautiful sounding line section extant, but is also the most accurate and the most musically truthful.

And the SA-11 is more than sound. As a user oriented product, the SA-11 is the most elegantly convenient and flexible line section made, for you the music lover. It is at once a fitting control center for any audio system in the finest homes, and for the finest audio systems in any home. And, as a technical achievement, the SA-11 represents a triumph of heroic design engineering, earned the old fashioned way.

... International Audio Review Hotline 54

Quite simply we love this pre-amp. The bass extension and detail rank with the solid state units. The linearity from top to bottom is seamless and natural-sounding. Whether listening to massed strings or voices, there is an abundance of air and depth creating the most realistic stage. When one adds the assets of construction, convenience and execution, these features equal success of an unparalleled magnitude. We have not heard the SP-10, Krell, or a few of other very expensive pre-amps, but there is no quibbling with the fact that the SA-5 (the SA-5000's predecessor) sets a new standard undreamed of just a couple of years ago.

... Audiogram Newsletter No. 18

The Counterpoint SA-3.1 (the SA-3000's predecessor) is one of those very special products which is exquisitely detailed, revealing of the source material, and yet easy on the ear. There's that naturalness of timbre which I find only with tubes. And nary a touch of tube glare.

This is a great preamp, and I have not heard anything else at or near the price that comes close. It's also a preamp that suggests (to me) the superiority of analog over digital, even with speakers less transparent than the Monitors.

... Sam Tellig, Stereophile, Vol. 11, No. 5, May, 1988

This little power amp, a budget hybrid, is an amazing sonic performer. Not only is it the best sounding overall of all the power amps in this survey. It also beat most other solid state power amps we have evaluated in the past, many of which are far more expensive. In fact, in most sonic parameters the Counterpoint SA-12 (the SA-100's predecessor) is in the same league as the very best solid state power amps, among which we count just three: the Robertson 6010, the very latest version of the Streets 950, and the very latest version of the Rowland Research 7 MKII. These three power amps cost many times the SA-12's price. And the little \$995 Counterpoint SA-12 actually sonically embarrasses some of the world's most expensive solid state power amps, which in point of sonic fact don't quite deserve their prestigious reputations among audiophiles and the world's press, e.g. the various Mark Levinson power amps, the Krell 50 and 100 watt stereo units (the Krell 2000 watt mono uses a different circuit that sounds better), the Perreux amps, etc.

Our first piece of consumer advice is directed to those of you who are considering a budget level solid state power amp, perhaps in the \$500 price range. The SA-12 gives so much, so very much more overall sonic quality for your money, that we ask you, we beg you, to try to stretch your budget to include the SA-12.

... International Audio Review Hotline 42

Just as the air grew warmer around the SA-20 (the SA-220's predecessor), so did my enthusiasm for the amplifier. In extensive comparisons with the Perreux PMF-3150, an all-MOSFET design rated at 300 watts per channel, Counterpoint's SA-20 proved the caudal warmth of vacuum tubes, notably so in the engaging presence it brought to vocal music.

What's more, the SA-20's MOSFET output stage nullified the notion that any sonic advantages in tube gear come at the expense of dynamic punch. (That's the advantage of the hybrid design.) As for the compatibility of tubes and MOSFETs, the SA-20's clarity, detail and almost holographic stereo image left no room for doubt.

But there's something of Stradivari and Steinway wired into the SA-20. An amp that can do what the Counterpoint does for Telarc's Mahler Second, in its most earth-shattering moments, possesses more than muscle, more even than elegance. That electrified objet embodies a strain of musical soul.

... High Performance Review, Vol. 5, No. 1, Dec. 87

There are some audio products which can deliver truly superb sound of a kind that really makes all the frustrations of building a high end system worthwhile, but which require exceptional attention and care. The Counterpoint SA-4 is a good case in point. With the right speakers, it competes for the title of the most transparent amplifier available at any price.

Transparency is getting to be an overworked adjective, but the Counterpoint SA-4 achieves it to an extraordinary degree. It provides a tremendous amount of detail and information in a musically natural way. It is sweet and airy.

... Anthony H. Cordesman, Stereophile, Vol. 9, No. 4, June, 1986.

Available at:

ARIZONA Sound Alternatives Phoenix, AZ	CONNECTICUT: Sound Unlimited Bristol, CT The Audio Store Rocky Hill, CT	INDIANA: Audio Workshop Indianapolis, IN Audio Specialists South Bend, IL	MONTANA: Rocky Mountain Hi Fi Great Falls, MT	Gordon Electronic Systems Syracuse, NY Definitive Hi Fi Mamaroneck, NY JSG Audio Binghamton, NY New Paltz Audio New Paltz, NY Audio Nouveau Canandaigua, NY ADS Audio Fairport, NY	OKLAHOMA: Audio Dimensions Oklahoma City, OK K-Labs Audio Tulsa, OK	Hi Fi Buys Nashville, TN Hi Fi Buys Nashville, TN
CALIFORNIA Music by the Sea Leucadia, CA Deetes' Sound Room Carmichael, CA Audio Ecstasy San Luis Obispo, CA Mateo Hi Fidelity San Mateo, CA Zone Audio Cotati, CA Sounds Alive San Francisco, CA House of Audio Video Simi Valley, CA Audio Best Rowland Heights, CA Reference Sound Los Angeles, CA Audio Den Van Nuys, CA Wilson Audio Video Entertainment Woodland Hills, CA Reference Audio Systems Gardena, CA Audio Basics Claremont, CA Music by Design Sausalito, CA Audio Today Westminster, CA Music Lovers Berkeley, CA Proven Audio San Diego, CA Systems Design Group Redondo Beach, CA	FLORIDA: Sound Shack Ft. Pierce, FL Sound Advice Ft. Lauderdale, FL Sound Advice Miami, FL Sound Advice Sarasota, FL Sound Advice Orlando, FL Sound Advice Altamonte Springs, FL Sound Advice Tampa, FL Sound Advice Hialeah, FL Sound Advice W. Palm, FL Sound Advice Boca Raton, FL Sound Advice N. Miami, FL Audio Distinctions Pensacola, FL	IOWA Audio Room Cedar Rapid, IA Audio Labs Des Moines, IA	NEVADA: Audio Video Den Carson City, NV	NEW HAMPSHIRE: Audiophile Audio Video N. Hampton, NH	NORTH CAROLINA: Audio Advice Raleigh, NC Atlantic Audio Video Wilmington, NC Higher Fidelity Charlotte, NC	TEXAS: John Fort Audio Garland, TX Galen Carol Audio San Antonio, TX Esoteric Ear Houston, TX The Musical Difference Austin, TX Preston Trail Audio Dallas, TX Bob Bell Audio Denton, TX
COLORADO: Second Sound Denver, CO Listen Up Boulder, CO Listen Up Denver, CO	GEORGIA: The Stereo Shop Martinez, GA The Stereo Shop Smyrna, GA	KANSAS: Golden Stereo Prairie Village, KS	NEW JERSEY: Audio Nexus Summit, NJ Landes Audio Chester, NJ Audio Connections Verona, NJ	NORTH CAROLINA: Audio Advice Raleigh, NC Atlantic Audio Video Wilmington, NC Higher Fidelity Charlotte, NC	PENNSYLVANIA: Better Sound Concepts Pittsburgh, PA Chestnut Hill Audio Philadelphia, PA Sound Service Company Philadelphia, PA The Stereo Shoppe Salingsgrove, PA Community Audio Philadelphia, PA Audio Images Wescos, PA Stereo Trading Outlet Jenkintown, PA	UTAH: Adagio Audio Ogden, UT Audition Audio Salt Lake City, UT
CONNECTICUT: Sound Unlimited Bristol, CT The Audio Store Rocky Hill, CT	IDAHO: The Goodear Boise, ID	KENTUCKY: Musical Images of Kentucky Louisville, KY	NEW YORK: Audio Breakthroughs New York, NY Audio Breakthroughs Manhasset, NY Audio Breakthroughs Woodbury, NY American Audiophile Lynnbrook, NY Esoteric Sound Systems Stonybrook, NY The Speaker Shop Amherst, NY Stereo Exchange II New York, NY	OHIO: Audio Corner Canton, OH Hoffman's House of Stereo Warrensville Heights, OH Oxford Audio Consultants Oxford, OH Jamieson Stereo Toledo, OH M. G. Audio New Philadelphia, OH Audio Etc. Fairborn, OH	PUERTO RICO: On Top Audio Rio Piedras, PR	VIRGINIA: Digital Sound Virginia Beach, VA
CONNECTICUT: Sound Unlimited Bristol, CT The Audio Store Rocky Hill, CT	ILLINOIS: Glenn Poor's Audio Champaign, IL Chicago Speakerworks Chicago, IL The King's Stereo Springfield, IL Absolute Audio Rockford, IL	MARYLAND: C. K. Audio Laurel, MD Gramophone Ltd. Lutherville, MD Gramophone Ltd. Ellicott, MD	MINNESOTA: Audio Perfection Minneapolis, MN	MISSOURI: L.P. Electronics Columbia, MI The Stereo Salon Cape Girardeau, MI	SOUTH CAROLINA: Sound Source Greenville, SC Sound Advice Columbia, SC	WISCONSIN: Sound Investments Glendale, WI Specialized Sound Madison, WI
CONNECTICUT: Sound Unlimited Bristol, CT The Audio Store Rocky Hill, CT	HAWAII: Audio Directions Honolulu	MICHIGAN: Jemstone E. Lansing, MI Dr. Goodears Audio Mt. Pleasant, MI Jam Hi Fi Specialists Ferndale, MI Audio Unlimited Grand Haven, MI	NEW YORK: Audio Breakthroughs New York, NY Audio Breakthroughs Manhasset, NY Audio Breakthroughs Woodbury, NY American Audiophile Lynnbrook, NY Esoteric Sound Systems Stonybrook, NY The Speaker Shop Amherst, NY Stereo Exchange II New York, NY	TENNESSEE: Hi Fi House Knoxville, TN Hi Fi Buys Nashville, TN Underground Sound Memphis, TN	CANADA Pro Acoustics Quebec, Canada	



COUNTERPOINT

Nothing Between the Music and You

2610 Commerce Drive, Vista, CA 92083 • Call 800-266-9090

Enter No. 38 on Reader Service Card

SCES SCENES



Another Consumer Electronics Show has come and gone, this one a little lower in attendance than in recent years but just as active in terms of behind-the-scenes order taking. It was also a CES which stressed video at the dawning of the era of high-definition television (HDTV). You may recall my rave review of the Fosgate/Barco demonstration at the Las Vegas CES ("Spectrum," April). If anything, their demo was better this time because Fosgate took the time to remake the video presentation so that it was more attuned to American tastes. Their room was bigger, and it gave the impression of a small movie theater, rather than the oversize living room feeling you got in Las Vegas.

In a main-building display, Sharp demonstrated an LCD video projection system which was only slightly larger than a carousel slide projector. The way it works is reminiscent of the old Philips eidophor projection system invented years ago. Essentially, there is an internal white light source that is beam-split into three additive primary colors. Each color is then "modulated" over the entire picture area by an LCD plate which has about 92,000 elements, or pixels, and which can be varied over the full range from light to

dark by derived color video signals. The three sets of video signals are then collected and projected out of a single lens system. The chief virtue here is that the projector takes little setup time. There are no convergence problems, and there is no flicker since the white light source is on continuously. On the debit side, if you look carefully enough you can see the individual pixels on the screen. Also, the absolute light-to-dark range is somewhat limited as compared to the best 3-lens projection systems. Time will improve all of this but, even now, the system is ready for many consumer applications.

On the audio electronics front, Sony stole the show with their new Model E1000ESD digital preamplifier. This unit converts all analog inputs to digital for subsequent equalizing, filtering, and compression/expansion functions. Any digital input signals are, of course, kept in that domain. In addition to providing the expected functions of a preamp, the unit allows for multi-channel processing in the Dolby surround mode as well as several options in stereo enhancement via reverberation and delay. Such a device is something we've all dreamed about and expected to pay quite a lot for, but the price of this unit is a real shocker—only \$1,000!

How has Sony managed to do this? With proprietary ICs, which address the specific tasks at hand, and much like a home computer, the key to all these functions is software. Once the initial investment has been made in memory and processing capability, a new function is as simple as giving the system a new set of instructions.

The introduction of this unit at \$1,000 also tells something very important about how the Japanese stay at the leading edge of consumer electronics. The payback period for a heavy technological investment is not the following quarter or even the following year; it is probably measured in decades. An important aspect of this is the public's perception of Sony as the continuing leader in all things electronic for the consumer. This identification goes all the way back to the earliest transistor radios, and it has continued through the era of the Walkman and, of course, to the CD. One truly wonders if the U.S. industry is capable of seeing things in this light. (The Sony E1000ESD digital preamplifier is set for release this fall.)

The great majority of the CES exhibits are located in Chicago's McCormick Place complex. There are two major multi-floor areas, both with a limited number of individual exhibit rooms. Floors 3 through 8, in the adjacent McCormick Center Hotel, are used primarily for high-end (read, "audiophile") exhibits; the hotel's lower level and mezzanine are occupied by larger, more broad-based audio companies. The real problem for audiophiles is that the rooms on the upper floors of the hotel, even with most of the furniture removed, are far from ideal as demonstration spaces. They are small, though that could be dealt with, but the air-handling is marginal, and the acoustic leakage from one room to another is capable of ruining a demonstration outright.

There are, however, some ways for a company to cope with this problem. Krell, for example, had a space on one of the upper floors where they were handing out fliers informing attendees that their major exhibit was in one of the nearby north-side hotels. I went there and was thoroughly impressed with a pair of the big Martin-Logan Statement electrostatic loudspeakers

Sony stole the show with the new E1000ESD digital preamp. It converts analog inputs to digital and will retail for a shockingly low \$1,000!

with dynamic subwoofers and, of course, the entire Krell line. Away from the roar of CES, they were able to mount a demonstration at their own pace and with their choice of program material.

Krell, along with Mark Levinson, Rowland Research, and a small hand-

ful of others, typify what is best and still unique about the U.S. audio electronics industry—small companies building no-holds-barred, heavyweight power amps and preamps, the set of ten going for the price of a small import car! Like so many of these companies, Krell's basic talents lie in advanced

analog circuit development. In approaching digital product development, they have set up a new company, Krell Digital Inc. Thus far, a CD player and a stand-alone digital processor have been designed.

Another way to solve the demonstration problem is to put together a co-venture between several manufacturers. This way, a large space can be contracted for and set up to do justice to all participants. An example here was the superb exhibit—easily the best sounding one at CES—jointly sponsored by Duntech (loudspeakers), Wadia (digital processors), dmp (jazz CDs), Mirror Image Audio (analog electronics), and RPG Diffusor Systems (room treatment). The space was a large room in the McCormick North hall. An outer section was used as a buffer zone, isolating sounds from the hallway. The inner room, with seating for about 25 or 30, benefitted from the large number of RPG diffusing elements which had been placed to the sides. Of course, there was a variety of music, but the accent was on the superb jazz recordings done by Tom Jung of dmp.

There are not many spaces in the whole of McCormick Place which lend themselves to this kind of usage, and perhaps this group of participants was just plain lucky. Whatever! You can be sure they will be back in the same place next year.

Snell Acoustics mounted one of the best demos possible at the McCormick Center Hotel, under the constraints previously mentioned. They had two pairs of loudspeakers behind a scrim, and the electronics rack was similarly hidden. A 7-minute DAT demonstration was played through one pair and then replayed through the other. The room could hold only about seven auditors at once, and they were asked to remain for the entire demo. The lights were then lowered. The demonstration itself consisted of short segments from a variety of CD sources, carefully chosen to point up the loudspeakers' abilities to handle various textures, timbres, and imaging requirements. At the conclusion of the demonstration, the auditors were asked to estimate the prices of the two systems, purely in terms of what they had heard. We had all been impressed, and we were surprised at

J&R MUSIC WORLD



SAVE 50%

SAE A-502
High Power Dual Resolution Amplifier
•200 watts RMS per channel
•Automatic bridging circuit for 600 watt mono operation
•Dual speaker switching
•Peak & average power meters
•19-inch rack mount
•Black

Sale Price **\$399⁹⁵** Retail \$799 (SAE A502)



Dual CS-5000/X3-MC

Turntable with Ortofon Cartridge
•Quartz locked belt drive
•Floating subchassis
•High performance dynamic balance tonearm
•Ortofon X3-MC high output moving coil cartridge

Sale Price **\$449⁹⁵** Retail \$650 (DUA CS5000/X3MC)



SAVE 50%

Tandberg TCP-3015A
Audophile Compact Disc Player
•16 bit 4X oversampling
•Zero negative feedback for greater detail & imaging
•Remote control
•Headphone output with volume control

Sale Price **\$999⁹⁵** Retail \$1995 (TAN 3015A)



Ohm F-II

Walsh Loudspeakers
•A world renowned speaker is updated
•Now using the Coherent Line Source driver for realistic 3dimensional imaging
•Handles 300 watts
•8 ohm impedance

Sale Price **\$899⁹⁵** Retail \$2500/PR (OHM FII)



SAVE 50%

Tandberg TPR-3080A
Audophile Programmable Receiver
•A receiver that delivers the sonic excellence of separate components
•80 watts per channel
•Sensitive FM tuner with 16-presets
•European technology & ergonomic design

Sale Price **\$999⁹⁵** Retail \$2000 (TAN 3080A)



SAVE 62%

SAE T-101
Computer Direct Line AM/FM Tuner
•16 station memory
•Auto & manual tuning
•Signal strength, multipath and level indicators
•Fully electronic operation
•19-inch rack mountable
•Black finish

Sale Price **\$249⁹⁵** Retail \$650 (SAE T101)

Audio Specials

Tandberg 3031A FM Tuner
•A tuner of sonic excellence
•Digital display
•16 presets
Orig. Mfg. \$1200... Save 58%... **\$499⁹⁵**

Tandberg 3036A Power Amplifier
•100 watts/channel
•High-current design
•Zero negative feedback
Orig. Mfg. \$1350... Save 55%... **\$599⁹⁵**

Tandberg 3038A Preamplifier
•Zero negative feedback design
•Discrete components
Orig. Mfg. \$1350... Save 63%... **\$499⁹⁵**

Technics SL-P770 CD Player
•18 bit
•4 times oversampling... **\$349⁹⁵**

Technics SA-R430 Receiver
•100 watts/channel, remote... **\$349⁹⁵**

Terk 8500
•Amplified FM antenna... **\$29⁹⁵**

Terk 9500
•Deluxe amplified FM antenna... **\$39⁹⁵**

Audio Specials

SAE A-202 Power Amplifier
•100 watts/channel
•19" Rack-mount... **\$249⁹⁵**

SAE P-102 Preamplifier
•Direct line microprocessor switching
•MM/FM
•19" Rack... **\$249⁹⁵**

SAE D-102 CD Player
•4X oversampling
•Remote
•20-track programming
•19" Rack... **\$299⁹⁵**

SAE C-102 Cassette Deck
•Dolby B & C
•Sliding drawer transport
•Realtime counter
•19" Rack-mount... **\$249⁹⁵**

SAE T-102 Tuner
•AM/FM
•Digital display
•19" Rack-mount... **\$174⁹⁵**

Audioquest Feet
•4 shock absorbing sorbothane feet... **\$34⁹⁵**

dbx 18X-DS Expander
•Increases dynamic range... **\$224⁹⁵**

Audio Specials

Fostex X-26 Multitrack Cassette Deck
•Compact home recording studio
•Mixer & cassette deck in one
•6 input channels... **\$449⁹⁵**

ADC SS-525X Graphic Equalizer
•Realtime analyzer with microphone
•Two-way tape dubbing
•4 equalization memories... **\$359⁹⁵**

Magnavox CDB-586 CD Changer
•16 bit
•4-times oversampling... **\$279⁹⁵**

Teac V-670 Cassette Deck
•3 heads
•Dolby B,C,HX Pro... **\$269⁹⁵**

Beyerdynamic DT-990 Headphones
•Lightweight
•Top rated audiophile dynamic phones... **\$189⁹⁵**

Shure V15-VMRLE Phono Cartridge
•Limited edition hand-picked
•Stylus gauge included... **\$189⁹⁵**

Maxell XLIIS-100 Audio Tape
•100 minute, high bias
•10-Pack... **\$24⁹⁵**

ORDER TOLL-FREE **1-800-221-8180** Outside U.S.A. 1-718-417-3737 BY FAX: 1-718-497-1791

Mail Order Hours: Monday To Friday 8 AM to 8 PM, Saturday 9 AM to 6 PM, Sunday 10 AM to 4 PM Dealer & Institutional Inquiries Call Toll-Free 1-800-221-3191 — In New York 1-718-417-3747

TO ORDER BY MAIL: SEND MONEY ORDER, CERTIFIED OR CASHIER'S CHECK, MASTERCARD, VISA, AMERICAN EXPRESS OR DISCOVER CARD. (Please include Interbank No., expiration date and signature.) TO: J&R MUSIC WORLD, DEPT. AM1089, 59-50 QUEENSMIDTOWN EXPRESSWAY, MASPETH, QUEENSBORO, NY 11378. Personal and business checks must clear our Authorization Center before processing. Shipping, Handling & Insurance Charge is 5% of Total Order with a \$4.95 minimum. (Canadian Orders Add 15% Shipping, with a \$9.95 minimum charge.) For shipments by air, please double these charges. \$25 MINIMUM ORDER. DO NOT SEND CASH. SORRY, NO C.O.D.'s. NEW YORK RESIDENTS PLEASE ADD SALES TAX. WE ARE NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS. PICTURES SHOWN FOR VISUAL REPRESENTATION ONLY. ALL MERCHANDISE BRAND NEW, FACTORY FRESH, AND 100% GUARANTEED.

J&R Music World, Dept. AM1089, 59-50 Queens-Midtown Expressway, Maspeth, Queens, NY 11378

Enter No. 53 on Reader Service Card

Walking the audio aisles of CES, it is apparent that the complexion of the speaker business is changing in the direction of small systems.

the low price tags of Snell's two new models.

What this approach underscores is the necessity—of which too few companies avail themselves—of picking the proper demonstration material for difficult rooms. The semi-blind comparison and the scrim put the auditors in a realm of pure aural judgment. If you can't see how big the loudspeakers are or precisely where they are, only your ears are working. What about the marketing plug at the end? That's what CES is all about.

In my aforementioned review of last winter's CES in Las Vegas, I spoke of a few of the elder statesmen of the loudspeaker industry whose names are synonymous with product value and a dedication to music. This time, I want to draw attention to a younger contingent, notably the Thiel brothers of Lexington, Ky. I remember them years back, at the Pick-Congress Hotel and later at the Conrad Hilton, showing their hallmark—a sloped-front, floor-standing loudspeaker system. Their distribution is still largely through specialty houses, and their reputation for high performance has grown steadily. This year, their new Model CS5 loudspeaker system won an "Innovations '89" design award. The tall sloping baffle is now made of a molded marble/polymer mixture and has rounded boundaries for diffraction control. The 5-way system has first-order crossovers for transitions between drivers that are both power-flat and smooth in phase response. The dividing network uses its many elements in a conjugate design which smooths out individual transducer "ripples," a necessary step in order to make the first-order transitions work properly. The sloped baffle provides the correct time offset, tailored to the bandpass character of each driver, to produce a net minimum phase system. All of this without exotic devices—just plain, sensible engineering. Congratulations to all!

As you walk the audio aisles of CES, it becomes apparent that the whole complexion of the loudspeaker business is changing. There are more small systems, many of them three piece, and there are lots of "environmental" products designed to be built in and heard but not seen. This latter category is not generally of great technical

interest, but let it be said that there are now subwoofers designed for in-wall installation!

The three piece or satellite with subwoofer phenomenon has been underway now for about three or four years, and part of its success has depended on the rapidly expanding video market,

which places a premium on small sizes and adaptability. For a growing number of consumers, audio is being thoroughly integrated into a home information/entertainment complex that is primarily video-based. The coming of high-definition TV will reinforce this all the more. A

**YOU'VE GOT THE NAMES!
YOU'VE GOT THE NUMBERS!
NOW YOU NEED THE SOUND:**

the absolute sound® The High End Journal™

The October issue of *Audio* gives you specs and prices—but it doesn't tell you what anything sounds like.

To get that, you need the audiophile's bible—*The Absolute Sound*, the journal of the HIGH END. The magazine that coined the term High End and invented the language now used by reviewers around the world to describe how components sound.

TAS will not be reviewing all the 4500 or so components listed in this Annual Equipment Directory—just the most important ones, the ones that make a difference—or claim to. *The Absolute Sound's* reviews pull no punches. Never have. Never will. Because it places the interests of its readers first—above that of any advertiser.

Each bi-monthly 200-plus page issue also includes comprehensive coverage of classical and contemporary music, including rock and jazz. *TAS* record reviews tell you how a recording sounds, so you find out *before* you buy it. *TAS* covers all of High End audio, the art and the science. It's such fun to read—and it has all the best reviewers.

TAS has been the leader in audio journalism for 16 years. If you're serious about music and sound, it's time you subscribed. There's no magazine in the world like it. Try our no-risk offer.

Subscribe now for four issues for just \$22.95, using our toll-free number. We'll bill you after you receive your first issue. If you're not completely satisfied, just write "cancel" on your invoice and return it to us. You keep your first issue and owe nothing! Yes, we are that sure that once you start reading *The Absolute Sound*, you won't ever want to stop.

the absolute sound®

Call 10am-6pm ET, Mon.-Fri., at 800-222-3201 or 516-671-6342. Or mail this ad with your name, shipping and billing address to P.O. Box L, Dept. ES3B, Sea Cliff, NY 11579. Enter No. 36 on Reader Service Card

RAVES FROM THE CRITICS.



The Mirage M-1s have garnered their fair share of raves from the industry. They've invoked such comments as "...I'm completely bonkers over this product..." and "...the best conventional loudspeaker of the decade."

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

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



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

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



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

The mark that Mirage has made on the audiophile world is substantial. From the flagship M-1s to the wide range offered by the

Mirage 60-Series, you simply can't do better.
Just give them a listen.
You'll hear what we mean.

mirage®

Enter No. 63 on Reader Service Card

AUDIO PRODUCTS INTERNATIONAL CORP.

3641 McNicoll Ave. Scarborough, Ontario, Canada M1X 1G5 (416) 321-1800

Rainbow Rack System

Designed for infinite flexibility, the Rainbow Rack system can be configured for any application, room dimension, or aesthetic "statement." Described by the company as "an erector set for the adult," the system is easily assembled using the accompanying allen wrenches. Virtually any design is possible, with almost endless options. Material is steel and is available in brushed chrome or black anodized finishes. Price: From \$150. For literature, circle No. 108



NEAR Outdoor Speaker

The AES-2, from New England Audio Resource, is a weatherproof two-way system with a sloped front baffle for ear-level listening when the speaker rests on the ground. The drivers include an 8-inch woofer and a 2-inch hybrid cone/dome tweeter, both of metal alloy. Impedance is 8 ohms, but a 16-ohm version is available. Price: \$329. For literature, circle No. 109



Esoteric Sound Turntable

Not all "78-rpm" records were actually cut at that speed. Many were cut at such speeds as 71.29, 76.59, and 80 rpm, as well as the more common 78.26.



The Vintage six-speed turntable, from Esoteric Sound, can play all those speeds, as well as 33 $\frac{1}{3}$ and 45 rpm. A coarse-groove stylus for the P-mount pickup cartridge and a vertical/lateral phasing selector are optional. The turntable is driven by belt from a d.c. servo motor with pitch control. Price: \$229. For literature, circle No. 110



Stereolith Speaker

Using speakers on each of its two angled sides, the Duetto delivers two stereo channels from a single box. Each channel uses two 120-mm (5-inch) woofers and a 25-mm (1 inch) dome tweeter. Bandwidth is rated at 45 Hz to 22 kHz; sensitivity is 89 dB at 1 meter for 1 watt input. Price: \$795. For literature, circle No. 111

Neutrik Phono Connector

Designed to eliminate speaker-damaging grounding noise, the ProFi connectors are constructed with a "ground shell" which retracts into the connector body as the signal post is inserted into the phono jack, achieving ground first. The reverse occurs when the connector is removed. The connectors are available in nickel- or black-plated castings and are sold in pairs. Price: \$17.14. For literature, circle No. 112



PHILIPS.
REFERENCE STANDARD
FOR CD TECHNOLOGY.



PHILIPS



PHILIPS COMPACT DISC PLAYER LH1100

PHILIPS DIGITAL TO ANALOGUE CONVERTER FOR LH1100

PLAY
REPEAT
STOP
TRACK

22 TRACK
53:29 LAP TIME
00 REMAINING REMAINING

OPEN-CLOSE

POWER

OPTICAL DIGITAL
DIGITAL TAKE MONITOR
44KHz 48KHz
SAMPLING FREQUENCY
OPTICAL DIGITAL
DIGITAL INPUT

Philips Compact Disc Player LHH 1000

The Philips Reference Series LHH 1000 is now the standard by which other compact disc players will be measured. Other companies may claim state-of-the-art technology but the world's most particular audiophiles—Philips engineers—have achieved it, designing a technological masterpiece that is as pure and complete as any Mozart sonata.

A limited edition—and in strictly limited quantities—the Philips LHH 1000 says much about the people who designed the system and the discerning buyer. It says only the best will do... only a level of excellence attained after years of dedication to achieving the finest musical reproduction possible.

Every component of the Philips LHH 1000 is hand chosen for maximum performance. At the heart of the separate digital-to-analog converter and digital filter are special Select Grade TDA-1541 "AS-1" chips with four times oversampling that realize a startling 15.75 bits of resolution from the 16 bits available in the compact disc format. The highest resolution yet achieved in compact disc. Linearity error and distortion barely register. In fact, all specifications are where you would expect them to be—at the top of their class.

The separate transport section features the professional quality, broadcast standard Philips CDM-1 mechanism made of die cast aluminum alloy. An extremely accurate

single beam laser pickup floats on a Radialinear swinging arm that improves tracking ability and offers faster track-to-track access times. And, of course, the LHH 1000 has the renowned Philips Favorite Track Selection (FTS) system to program your entire CD collection.

Connections between the Reference Compact Disc Player System (DAC and transport) can be made with coaxial or optical fiber cable with diamond polished connectors. This ensures 100 percent error free transmission of digital data, resulting in truly lifelike, distortion-free sound.

The utmost thought and care went into every aspect of the LHH 1000. There are no plastic parts anywhere in the chassis assembly. The elegant looks belie durable and rugged construction that is second to none.

A sophisticated Learning Type Universal remote control is capable of learning 150 functions from other remotes. LCD readouts complements the system to provide complete fingertip control of this state-of-the-art CD player.

There is no question: the Philips LHH 1000 has set the gold standard for CD technology. It is the finest compact disc player currently available, for people with no tolerance for imperfection.





Philips Compact Disc Player CD 960

A signal-to-noise ratio of 100 dB. Dynamic range of 96 dB. Channel separation greater than 100 dB. These are just a few of the superb specifications of the Philips CD 960 compact disc player, a player that offers audiophile-quality sound for the most demanding listener.

From its elegant design to the superior chip architecture of the digital-to-analog converter, the CD 960 is truly world class. Philips, the inventor of the compact disc, has been constantly refining CD technology. The specially-selected high-resolution version of the acclaimed TDA 1541-A dual 16-bit converter chip incorporated into the CD 960 is the culmination of those efforts. Coupled with a digital filter with four times oversampling that effectively eliminates any unwanted ultra-sonic noise, the CD 960 is a compact disc player that will become the centerpiece of your audio system.

Complementing the sophisticated digital engineering is superior analog circuitry including third-order Bessel filters, "Elna Cerafine" ceramic powder capacitors and four separate power supplies to



eliminate unwanted interference. And all circuits are mounted on a massive, 4.4 pound nonresonant, die-cast alloy chassis. Even the disc transport is die-cast aluminum alloy guaranteeing the single beam, broadcast-quality CDM-1 laser pick-up will track accurately and quickly with fast track access averaging less than one second!

Simple to operate—with a full-function remote—the Philips CD 960 has won accolades from the enthusiast press around the world. The CD 960 is a superior example of the art of musical engineering, one that could only come from the originator of digital audio.





The jog shuttle dial and LCD readout only hint at the advanced capabilities of the CDV 488's remote control. Not only can it provide frame-by-frame, noise-free slow motion at variable speeds, the handheld unit can also "learn" the functions of other remotes in your A/V system, making it the only remote you'll need.

Philips CD Video Player CDV 488

Compact Disc Video... the finest picture possible and pristine digital sound. The new Philips CDV 488 can play every optical disc format, from CD-3s to standard 5-inch CDs as well as full-length feature films on 12-inch CD LDs. And the Philips CD Video player is the first to handle the new 8-inch LD single... all without the need for adaptors. This ability to offer all forms of music and movies at the highest possible quality levels.

Video specifications of the combination player are a scintillating 440 lines of horizontal resolution. This translates to a picture finer by far than that of any VCR. Another Philips exclusive is a proprietary high resolution Y/C processor developed for the CDV 488. It divides the disc's composite video signals into separate luminance (Y) and chrominance (C) signals, then routes the two through the S-connector out to a high quality TV monitor/receiver. Colors are purer... images more lifelike... interference artifacts virtually eliminated. Video at its best. And a wealth of software is available to see and hear. Over 2,500 movies and concerts are on disc with dozens of new releases every month.

Along with the best resolution figures of any video format, the CDV 488 offers the viewer special nonpareil effects. The jog shuttle dial on the infrared remote delivers rock-solid still frames in forward and reverse motion due to an 8-bit digital memory. The dial even allows for variable speed forward and reverse scanning. Other special effects include mosaics and strobos.

Along with the finest video image, the CDV 488 has the state-of-the-art audio specifications one expects from the inventor of the compact disc. Signal-to-noise ratio is greater than 100 dB. Dynamic range and channel separation more than 96 dB. The CDV 488 utilizes Philips' top quality "Select Grade" TDA 1541 "AS-1" dual digital-to-analog converter chip and a digital filter with four times oversampling. This translates to a real resolution of more than 15.75 bits out of the maximum possible 16 in the digital audio format, a superlative achievement.

For those who want the finest in sight and sound in one machine the answer—is Philips CDV 488.



Advanced digital technology allows the CDV 488's remote control jog shuttle dial to fast forward at up to 10x speed or capture noiseless "stills" one frame at a time.



From hit singles to hit movies, the CDV 488 can play all optical discs without adaptors and is the first to accommodate the new 8-inch LD single.



The CDV 488's remote control can learn the functions of 10 A/V components and the easy-to-read LCD display highlights all important operations.

Philips Consumer Electronics Company

A Division of North American Philips Corporation

Compact Disc Players	LHH1000	CD960	CD880
FREQUENCY RESPONSE	20-20,000 Hz+ -.01 db	20-20,000 Hz+ -.01 db	20-20,000 Hz+ -.01 db
PHASE LINEARITY	+ -.2 degrees	+ -.2 degrees	+ -.2 degrees
SIGNAL TO NOISE RATIO	>101 db	>101 db	>101 db
DYNAMIC RANGE	>96 db	>96 db	>96 db
CHANNEL SEPARATION	>100 db	>100 db	>100 db
TOTAL HARMONIC DISTORTION	< .0015% at 1 kHz	< .0015% at 1 kHz	< .002% at 1 kHz
ULTRASONIC NOISE REJECTION	>60 db	>60 db	>60 db
ANALOG OUTPUT LEVEL	2V RMS, typical 1 kHz, all bits on	2V RMS, typical 1 kHz, all bits on	
ANALOG OUTPUT LEVEL, FIXED			2V RMS, typical 1 kHz, all bits on
ANALOG OUTPUT LEVEL, VARIABLE			2V RMS, 64 steps of 1 db
DIMENSIONS LHH-1001 TRANSPORT (APPROX.)	17 $\frac{7}{8}$ " W, 4 $\frac{1}{8}$ " H, 13 $\frac{3}{8}$ " D		
LHH-1002 D/A CONVERTER (APPROX.)	as above		
WEIGHT, COMBINED (APPROXIMATE)	62 lbs.		
	RC-5 remote control compatible	RC-5 remote control compatible	RC-5 remote control compatible
DIMENSIONS (APPROXIMATE)		16 $\frac{3}{4}$ " W, 4" H, 15 $\frac{1}{4}$ " D	16 $\frac{3}{4}$ " W, 4" H, 14 $\frac{1}{2}$ " D
WEIGHT (APPROXIMATE)		21 lbs.	22 lbs.

Philips of the Netherlands is one of the largest electronics companies in the world. With our vast research and development facilities, we have long had a commitment to leadership in consumer electronics that few, if any, can match.

Philips literally wrote the book on compact disc technology and is setting the standards for improved definition television and other emerging technologies such as HDTV. To audition the compact disc players features here, or to experience any of our select group of audio and video components visit your nearest Philips audio specialist.

WORLD CLASS TECHNOLOGY. EUROPEAN EXCELLENCE.



PHILIPS

NOTHING'S MORE EXCITING THAN BUYING THE BEST.

FR980 Audio/Video Receiver
To optimize and control your
entire home entertainment
system.



CPK815 Camcorder
Top-of-the-line Super VHS
model.



VR5295 VCR
Advanced engineering, state-
of-the-art performance.

DFA1000 Digital Amplifier
Maximum power for the best
musical reproduction.



**LH1000
Compact Disc System**
The finest available and a
limited edition.

**CV43E Compact Disc
Video Player**
Sight-of-the-art sight and
sound in one machine.



FB585 Speakers
Advanced technology in
3-way floor-standing models.

**K331 Improved
Definition Television**
Award-winning technology in
a 31-inch table design.



EXCEPT WINNING IT!

Imagine the top-of-the-line, state-of-the-art, best home entertainment system you can get — right in your home! Philips makes it, you can win it in the Philips "Win the Best" Sweepstakes. The lucky winner will experience and enjoy the excitement of owning A/V components that set world standards for technological development.

GRAND PRIZE (1): The complete system pictured above. An audio/videoophile's dream come true.

SECOND PRIZE (10): Top-of-the-line Super VHS camcorder for 10 lucky winners.

THIRD PRIZE (30): Philips mugs — for use at home or at work... a visible way to show you know the best.

To enter the Philips "Win the Best" Sweepstakes, complete the attached entry card and take it to the display counter at your participating Philips retailer. Be sure to check complete rules and details on the back of the entry card. For dealer locations, call the toll-free 800 number on the card. Then cross your fingers and hope for the best!

WORLD-CLASS TECHNOLOGY. EUROPEAN EXCELLENCE.



PHILIPS



Restoring Old Masters

DANIEL SWEENEY



hart

As the Compact Disc established itself as the dominant audio format, the market for older music in the new format became unexpectedly brisk. However, material going back to the 1960s and earlier was generally recorded with machines and tape formulations calling for at least mildly different calibrations than those in use today, while, at the same time, mixing and equalization often mirrored industry trends which have fallen into abeyance. More importantly, the recording medium itself, magnetic tape, almost invariably suffers some deterioration with the passage of time. If the tape has been carelessly stored or utilizes one of the more volatile tape formulations, the damage to the irreplaceable master may be very considerable. Not infrequently, older tapes are in such a state of dissolution that they can only be played once because the playback process will literally strip the oxide from the backing.

With such problems in mind, Agfa, a leading supplier of magnetic tape for mastering, held a seminar on preserving, restoring, and transferring archival master tapes on April 12th of this year, at the Registry Hotel in Studio City, California, adjacent to the MCA and Universal Studio facilities. The occasion was used to announce NXT, a new chemical treatment developed by

Agfa which permits the playback of badly deteriorated master tapes.

The seminar was divided into four sections. The first was a panel discussion which featured Lee Herschberg, director of engineering for Warner Bros. Records; Gene Wooley, vice president of recording and quality assurance for MCA; Andy McKaie, director of artists and repertoire for MCA, and John Matarazzo, national technical manager for Agfa. The discussion focused on how tape playback and recording standards have changed over time, as well as on the characteristics of various old and new tape formulations; tape storage and preservation were discussed at length.

The second section was devoted to the digital processing techniques developed by Sonic Solutions to digitally

Older masters are often in such a state of dissolution that playing them just once will literally strip the oxide from the backing.

Illustration: John Hart

YOU GET A LOT MORE THAN MONEY FOR COLLEGE SERVING PART-TIME IN THE ARMY RESERVE.

Joining the Army Reserve is one of the smartest ways to help pay your way through college. In fact, you can earn over \$18,000 through the Montgomery GI Bill and your Reserve pay during a standard enlistment. And, if you have or obtain a federally insured student loan, you may qualify for a government program that will help repay up to \$20,000 of it for you.

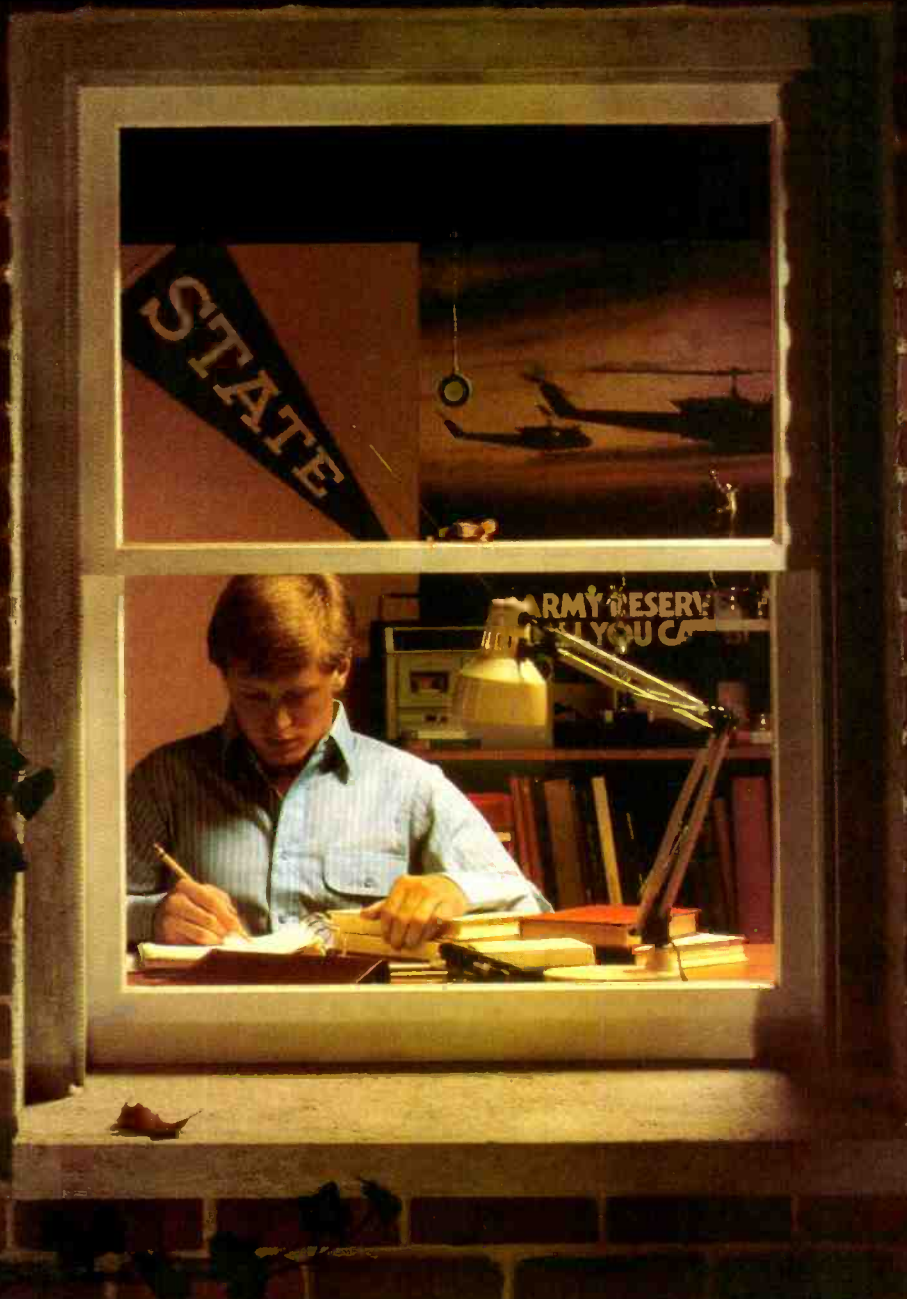
But you get a lot more than just money in the Army Reserve. You get hands on training in one of over 250 skills... skills like modern health care techniques, engineering, foreign languages, criminology and many others.

You get the pride and confidence that come with

tackling a tough job and doing it well. And service with the Army Reserve can help you develop the maturity and self-discipline it takes to succeed in college and in life.

You also get the satisfaction of knowing you're helping to keep America strong.

Besides completing Basic and Advanced Individual Training, you'll usually serve just one weekend a month in a nearby Army Reserve unit, plus two weeks of Annual Training. Find out more. See your Army Reserve recruiter **BE ALL YOU CAN BE.®** or call 1-800-USA-ARMY. **ARMY RESERVE**



Listen to the Technics Mica CX Speaker Series at one of these fine stores:

ALABAMA • Mobile — Hooper
ALASKA • Anchorage — Magnum Electronics
ARIZONA • Yuma — Kukuk's Stereo
ARKANSAS • Blytheville — Mr. Audio • Fayetteville — Stereo One • Texarkana — Tape Village
CALIFORNIA • Berkeley — Uncle Ralphs • Carlsbad • Chula Vista • Escondido • La Mesa • San Diego — Jacks Sound Centers • Fairfield — Del Mars • Los Angeles — Cosmos • San Jose — Quement • Santa Ana — Main St. Electronics
COLORADO • Aspen — Henry's Stereo • Glenwood Springs — Music Box
FLORIDA • Delray Beach — Good Life • Fort Walton Beach — Audio International • Key West — Audio International • Miami — World Of Sound • Tampa — Good Life
IDAHO • Boise — All American Audio • Boise — Sound Pro • Lewiston — Steiners
ILLINOIS • Chicago — Hi Fi Hutch • Effingham — Crossroads Electronics • Farmington — World Wide TV
KANSAS • Garden City — Team Electronics
KENTUCKY • St. Matthews — Wilder Electronics
MAINE • Augusta — Pomerleau's • Bangor — The Sound Source
MASSACHUSETTS • New Bedford — Audiometrics • Worcester — O'Coins
MICHIGAN • Allen Park — World Wide TV • Brighton — World Wide TV • Petoskey — Puff's of Petoskey • Rochester Hills — Video Systems • Waterford — World Wide TV
MINNESOTA • Duluth — Mel's • Mankato — Team Electronics • Winona — Amalgamated Audio
MISSISSIPPI • Jackson — Hooper • Meridian — Hooper • Pascagoula — Hooper
MISSOURI • Jefferson City — Audio Magic • Osage Beach — Phone Station • Popular Bluff — American Hi Fi • Springfield — Harvey's Home Entertainment • St. Louis — Quality Sight and Sound
MONTANA • Bozeman — Sound Pro
NEBRASKA • Norfolk — Mid City Stereo • North Platte — Monte's Sound Systems • Scottsbluff — Panhandle
NEW HAMPSHIRE • Walpole — Real to Reel
NEW JERSEY • East Hanover — Tops • Edison — Tops • Secaucus — Tops • Totowa — Sim-O-Rama
NEW MEXICO • Albuquerque — Baillios
NEW YORK • Albany — Hippo's • Canandaigua — Hathorne's • Corning, Elmira & Ithaca — Chemung Electronics
NORTH CAROLINA • Burlington • Eden • Greensboro • High Point • Lexington • Salisbury • Winston Salem — Ed Kelly's
NORTH DAKOTA • Grand Forks — Team Electronics • Minot — Team Electronics • Williston — Stereo West
OHIO • Cincinnati — ICB Audio • Fairview Park — Wellman & Griffith, Inc. • Mentor — Mentor TV, Inc. • Royalton — Phil Reddish Supply, Inc. • Toledo — Stereo One
OREGON • Portland — Brownell Sound
PENNSYLVANIA • Berwyn — Soundex Electronics • Ephrata — Galens of Ephrata • Erie — Studio One • Greenburg — Stereo Shop • Hazelton — Jannen Systems • Johnstown — East Hills TV & Sporting • Lehighton — Lasermedia • Pottsville — Pamco Enterprises • Smithfield — Reces' Warehouse • State College — Hi Fi, Inc. • Willow Grove — Soundex Electronics
SOUTH CAROLINA • Columbia — Norton's
SOUTH DAKOTA • Rapid City — Team Electronics • Sioux Falls — Gourley's Pro Audio
TENNESSEE • Memphis — Modern Music • Nashville — Electronic Express
TEXAS • Austin — A&B TV • Corpus Christi — Audio Video Designs • Houston — Applebaum & Company • Lufkin — Sound Center of Lufkin
UTAH • Salt Lake City — Gadgets
VERMONT • Williston — Consumer's Showcase
VIRGINIA • Charlottesville — Audio World Limited • Collinsville — Bryant Radio Supply • Roanoke — Lee Hartman & Sons, Inc. • Stafford — ORC Electronics • Virginia Beach — FX • Winchester — Sound City
WASHINGTON • Bellingham — Video Depot
WISCONSIN • Janesville — Team Electronics of Janesville • Madison — Phillips • Wausau — Sound World of Wausau
WYOMING • Casper — Jeff's Electronics



Agfa's new NXT treatment
permits the damaged master
tape to be played back, in
its entirety, without any
stops for head cleaning.

remove both steady-state and impulsive noise from master tapes. The speaker was Mary Sauer, vice president of marketing and operations for Sonic Solutions. The company's No-Noise technique was the subject of a recent feature article in *Audio* ("Putting the Byte on Noise," March).

The seminar's third section covered actual production for release of previously unissued material of less than studio quality by famous recording artists John Lennon and Jimi Hendrix. Dave Klephart, the engineer in charge of both projects, described his preparation of the original materials for mastering. He relied heavily on a Burwen analog noise-reduction unit, especially with the Lennon tapes, and employed considerable equalization. However, Klephart took the position that old recordings are essentially historical documents and must not be processed to approximate contemporary sound. The contrasts in the respective bodies of material were interesting because Hendrix always recorded carefully on top-quality professional equipment, while Lennon tended to regard the tape recorder as a scratch pad and generally showed little concern for quality.

The fourth section was devoted to NXT, Agfa's new method of treating badly damaged master tapes, and this was the principal subject of the confer-

ence. NXT is designed to prevent a common problem which occurs when old masters are copied. Frequently, the oxide layer on the tape will adhere to the playback head to such a degree that the tape itself is virtually destroyed as it is being duplicated. Naturally, as oxides accumulate on the head, the head will lose sensitivity as well, and the recording will be seriously compromised. Previously, the recording engineer had no choice but to rely on a later-generation running master or to treat the master tape with lubricants and stop recording every couple of minutes to clean the heads, thus adding dozens of edits to the process.

NXT treatment permits the damaged master tape to be played back, in its entirety, without stopping for head cleaning. One tape requires about 45 minutes to process and, once processed, the tape should be duplicated within minutes, although theoretically the process does allow a duplication window of up to 16 hours. According to Agfa representatives, NXT itself does not further damage the master tape, but it does not effect a permanent restoration either, since following treatment with NXT, the tape reverts to its previous state. In most cases, however, the tape may be treated with NXT again, and again used for mastering. Three NXT treatments, with three subsequent playbacks, appear to represent the limit of what may be currently accomplished with the process.

NXT is a five-step treatment involving heat and chemicals. It is only suitable for 1/4- to 2-inch audio tapes and is not recommended for video recordings. Agfa is not offering treatment kits to studios but instead has established an in-house facility to perform treatments for participating recording studios. For more information, contact Agfa Corp., 100 Challenger Rd., Ridgely Park, N.J. 07660; (201) 807-2034.

Agfa representatives are making some very big claims for the process. "We haven't met a tape we couldn't play," asserts John Matarazzo of Agfa. Considering the severe age-related deterioration which afflicts some mastering formulations popular in the late '60s, NXT could become indispensable to the rerelease business—if it lives up to its advance publicity. **A**

Technics

One Panasonic Way, Secaucus, NJ 07094



THE FIRST ROCK GROUP THAT ACTUALLY IMPROVES THE SOUND OF OUR SPEAKERS.



One of the most advanced speakers on the face of the earth is made from the face of the earth.

Presenting the Technics CX Speaker Series. A remarkable 3-way speaker system made from one of nature's most

unique sound conductors: mica.

In fact, mica has just the right characteristics for a speaker. It's lightweight yet extremely rigid. 1.5 times more rigid than titanium. Which means no matter what type of music you listen to, our mica speakers can reproduce it with amazing clarity.

More specifically, the pure mica dia-

phragm tweeter and midrange driver cones provide incredible accuracy. And the composite mica/pulp woofer not only delivers a deep, rich bass but helps eliminate the distortion that can accompany it.

What's more, the CX series is available in a bookshelf and two floor-standing models. The latter uses a linear compliance Passive Radiator in the rear of the

cabinet to further improve low frequency reproduction and total efficiency.

So, if you appreciate a brilliantly clean sound, listen to the Technics CX Series.

We don't think you've ever heard rock sound like this before.



Technics Mica CX Series

Technics
The science of sound

Sphere of

Considered by many critics to be one of the most creative, odd, colorful, and innovative jazz pianists/composers of our time, Thelonious Sphere Monk, like this massive collection of his recordings, could best be described as a landmark. *The Complete Riverside Recordings* (RCD-02202) presents everything Monk made for Orrin Keepnews' label between 1955 and

(A 22-LP version is also available.) In fact, *The Complete Riverside Recordings* won two Grammys—for Best Historical Album and for Best Album Notes!

The tracks are presented in chronological order, which often differs from the manner in which they were originally released on LP. Some partial and in-studio exchanges are included as well as many fascinating alternate takes. Several of the 14 previously unissued cuts are more exciting than the often-heard versions we are familiar with. Perhaps this is due to their freshness?

It was Thelonious Monk who indirectly dissuaded me from a career in classical piano. I don't recall who first observed that, in jazz, there are no "wrong notes," but it is true that what might be called a wrong note in classical music is, in jazz, merely a stepping stone to a series of other notes which make it perfectly "right." Understanding and practicing this concept convinced me that the constant struggle to achieve slavish fidelity to the notes on a written page was not my cup of tea.

Thelonious Monk epitomized this "wrong note" observation. He sometimes extended it as far as possible, though without venturing into free jazz territory. He was almost like the early 20th-century classical composers who extended tonality to its limits just before serial techniques came in. Yet Monk's piano playing continued the line of succession from Jelly Roll Morton through Duke Ellington. His wonderful, wry, and quirky humor gave a warmth and coherent structure to his music.

While Monk's style was a perfect foil for Rouse's flowing and lyrical sax, other soloists also mixed well with him. Hearing Monk react musically to the different players' approaches makes listening to alternate treatments of the same tunes an engaging activity. The set with Clark Terry, for instance, is a kick because of their similar witty slant.

Keepnews' very readable notes show that Monk was not an easy performer to work with. His personality was just as quirky as his music. Questions about Monk's eccentricities and his eventual complete withdrawal from music remain. Whether these problems were caused by medical or mental illness has never been clear—even Keepnews' exemplary notes shed no light on the subject.

But what matters is the recorded legacy Monk left behind and the fact that his unique



1961. In all, 153 performances are included, from solo piano sessions through his quartet work with the lyric saxist Charlie Rouse to other small ensembles with some of the top jazzmen around—John Coltrane, Sonny Rollins, Coleman Hawkins, Gerry Mulligan, Art Blakey, Clark Terry, and Max Roach. There are 30 different studio sessions, club and concert dates from the U.S. and Europe, and the incredible 1959 Town Hall Big Band concert with arrangements by Hall Overton.

This set is comprised of four multi-CD albums housed in a 12-inch box with detailed LP-size notes, discography, photos, and commentary on the sessions by Keepnews.

Photographs: David Gahr

Influence

John Sunier

music is still being played by performers today. Take note of the perfect marriage of the minds between Monk and Rouse. Their musical give and take, stemming from a decade-long relationship, can still clearly be heard. One writer observed that Monk was the greatest saxophone teacher who ever lived. While he came out of be-bop, Monk's music has a depth and originality that much be-bop lacks.

A few minor quibbles about the CD set, however. It would have been helpful to list the featured soloists and recording locations on the backs of the multi-CD boxes. One has to consult four different places, three of them in the annotated booklet, to learn just what one is hearing. Further, while a true jazz collector might not complain about alternate tracks, my guess is that many would like to hear a varied concert rather than three versions in a row of the same tune, however subtly different from one another. The approach in this set varies from three versions in a row to putting the alternate and the issued versions on completely different CDs, making A/B comparisons difficult. Why not put the alternates of tunes at the end of each CD and insert a cue to stop the player at that point, thus requiring a conscious decision if one wants to hear the alternates? This would not prevent comparing any tracks quickly.

Because Monk's historic association with Riverside Records began in 1955, some of the tracks are mono. The earliest sessions were Monk's trio, so little is lost. However, some of the early Riverside stereo material, such as the *Mulligan Meets Monk* session of 1957, appear only in mono on the CD set! The early black vinyl stereodisc still sounds superb, with the somewhat exaggerated separation of the engineering style of the time, appropriate to the album concept. Also, on most of the stereo tracks, the channels are reversed from the original LPs.

There is a feeling among some purists that no reissue of any old 78 or early tape can possibly sound as good as the original, and those able to do actual comparisons with some of the originals might often agree. However, the general results in this set are commendable. The piano solo material takes on a solid feeling absent from the LP versions, with their subtle speed variations, and the quick, transient "honk" at the beginning of some of Rouse's solos—almost unheard on the LP—now jumps out dramatically. There is a greater frequency extension at both ends of the spectrum, and the earlier material has been cleaned up without losing



any of the music—as with some computer-processed examples.

The major resurrection here is the European material once issued on a double-LP set titled *Two Hours with Thelonious*. This was taped in Paris and Milan by unidentified engineers and purchased by Riverside for release here. The LP sonics were low level, distant, thin, and hissy. The CD versions, however, are like someone turned on the lights.

This set is an important reference work as well as a scrumptious repast for Monk fans, permitting them to dwell, at cosmic length, on one of the true stars of modern jazz. **A**

GLORY DAYS



Dreams: The Allman Brothers Band
Polydor 839-417-2, four CDs; AAD;
 300:43.

Sound: A Performance: A

It's hard to think of a more archetypically American rock group than the Allman Brothers Band, whose now-legendary history is chronicled in *Dreams*, the latest retrospective collection to emerge from the Polydor/PolyGram vaults.

Dreams extends the philosophy behind the Grammy Award-winning Eric Clapton set, *Crossroads* (also produced by Bill Levenson). The aim of this set was to survey the band's artistic evolution from early psychedelic days through classic Southern boogie and on to the various later jazzified and solo permutations. Among the whopping 300-plus minutes of music are nods to the influences of the British guitar bands (covers of The Yardbirds' "Shapes of Things," Cream's version of blues standards like "Spoonful," and Zeppelin's "Morning Dew") as well as illustrations of the band's early attraction to songs of American origin, particularly Southern blues. When The Allman Brothers Band emerged in '69 with twin guitar leads by Duane Allman and Dickey Betts and with Gregg Allman's gravelly blues vocals, they were

doing Blind Willie McTell's "Statesboro Blues."

Beyond the intrinsic interest of the music itself is the use of rare and exotic selections. At least 17 cuts are either obscure or previously unreleased. For example, included are a 1968 cover of Cream's "I Feel Free"; a single by Second Coming featuring Dickey Betts and Berry Oakley before The Allman Brothers Band was formed; a 1966 "Crossroads" by The Allman Joys recently discovered in the family archives; the final Fillmore East song, "Drunken-Hearted Boy," which didn't make the album and features Elvin Bishop; "Whipping Post," presented in a rare quadraphonic mix, and the wonderful acoustic duet, "Little Martha," remixed and featuring Berry Oakley's original bass part, which was omitted from *Eat a Peach*. In addition, there's "Nancy," a cut from an unreleased Dickey Betts solo album.

Sonically speaking, there are some uneven spots in some of the early material, which is to be expected. However, except for quad mixes and remixes of well-known material, the original sound of the masters has been well preserved, and you'll hear the progression in quality through time. Given the scope of this production, you should not be disappointed. *Michael Wright*

(Editor's Note: And now for another view of *Dreams*....)

Let's face it, The Allman Brothers Band was the seminal Southern-rock band. They were the ones who set the ground rules; they were the best. However, the scope of their influence is much narrower than Eric Clapton's, and the very best work they did is concentrated on the two studio albums *Live at the Fillmore East* and the parts of *Eat a Peach* recorded before their astonishing guitarist, Duane Allman, died in a motorcycle crash—just as bassist Berry Oakley did a year later. *Dreams* acknowledges this by emphasizing the early days. Thus, Duane and Berry are present until nearly halfway through disc three.

The first 12 selections are by bands the various members were in prior to the Allmans, and this gives a fascinating historical overview. For a glimpse of how the band gelled, the original demo of the title track is included in close proximity to the eventually released version, recorded just six months later. Other newly released live and studio performances liberally dot the rest of the package. Two of the very best are a live 1979 "In Memory of Elizabeth Reed" and a vintage 1985 Gregg Allman studio take of The Beatles' "Rain," which features a gospel choir backing him.

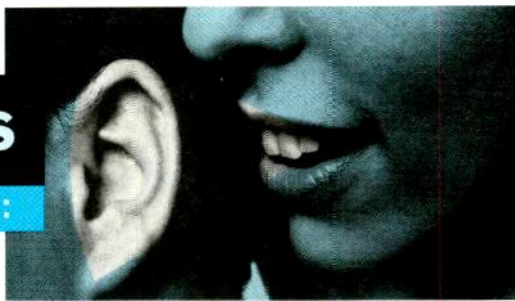
By the time the final disc rolls around, the material has a whole lot less fire than the early stuff did, but that was the way the band was performing. Still, there is something fascinating about how the story plays itself out. The collection reaches all the way up to the present, as it closes with selections from the most recent Gregg Allman and Dickey Betts albums.

This set also includes a lovely booklet, which features an excellent historical essay by one of the finest rock writers around, John Swenson.

In *Dreams*, Bill Levinson has put together another sterling package. While it may not be as compelling as the Clapton set, that can only be blamed on history—not on the compiler. This really is the ultimate Allman Brothers package. There is far more than can be easily digested, which means that *Dreams* will be most fully appreciated by the fans who play the set again and again. *Michael Tearson*

COMPACT DISCLOSURES

December CDs of Note:



On record, no one's been in and out of love more often in the past 25 years than **B A R B R A STREISAND**.

On the other hand, no one's been more consistently successful in sales: Streisand has had 36 certified gold albums, more than any other star. Her latest, "Till I Loved You" (featuring the hit duet with **DON JOHNSON**), is Streisand's first studio album in three years. Including Barbra's inimitable rendition of "All I Ask Of You" from *The Phantom Of The Opera*, "Till I Loved You" is sure to keep love songs (and out-of-love songs) in style for at least another 25 years.



Don't be alarmed: Despite the title, "Everything's Different Now," **'TIL TUESDAY**'s third album builds on all the things you loved

in the group's first two smash hit albums. And of course that includes lead singer/bassist Aimee Mann's ethereal voice and 'Til Tuesday's hauntingly unique sound and unusually powerful lyrics. And in addition to all that, "Everything's Different Now" also includes a song called "The Other End (Of The Telescope)," not to mention 'Til Tuesday's new hit single, "(Believed You Were) Lucky."



The new **BROADWAY BEST VALUE** CDs continue to open to raves. Including the first-time-ever stereo version of **JUDY GARLAND**'s *A Star Is Born*, this is a series selected—and priced—to seduce every Broadway and Hollywood musical addict into rejuvenating their collection. The titles range from rarities like Sondheim's *Anyone Can Whistle* to standards like *My Fair Lady* and *West Side Story*. Now with 46 releases in total, including 17 new releases, the Broadway Best Value Series has something for practically everybody, a good thing to remember with the holidays approaching.



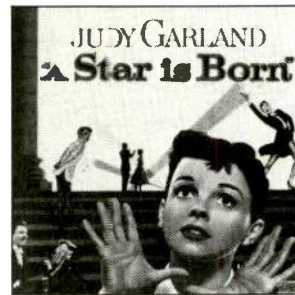
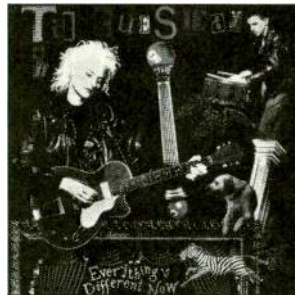
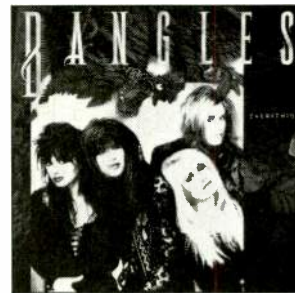
And speaking of the holidays, the **BANGLES** are on their way to becoming as enduring a tradition as silver bells and mistletoe. Now ready to dominate the charts for the third December in a row, the band's latest collection of irresistible four-part harmonies and pop-rock wisdom makes the perfect gift for someone who thinks they have "Everything." Because chances are, they won't have "Everything," which is, of course, the Bangles' new album. Their most mature—and varied—recording yet, "Everything" will appeal to everybody.

IN AND OUT OF LOVE WITH BARBRA

THRICE IN LOVE WITH AIMEE

A STAR IN STEREO

THE BANGLES IN EVERYTHING



OTHER DECEMBER BROADWAY/HOLLYWOOD RELEASES:

- DORIS DAY "Day At The Movies"
- JULIE ANDREWS "Little Bit Of Broadway"
- HOLLYWOOD MAGIC 1950s and 1960s "Finian's Rainbow"
- "Kiss Me Kate"
- "Bells Are Ringing"

For an IBM 5 1/4" computer diskette containing the complete catalog of CBS Compact Discs, send \$2 for postage and handling to: CBS/CD, Box 257, Garwood, NJ 07027. Columbia and CBS are trademarks of CBS Inc. © 1988 CBS Records Inc.





CLEAN LICKS.

The sound is pure, pristine, immaculate. The artists, talented jazz musicians on the rise. The label is DMP. Compact discs and cassettes recorded live to digital for the most intimate, life-like sound possible.

D I G I T A L M U S I C P R O D U C T S I N C.

THE LATEST LICKS FROM DMP.

Setting the standard for jazz performance and superior sound. Pure, clean, live and all digital.



WARREN BERNHARDT—Heat Of The Moment

Visionary pianist Warren Bernhardt leads a spirited and talented group—including Peter Erskine on drums—performing his originals and inventive readings of music by Gershwin, Ellington, Bill Evans and others.



BOB MINTZER—Urban Contours
A new direction for a contemporary master—Bob Mintzer: Accessible melodies that rock—and more—over a solid foundation of brass and reeds.



THOM ROTELLA—Home Again
The second dmp release by Thom Rotella. Acoustic moods and a warm California groove from a guitarist who paints emotional colors with a rich melodic brush. With special guest Tommy Tedesco on his own "Oriental Flower."

Digital Music Products, Inc.
Park Square Station, Box 15835
Stamford, CT 06901



Blind Faith

Mobile Fidelity UDCC-507, CD; AAD; 42:09.

Sound: B Performance: B

Mobile Fidelity's latest gold-backed Ultradisc is *Blind Faith*. Upon very careful listening, there is a perceptible difference between this edition and Polydor's regular CD, which is a budget-priced item. Most of it is in Ginger Baker's percussion. The cymbals and percussive effects have significantly more sizzle on the high-priced disc—almost too much more. I had to consciously adjust my ears to the new balance in the sound. Voices, guitars, bass, piano, and organ feel about the same in both versions, but the Ultradisc has a subtle extra depth of image. In short, the Ultradisc does make a difference, but you have to listen to hear it.

This was a hissy-sounding album, on its release in 1969, and that hiss—a part of the master tape—remains on the new edition. Then is it worth three times the price? I'm not so sure.

Michael Tearson

Roachford

Epic FE-45097, LP.

Sound: B+ Performance: A-

Roachford (the group) is the brainchild of Andrew Roachford, who sang, wrote, and played many of the instruments on this album. Comparisons will no doubt be made to Terence Trent D'Arby, another black rock/soul singer out of Great Britain, but Roachford's origins are a bit more eclectic. To these ears, the obvious point of reference is The Gap Band, but one suspects that Roachford will cross over to mass audiences in a way that The Gap Band never did. Andrew is looking to put funk into rock, rather than vice versa. And on a good portion of this record, he accomplishes it.

Judging from the credits, the group went through a bit of a personnel shuffle in the bass and guitar departments during the making of the record, as well as a change of producers in mid-stream. The tracks produced earlier (by Mike Vernon) aren't quite as perky and contemporary as those recorded with Michael Brauer, but the entire album is pretty darn exciting. "Cuddly Toy" and "Shotgun" show off the group's development to good effect, while "Family Man" is likable in an Elton John sort of way. You can easily detect that the group is heading in a very promising direction—particularly if they stay with Brauer, who adds a lot to their approach.

Here's hoping that this album, which already has garnered a following for the group in Britain, gets the attention it deserves in America. These guys are actually doing something musically creative, and that's no mean feat these days.

Jon & Sally Tiven

Yellow Moon: The Neville Brothers A&M SP-5240, LP.

Sound: B Performance: A

The words leap out from the album cover and circle around before jarring my mind: "The breakthrough album by New Orleans legends The Neville Brothers." Arrgh!

The utter conceit and foolishness of Vinyland is overwhelming. How, exactly, does a legend have a "breakthrough" album? Isn't it necessary to have a breakthrough album *before* becoming a legend? Of course, what the industry at large—and A&M, specifically—means (i.e., hopes) is that this new release will be a *commercial* breakthrough album.

The Neville Brothers have been writing and recording music for over 30 years and have long had the respect of every musician and listener who understands the roots of American mu-



The Nevilles' *Yellow Moon* is a consistent album with strong and intense rhythms and sharp lyrics.

vault is the traditional "Will the Circle Be Unbroken."

Engineer/producer Lanois has not changed the Neville sound, and, truthfully, there is nothing technically outstanding about this album. Where Lanois et al. seem to have earned their pay is in song selection and album continuity. Only a fool would try to change the group's internal musical dynamics and balance, which have been perfected over the years. Lanois is nobody's fool. He concentrated on the weak points and left good enough alone. The result is a much more marketable album and one of which the Nevilles, as well as new and long-time fans alike, can be equally proud. *Hector G. La Torre*

In a Sentimental Mood: Dr. John
Warner Bros. 25889-2, CD; AAD;
 40:37.

Sound: B Performance: A

This disc is a *stone gas!* Dr. John's growling vocals and distinctive piano are terrific here. Sounding completely relaxed, the combination of the two is what holds this record together. Dr. John's upbeat attitude also contributes mightily.

On *In a Sentimental Mood*, Dr. John motors his way through a program of nine standards set to a big, brassy, jazzy sound beautifully produced by Tommy LiPuma. There's Cole Porter's "Love for Sale," with a swell David "Fathead" Newman sax solo and Duke Ellington's title track, plus "(I Call My Sugar) Candy," and "More Than You Know"—great love songs, all. For pure wit, there's "Accentuate the Positive," and for pure weirdness, there's "My Buddy." Also included is a delicious duet with Rickie Lee Jones on Eddie

sic. They have brought us their music as solo performers and as members of different musical groups, including The Meters, The Nevilles, and The Wild Tchoupitoulas. One constant, though, has been the second-line rhythms of New Orleans Mardi Gras music—especially that espoused by the New Orleans "Indians" and the late "Big Chief Jolly" (George Landry). Through it all, however, America, on a large scale, hasn't accepted the music which is so uniquely its own.

For years, record companies have felt that the Nevilles produced uneven albums. And, in some respects, this was true. Albums would contain incredibly rhythmic original songs interspersed with tear-jerking ballads done in a '50s, semi-doo-wop style. But the Nevilles and their fans felt this was fine. After all, the songs were all part of the great American musical pasticcio, weren't they? Nonetheless, sometimes artists must do more than just please themselves.

A&M Records had the good sense to sign the Nevilles and then took control of the latest album, *Yellow Moon*. Rather than allowing the Nevilles, or perhaps Allen Toussaint, to produce the album, they sent for engineer/producer Daniel Lanois (U2 and others). Lanois

heeded the call, packed his recording equipment into travel cases, and moved everything into a building in New Orleans, thereby providing the Nevilles with a limited-pressure atmosphere in which to be creative. The result should make even ardent detractors happy.

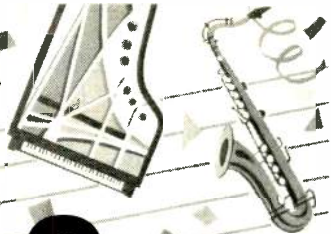
Yellow Moon is a more consistent album than previous Neville releases. There are none of the extreme musical valleys previously found in their works, and yet the high points are still there. This album moves. All the intense rhythms of New Orleans are in the grooves. Furthermore, the songs are lyrically sharp. The lead track, "My Blood," is a call for unity and a lament for those whose blood is being spilled in hellholes such as Haiti and South Africa. Another song, "Sister Rosa," gives thanks to Miss Rosa Parks, whose strong heart and tired feet gave birth to the abolition of the Jim Crow laws.

We still get a chance to hear Aaron and his brothers croon, but this time the songs smoothly meld into the album package. We've got Sam Cooke's "A Change Is Gonna Come" and Bob Dylan's "With God on Our Side." Perhaps the only tune on this album that should have been left in the storage



Dr. John

All this JAZZ



ANY 8 CDs FOR ONLY 1¢

Plus shipping and handling, with membership

POPULAR HITS

- Richard Marx**—Repeat Offender (EMI) 380915
- Beaches**—Original Soundtrack (Atlantic) 379669
- Gipsy Kings** (Elektra/Musician) 377812
- Debbie Gibson**—Electric Youth (Atlantic) 377275
- Roy Orbison**—Mystery Girl (Virgin) 377101
- Journey's Greatest Hits** (Columbia) 375279
- Traveling Wilburys Vol. 1** (Wilbury) 375089
- Barbra Streisand**—Till I Loved You (Columbia) 374884
- Anita Baker**—Giving You The Best That I Got (Elektra) 374058
- U2**—Rattle And Hum (Island) 374017
- Enya** (Atlantic) 373712
- Tracy Chapman** (Elektra) 369892
- Steve Winwood**—Roll With It (Virgin) 371211
- Blues For Coltrane**—Various Artists (MCA/Impulse) 374744
- Diane Schuur**—Talkin' 'Bout You (GRP) 374298
- Stanley Jordan**—Flying Home (EMI) 373860
- Bird**—Original Soundtrack (Columbia) 373332
- Dianne Reeves** (Blue Note) 372953
- Bob James**—Ivory Coast (Warner Bros.) 372789
- Najee**—Day By Day (EMI) 371856
- Branford Marsalis**—Random Abstract (Columbia) 371849
- Stanley Clarke**—If This Bass Could Only Talk (Portrait) 371823
- Kenny G**—Silhouette (Arista) 371559
- Grover Washington, Jr.**—Then and Now (Columbia) 371476
- Weather Report**—Heavy Weather (Columbia) 273557
- Blues For Coltrane**—Various Artists (MCA/Impulse) 374744
- Diane Schuur**—Talkin' 'Bout You (GRP) 374298
- Stanley Jordan**—Flying Home (EMI) 373860
- Bird**—Original Soundtrack (Columbia) 373332
- Dianne Reeves** (Blue Note) 372953
- Bob James**—Ivory Coast (Warner Bros.) 372789
- Najee**—Day By Day (EMI) 371856
- Branford Marsalis**—Random Abstract (Columbia) 371849
- Stanley Clarke**—If This Bass Could Only Talk (Portrait) 371823
- Kenny G**—Silhouette (Arista) 371559
- Grover Washington, Jr.**—Then and Now (Columbia) 371476
- Weather Report**—Heavy Weather (Columbia) 273557

- Spyro Gyra**—Rites of Summer (MCA) 370767
- Chick Corea**—Eye Of The Beholder (GRP) 370718
- David Sanborn**—Close Up (Warner Bros.) 370304
- Wynton Marsalis Quartet**—Live At Blues Alley (Columbia) 370080-390088
- George Howard**—Reflections (MCA) 369314
- Bobby McFerrin**—Simple Pleasures (EMI) 369306
- Basia**—Time And Tide (Epic) 368043
- GRP Super Liv In Concert**—Various Artists (GRP) 367979-397976
- Oscar Peterson**—The Trio (Pablo) 367268
- Kirk Whalum**—And You Know That! (Columbia) 367037
- Bill Watrous**—Reflections (Soundwings) 366971
- George Benson**—Bad Benson (CBS Assoc.) 365114
- Milt Jackson**—Sunflower (CBS Assoc.) 365031
- Jim Hall**—Concierto (CBS Assoc.) 365015
- Claude Bolling, Piano**—Bolling Plays Ellington, Vol. 1 (CBS) 364331
- Lee Ritenour**—Portrait (GRP) 363994
- The Manhattan Transfer**—Brasil (Atlantic) 363648
- Crusaders**—The Vocal Album (MCA) 362897
- The Best Of The Manhattan Transfer** (Atlantic) 312009

- Ahmad Jamal**—Crystal (Atlantic Jazz) 362251
- Duke Ellington Orch.**—Digital Duke (GRP) 357350
- Jean Luc Ponty**—The Gift Of Time (Columbia) 361485
- Pat Metheny Group**—Still Life (Talking) (Geffen) 359018

- Sarah Vaughan**—Brazilian Romance (CBS) 359695
- Glenn Miller Orchestra**—In The Digital Mood (GRP) 347492
- Herbie Hancock**—Future Shock (Columbia) 321331
- Diane Schuur And Count Basie Orch.** (GRP) 361048

- Round Midnight**—Original Sound Track (Columbia) 349613
- Spyro Gyra**—Stories Without Words (MCA) 360016
- George Benson/Earl Klugh**—Collaboration (Warner Bros.) 356501

LEGENDARY JAZZ PERFORMANCES

- The Gil Evans Orchestra**—Out Of The Cool (MCA/Impulse) 370072
- Various Artists**—The Impulse! Collection Volume I (MCA/Impulse) 369561
- Art Blakely Quartet**—Jazz Messengers (MCA/Impulse) 374975
- Oliver Nelson**—Blues And The Abstract Truth (MCA/Impulse) 374934
- Quincy Jones**—The Quintessence (MCA/Impulse) 374918

- John Coltrane**—Giant Steps (Atlantic) 371591
- Woody Herman**—The Thundering Herds (Col. Jazz: Masterpieces) 368993
- The Be-Bop Era**—Various Artists (Col. Jazz: Masterpieces) 368969
- The Lyrical Stan Getz** (Col. Jazz: Master) 368951
- The Best Of Chess Jazz**—Various Artists (Chess) 363937



Miles Davis—Sketches Of Spain (CL Jazz Masterpieces) 353037

Louis Armstrong and His All-Stars—Satch Plays Fats (Col. Jazz Master) 353169

Duke Ellington Orch. & Count Basie Orch.—First Time The Count Meets The Duke (Col. Jazz Master) 353078

The Dave Brubeck Quartet—Time Out (Col. Jazz Master) 353060

Atlantic Jazz Bebop—Various Artists (Atlantic) 352112

Benny Goodman—Benny Goodman Sextet (Col. Jazz Master) 347930



Charlie Parker—Bird / The Savoy Recordings (Master Takes) (Savoy Jazz) 373340-393348

Charlie Christian—The Genius Of The Electric Guitar (Col. Jazz Masterpieces) 362707

The 1950's—The Singer—Various Artists (Col. Jazz Master) 357731

The Thelonious Monk Quartet—Monk's Dream (Col. Jazz Master) 357723

Billie Holiday—From The Orig. Decca Masters (MCA) 354985

Charles Mingus—Mingus Ah Um (Col. Jazz Master) 354795

© 1989 CBS Records Inc.

From Charlie Parker to Chick Corea—and all the jazz in between—now all available on CD! As your introduction to the CBS Compact Disc Club, you can choose any 8 CDs listed in this ad for 1¢. Fill in and mail the application—we'll send your CDs and bill you for 1¢ plus shipping and handling. You simply agree to buy 6 more CDs (at regular Club prices) in the next three years—and you may cancel membership anytime after doing so.

How the Club works: About every four weeks (13 times a year) you'll receive the Club's music magazine, which describes the Selection of the Month... plus new hits and old favorites from every field of music. In addition, up to six times a year, you may receive offers of Special Selections, usually at a discount off regular Club prices, for a total of up to 19 buying opportunities.

If you wish to receive the Selection of the Month, you need do nothing—it will be shipped automatically. If you prefer an alternate selection, or none at all, fill in the response card always provided and mail it by the date speci-

fied. You will always have at least 10 days in which to make your decision. If you ever receive any Selection without having 10 days to decide, you may return it at our expense.

The CDs you order during your membership will be billed at regular Club prices, which currently are \$12.98 to \$15.98—plus shipping and handling. (Multiple-unit sets may be somewhat higher.) After completing your enrollment agreement you may cancel membership at any time; if you decide to continue as a member, you'll be eligible for our money-saving bonus plan. It lets you buy one CD at half price for each CD you buy at regular Club prices.

10-Day Free Trial: We'll send details of the Club's operation with your introductory shipment. If you are not satisfied for any reason whatsoever, just return everything within 10 days and you will have no further obligation. So why not choose 8 CDs for 1¢ right now?

ADVANCE BONUS OFFER: As a special offer to new members, take one additional Compact Disc right now and pay only \$6.95. It's a chance to get a ninth selection at a super low price!

CBS COMPACT DISC CLUB, 1400 N. Fruitridge Pkwy., Box 1129, Terre Haute, Indiana 47811-1129 105/F89

Please accept my membership application under the terms outlined in this advertisement. Send me the 8 Compact Discs listed here and bill me 1¢ plus shipping and handling for all eight. I agree to buy six more selections at regular Club prices in the coming three years—and may cancel my membership at any time after doing so.

SEND ME THESE 8 CDs FOR 1¢		

My main musical interest is (check one): (But I may always choose from any category)
 Jazz Soft Rock Classical*
 Dave Brubeck, John Coltrane, Debbie Gibson, Vladimir Horowitz,
 Kenny G, Al Jarreau, Fleetwood Mac, Luciano Pavarotti

Mr. _____
 Mrs. _____
 Miss _____
 Print First Name Initial Last Name

Address _____ Apt. _____

City _____

State _____ Zip _____

Do you have a VCR? (04) Yes No

Do you have a credit card? (03) Yes No 397/F6 398/F7

ADVANCE BONUS OFFER: Also send me one more CD right now at the super low price of just \$6.95, which will be billed to me.

Note: we reserve the right to reject any application or cancel any membership. These offers not available in APO, FPO, Alaska, Hawaii, Puerto Rico, write for details of alternative offer. Canadian residents served from Toronto. Applicable sales tax added to all orders. *Classical members serviced by the CBS Classical Club.

CBS COMPACT DISC CLUB: Terre Haute, IN 47811

Jerry Jeff Walker's new album, *Live at Gruene Hall*, features a warm performance and a very fine on-location recording.

Cantor's flagship, "Makin' Whoopee!" and from out in left field, there's a gorgeous cover of the insipid Gerry and The Pacemakers hit "Don't Let the Sun Catch You Crying."

If you like what you hear here, be sure to check out the Rounder-distributed release of Dr. John's first solo piano album, *Dr. John Plays Mac Rebennack* (Clean Cuts CCD-705). For spice, it contains three never-before-available bonus cuts. It is superb, a natural companion to *In a Sentimental Mood*. Technically, it's much cleaner.

Michael Tearson

Pictures from the Front: Jon Butcher
Capitol CDP-90238-1, LP; C2-90238-2, CD; AAD; 43:06.

Sound: B+/A Performance: B

On the surface, there's little to separate Jon Butcher from the pack of killer singer/songwriter/guitarists that are all the rage these days. But if you listen hard and get below the surface, you can distinguish between them—and Butcher will stand out.

The sound of *Pictures from the Front*, co-produced by Spencer Proffer, is that of immaculately crafted, hook-laden album rock. Butcher's singing has a nice edge and carries conviction. His guitar playing is at once smooth, smokin', and tasteful, with nods to Hendrix. He is very talented, like a lot of others, but where Butcher really stands out is in his lyrics. In ironic contrast to what you'd expect with this style of music, teen-love clichés are replaced by a gritty landscape filled with desperate people—the unemployed, junkies, victims of racism—hustling to survive on unkind streets. Butcher isn't really preaching so much as he's observing the darker side of the American dream.

If you like good guitar rock, with the added bonus of sensitive, intelligent lyrics, Jon Butcher's *Pictures from the Front* is worth checking out.

Michael Wright

Live at Gruene Hall: Jerry Jeff Walker
Rykodisc RCD-10123, CD; AAD; 45:14.

Sound: B+ Performance: A

Not long ago, on his home turf in Gruene, Texas, Jerry Jeff Walker recorded one of his very best albums



with this new live set. There are old songs like his own "Little Bird" and Gary White's "Long, Long Time" (best known for Linda Ronstadt's version nearly 20 years ago) and new ones, too. He does them all up real well, with a dandy band that features Lloyd Maines, Champ Hood, and Johnny Gimble on pedal steel guitar, lead guitar, and fiddle. Willie Nelson and co-producer Jim Rooney sing along on a great old Steve Frumholz song called "The Man with the Big Hat (Is Buying)." There are three terrific new songs, by the previously unheralded Chris Wall, which mark his as a name to look for in the future.

The live recording is excellent. The warmth of the performances and the rapport with the audience are captured very well indeed. Editing is effective and unobtrusive. (Editor's Note: We're currently using this album for our initial evaluations of loudspeakers. The music is enough fun that it survives the repetition of this sort of testing, while Jerry Jeff's voice, very well recorded, makes it easy to see which speakers are right and which are wrong.—E.P.)

Jerry Jeff Walker's *Live at Gruene Hall* is an album that will surely wear well over time. It plays natural, easy, and true.

Michael Tearson

Powerful Stuff: The Fabulous Thunderbirds

CBS Associated ZK-45094, CD; 43:01.

Sound: B+ Performance: C+

Rock and Real: Joe Grushecky and The Houserockers

Rounder CD-9020, CD; ADD; 40:29.

Sound: C Performance: C

Tied to the Tracks: Treat Her Right
RCA 9596-2-R, CD; 46:16.

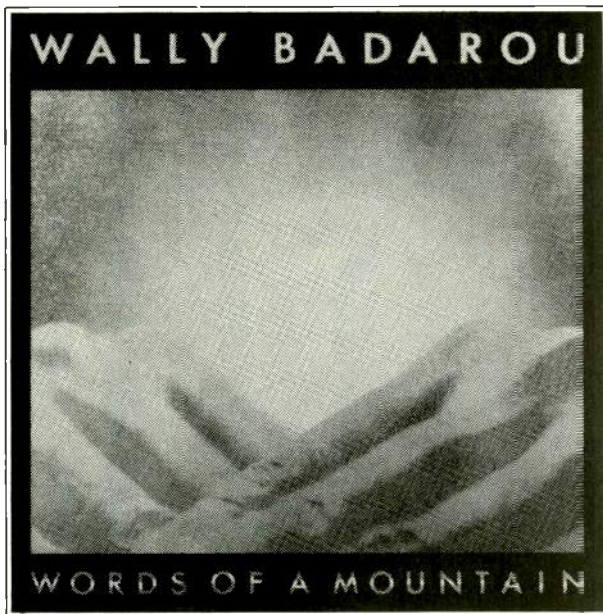
Sound: A- Performance: A

In virtually every town of any size across this great land, you can go out on the weekend and, without too much trouble, find a creditable bar band playing sweaty, rocking rhythm and blues, the kind of stuff the folks at Alligator Records have termed "House-rockin' music." This music is a genuinely American form, and these discs are prime, road-tested examples.

Certainly the best known of these outfits is The Fabulous Thunderbirds from Austin, Texas. A tight little four-piece band, they are powered by Kim Wilson's strong voice and harmonica and Jimmie Vaughan's red-hot guitar over the Fran Christina/Preston Hubbard rhythm section. On *Powerful Stuff*, producer Terry Manning (who also produces George Thorogood, among others) adds some keys and horns to flesh out their sound.

The result is that, while this album is engaging, it is not their best work. The Fab Ts seem to be groping for another "Tuff Enuff," their huge hit of a few years back. Perhaps this search is what left them with the less than great material used here. It is no accident that the band sounds loosest and plays best on the vintage 1961 Slim Harpo oldie "Rainin' in My Heart" and the new "Soul Man"-like Hayes/Porter song "Now Loosen Up Baby." The sound of the album is very good, spare, and lean. Alas, it's a pity that the songs included are pretty lean, too.

Joe Grushecky and The Houserockers first recorded as the Iron City Houserockers in the early '80s. Entering the '90s, they persevere with fine



ART FOR MUSIC LOVERS



PRODUCER: WALLY BADAROU EXECUTIVE PRODUCER: CHRIS BLACKWELL
AVAILABLE ON ISLAND COMPACT DISCS, CASSETTES AND RECORDS

FREE COMPACT DISC FOR AUDIO HARDWARE RETAILERS

We'd like you to hear the perfect demonstration disc for audio showrooms.

Hear the art of Wally Badarou FREE!

Wally Badarou's synthesizer skills lurk behind some of the most influential hit songs of the past ten years. His new album, "Words of a Mountain" explores the full, evocative qualities of electronic music, making it *the perfect demonstration disc for audio showrooms.*

For your free compact disc of Wally Badarou's "Words of a Mountain," simply fill out this coupon, or send a letter of request on your company's stationary, and mail it to: WALLY BADAROU, c/o Island Records, 14 E. 4th St., New York, NY 10012

Your Name _____

Store Name _____

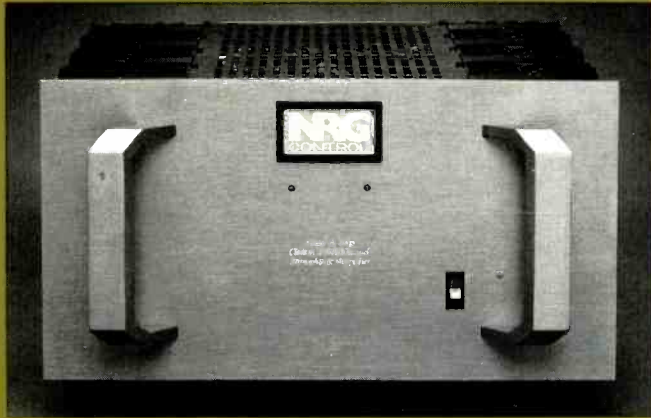
Store Address _____

City _____ State _____ Zip _____

(Area Code) & Phone _____

* One request per store location * Offer available while supplies last * Offer available to accredited audio hardware dealers only * No purchase necessary, offer void where prohibited by law

The New Gold Standard



	MODEL A 200S	MODEL A 400M	MODEL 400S
CLASS	A	A	A/AB
TYPE	Stereo	Mono	Stereo
POWER AT 8 OHMS	200 W/Ch	400 W	400 W/Ch
MAXIMUM CONTINUOUS POWER	1500 W/Ch at 1 ohm	3000 W at 1 ohm	1500 W/Ch at 2 ohms
SLEW RATE	600 V/μs	800 V/μs	800 V/μs
DAMPING FACTOR	500 Minimum	500 Minimum	500 Minimum
BAND WIDTH	1 MHz	1MHz	1 MHz

Send for Literature:

NRG CONTROL, INC., P.O. Box 389, Walled Lake, MI 48088, U.S.A.

Enter No. 72 on Reader Service Card

CD-BOX™, TAPE-BOX™ & VHS-BOX™

Introducing
Maple
\$49.95 & \$59.95



The CD-BOX, TAPE-BOX, and VHS-BOX are stand alone units. They fit in the space intended for LPs in audio-video furniture and shelves. The solid hardwood drawer faces suit any decor. Maple units offer the quality and efficiency of our original BOXES at a lower price. CD-BOX stores 60 discs in two drawers, with dividers. Holds multi-CD albums. TAPE-BOX, four drawers, hold 64 audio and 8mm cassettes or 48 VHS-Cs. CD & TAPE : w 6 3/8", h 12 3/4", d 14 3/4" VHS-BOX holds 24 VHS or Beta cassettes in two drawers. w 9", h 12 3/4", d 14 3/4"

To order call 800-247-2018.

CD-BOX & TAPE-BOX

Maple	\$49.95
Light & Dark Oak	64.95
Black Lacquer & Walnut	69.95
Teak	79.95

VHS-BOX

Maple	\$59.95
Light & Dark Oak	74.95
Black Lacquer & Walnut	79.95
Teak	89.95

Ship UPS per unit, in cont. US. \$5.00

30 day money-back satisfaction guarantee.

Designed and manufactured in the USA
By Hills Products Inc. 603-464-3999
PO Box 1015, Hillsboro, NH 03244



Enter No. 50 on Reader Service Card



spirit. Joe's growling voice suits what he does well, but it is a thinner voice than Kim Wilson's and his range is consequently narrower. The band seems to favor easy-paced middle tempi, which they play real well. But this recording needs more rude, go-for-the-throat abandon and less politeness. Best songs are the title cut, the story song about "The Biddle Mine," and "Memphis Queen," but depth of good material is a weak point here.

Boston's Treat Her Right, named for the old Roy Head hit, serves up a solid set of snaky songs on their second album *Tied to the Tracks*. From the first slide-guitar-driven notes of the opening "Junkyard," these guys radiate authority and wit. Guitarists Mark Sandman and David Champagne (he's the slide player) split songwriting chores, and each comes up with enough goodies for there to be almost an embarrassment of riches in the songs. Surprisingly, Treat Her Right has a sharp taste for the succinct, as only two of the 12 songs go beyond 4:00, and seven are under 3:10. They are also a band that has mastered the difficult art of playing slow. Like Little Feat, the slower they play, the better they play and the funkier they get.

The one cover here is the almost too clever choice of Captain Beefheart's "Nowadays a Woman's Got to Hit a Man." Ironically, the vocals work least well on this song, but the groove is solid and sassy. By the way, the finale, "Back to Sin City," shows that they can rock fast and convincingly, too.

John Mellencamp's producer, Don Gehman, has done a terrific job. The sound is rich and startlingly full, with great presence and excellent stereo range and effects.

Tied to the Tracks is a winner!

Michael Tearson

ORIGINAL MASTER RECORDINGS™

ULTRADISC™

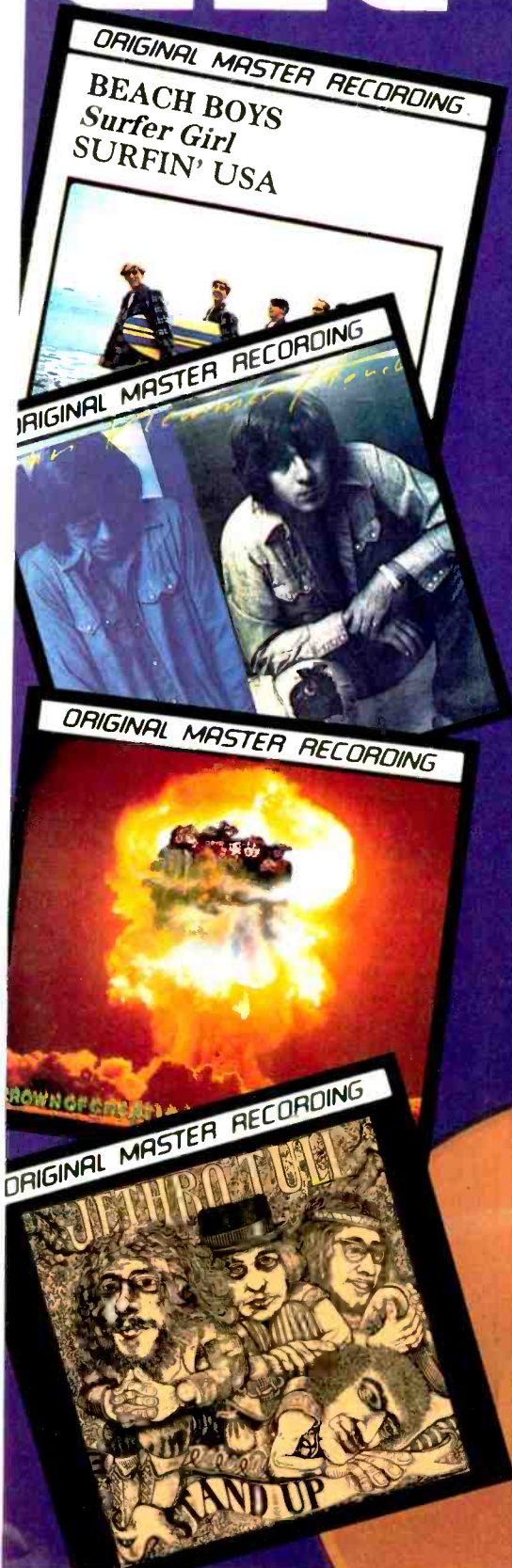
The Sound with the Midas Touch.

The 24K gold answer in the quest for optimal compact disc reproduction. Original Master Recordings that demand Intelligent Engineering and Proprietary Mastering Technology. Exacting Technical Specifications satisfied by a process that offers a compact disc with the Highest Reflectivity and Enhanced Longevity.

*Current releases on **ULTRADISC™**: The Police, Def Leppard, The Beach Boys & more.*

*Upcoming titles on **ULTRADISC™**: Jethro Tull, Elton John, Sting & more.*

*The **ULTRADISC™** is protectively packaged in the "Lift-Lock" jewel box*



For a complete free Original Master Recordings catalog, call toll free: 800-423-5759, or write: Mobile Fidelity Sound Lab, 1260 Holm Road, Petaluma, CA 94954.

Enter No. 65 on Reader Service Card

Julianne Baird and Ronn McFarlane pace their hour of lute song beautifully, full of variety within the minimalist scope.



Photograph: Frank Miceli

of our earlier interest in things Spanish. Patriotism, of course, is everywhere—of the good old sort. Here is the Liberty Bell March, with the clanging sound of a metal pipe gong. All in all, British reserve or no, this is a pleasing tribute to a man who increasingly appears as one of our real geniuses in his special area. Nobody, but nobody, writes band marches like Sousa's.

Edward Tatnall Canby

Giovanni Bottesini: Virtuoso Double Bass. Thomas Martin; Anthony Halstead, piano.

ASV (Harmonia Mundi) CDDCA-626, CD; DDD; 71:49.

Signor Bottesini, born 1821, was the hottest double-bass soloist around Europe for a long time—played for kings and queens, and so on. Also, as did almost all virtuosos in the last century, he composed. And arranged. By the looks of a few pictures, he was somewhat of a sideshow himself—a thin man doing zany acrobatics to reach around and over his enormous elephant of a fiddle and make it talk. Surprisingly, though, he is quite a good composer of real Romantic music, full of operatic flourishes amid much sighing and passion (on the bass!) but solidly built nevertheless, with a commendable structure.

Thomas Martin is Bottesini all over again, as far as the playing goes. He makes the big bass beast growl and squeak and sing high tunes with the greatest ease. Mostly it sings in falsetto—i.e., harmonics—or very high up on its highest string. Only once in a while is there a cavernous grunt to shake the walls, reminding us of the real nature of this music machine. You can almost forget it, what with the pleasant tunes and clean harmonic ornamentation.

I have to add that there is a piano, and this pianist is unusual. He is a dramatic powerhouse—enthusiastic, full of rhythm—and in all truth, he carries the recording forward. Not that Martin's bass lags behind, but, let us say, he is able to meet the pianist's verve, tit for tat. With a lesser pianist, it might be different. Kowtows to Anthony Halstead!

The piano, by the way, is curiously hard toned in its louder ranges, a sound that just happens to be highly

appropriate for mid-19th-century music. It blends better with the string sound and also makes for higher drama. I can't find any info on this in the CD package, though.

Oh yes, forgot to mention an interesting bit of programming—a soprano voice for just one item, squarely in the middle of this lengthy CD. It comes just as you think maybe you have had enough of the big bass for a moment. And the soprano, Jacquelyn Fugelle, is good. No brash and sudden interruption; she fits into the mood perfectly, and you are then ready to return to the bass, refreshed. Might be an accident: This material comes from two earlier, separate LPs. But it works, and should be noted. On the long CD span, programming is very important, and a turnoff all too easy.

Edward Tatnall Canby

The English Lute Song. Julianne Baird, soprano; Ronn McFarlane, lute. **Dorian DOR-90109, CD; DDD; 65:11.**

A splendid example of good programming for CD here. More than an hour's worth of little songs, modest in scope, mostly a minute or two long, yet immensely expressive. And all accompanied by the modest sound of the lute—in fact, two different lutes, alternatively—a sophisticated but equally modest instrument, never loud nor aggressive. Minimalism at its best.

Even well sung and well played, such a program can be deadly in monotony—too much of the same. But there are ways to cope. These performers (and their producer?) are aware. This disc is perhaps primarily for a live audience but, by good luck or intention, also for the CD listener. I began lukewarm. I ended up convinced. It often happens on CD, where you can

work yourself into the music at leisure and at length.

If you are an Elizabethan fan (better, Elizabethan/Jacobean, on into the reign of James I), this is the music you adore. It is the essence of restraint, of underplay. These two performers could not do it better, a very small voice (at least as she sings here) and the small but rich sound of the lute, aristocratic where the guitar is popular. The program is beautifully paced, full of variety within the tiny scope, and every so often, just at the right moment, there's a solo for the lute to give the ear a change. On CD, with a touch of your finger, you may recall any of these 27 little songs instantly.

Never forget that behind these songs' deliberately small expressions lie frightening potencies. It was a rough and dangerous age, full of savagery in the flesh. Which is doubtless the reason why it prized the very opposite in its music and poetry.

Edward Tatnall Canby

Shostakovich: Symphony No. 10; Ballet Suite No. 4. Scottish National Orchestra, Neeme Järvi. **Chandos CHAN-8630, CD; DDD; 66:02.**

It takes a certain preference for thick and heavy neo-Romantic music to allow enjoyment of a work like this, which, like so much Shostakovich, is long and . . . should I say, unremitting? I got through, but barely, since I prefer terseness unless there is a very good reason for going on and on. Yes, this is a beautifully constructed work, in its way, and some call it his best symphony, dating from 1953. But it is the first of the all-over (mostly) gloomy works that increasingly characterized his output until his death in 1975. At the same time, it carries on the big, noisy lengths of the monumental wartime symphonies such as the Seventh. So take it or leave it, accordingly.

The Scottish National Orchestra has clearly gone international, with outlander conductors from all over jetting in and nothing Scots-sounding at all. Not a kilt in sight, musically speaking, but a very considerable competence in a world-span way. Chandos, an English label, has got a good thing here.

Edward Tatnall Canby

The miracle of Presti and Lagoya was how well they anticipated each other's moves, how balanced their contrasting tone colors.

Baroque Music for Guitars. Ida Presti and Alexandre Lagoya.

Philips 422-285-2, CD; ADD; 71:52.

Sound: A Performance: A

Rare moments become even more precious when death cuts them off: Such was the case with Presti/Lagoya, arguably the finest guitar duo in recorded history, which ended with Ida Presti's untimely passing in 1967. Now Philips has digitally remixed and remastered a collection of performances culled from out-of-print albums found here (though rarely) as imports, and released a jam-packed budget CD, *Baroque Guitar*. Don't toss out your LPs, however, since no single album is reproduced in its entirety.

This is distilled sweetness and light, with sublime Sonatas by Domenico Scarlatti, Padre Antonio Soler, Handel, and others and excerpts from Bach's English Suite No. 3 in G Minor. The miracle of Presti/Lagoya was how well they anticipated each other's moves, how balanced the contrasting tonal coloration. Just listen for yourself. Unfortunately, there are no liner notes provided, but that's this release's only flaw. Despite different recording dates (1962, 1963, and 1965), selections are remarkably consistent and noise free. There is some slight, inherent high- and low-end compression, when compared to more modern recordings, but not enough to mar the spine-tingling beauty of Presti and Lagoya's *Baroque Guitar*.
Michael Wright

Federico Mompou. Pierre Huybregts, piano.

Centaur (Harmonia Mundi) CRC-2055, CD; 74:00.

This composer is mainly a faint name to most musicians, and not too well known among pianists. The "rep" is vaguely one of expertly written "salon" music, and this proves to me generally true if one includes, say, Chopin in the salon category.

Mompou here shows up as a real miniaturist—the little works, all 25 of them, average a scant three minutes per. Though Spanish born (1893), his "formative years" were spent in Paris, as was much of his later life—until 1941, when he returned, somehow, to Spain. The latest music on this disc

dates from 1921, but do not expect any Stravinsky stuff or jazz idiom! Far from it. Just an interesting increase in dissonance. He has an expert ear, not only for harmony but, shall I say, for disharmony, as per those later years.

The recording has an odd musico-audio aspect, dividing into two very

distinct parts. The first, played on a Hamburg Steinway piano, is devoted to 13 little "Canciones y Danzas," very much turn of the century in sound, though composed over a long span of years. I found them a bit icky—just too, too much—and this is perhaps enhanced by the performance from the

ONE OF THE BEST BUYS IN AUDIO:

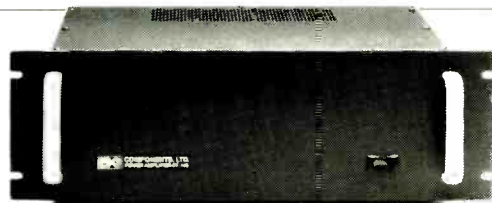
B&K ST-140 Power Amplifier

An audio component that offers both musical sound and excellent value.

In a field littered with supposed giant-killers (i.e., the field of "inexpensive" basic amps with perfectionist aspirations), this solid-state amp is the true standout. The ST-140's sound is musical and well-controlled, with good detail and a degree of smoothness that has prompted many to describe the amp as being "tube-like". Good build quality, too — and we've never heard of anyone having reliability problems with this one. Sure, more money, spent wisely, can buy more pitch certainty, stronger bass, an "airier" top end, a little less artificial texture, etc. But then, more money can (and very often does) buy a lot less. For \$500, the B&K ST-140 seems almost unbeatable. reprinted from HIFI Heretic, Number Ten

FEATURES:

- Class A pre-driver circuitry driving class AB Mosfet output stage.
- Toroidal transformers for highly efficient power supply operation.
- Differential input stage with an active current source load, assuring DC stability and extremely wide band width linearity.
- 5-45 K Hz Frequency Response
- 95 dB Signal to Noise Ratio, A Weighted
- 105 Power Rating (1K Hz at less than .09THD, 8 ohms)
- 14 Amperes (peak to peak)
- 1.4 dB Dynamic Headroom



B&K COMPONENTS, LTD.

1971 Abbott Road, Lackawanna, N. Y. 14218 FAX: (716) 822-8306 NY: (716) 822-8488

1-800-543-5252

Call 1-800-553-4355



For More Information

**Buy a CD player and you'll need a new music collection...
Buy a new ORTOFON cartridge and you'll have one.**



Chances are you have a substantial investment in record albums, many of which will never be available on CD. Replacing your Phono Cartridge with a New Ortofon model will make these recordings sound better than ever before. So before spending hundreds of dollars on CD equipment and recordings, why not invest in something to give new life to your music library? Ortofon cartridge prices start at less than the cost of 3 Compact Discs! For more information, contact:

**Ortofon Inc., 122 Dupont Street, Plainview, NY 11803
516-349-9180**

Enter No. 98 on Reader Service Card

M O R E T H A N
SOUND



**Surround Sound Processor by
Heathkit®**

Surround yourself with a vast assortment of kit or ready-to-use electronic products from the **FREE Heathkit Catalog**. The Heathkit Catalog contains innovative home theater components, amateur radio and weather equipment, laptop computers, self-study electronics courses and challenging starter kits for the first-time builder. Order your **FREE Heathkit Catalog NOW!**

1-800-44-HEATH
(1-800-444-3284)

Send to: Heath Company, Dept. 000-000
Benton Harbor, Michigan 49022

Name _____

Address _____

City _____

State _____

Zip _____

A subsidiary of Zenith Electronics Corporation

Mompou's music is smooth, slippery—not inelegant. And his later pieces are more cogent, less dated, than his earlier works.

Belgian pianist. Further, the Steinway somehow has a hard tone in the recording—not too attractive.

Suddenly we shift to the later music, "Fêtes Lointanes" and "Charmes," and to a different piano, Bösendorfer. Wow! My interest suddenly perked up. A much nicer sound on this piano, at least as recorded—a more cogent, less dated idiom in the little works and, somehow, a better projection by the pianist. Don't ask me to explain.

Mompou is often compared to old Erik Satie, the goat-bearded musical gadfly who satirized so much late-Romantic music with his outrageous titles: "Piece in the Form of a Pear," "Skeletons," and plenty more. In Satie, most of the intrigue is in the titles, though his new styling did indeed heavily influence Debussy and the later French, Poulenc. In Mompou, intrigue is very visible to the pianist in the form of strange notations: No bars, seemingly contradictory indications of tempo. This is not evident, of course, to the listener who doesn't have the music to look at, so it is a kind of "in" satire.

Musically, I like Mompou—the Bösendorfer Mompou—a good deal more than Satie, who can be very boring for the ear when he gets obstinate. And even worse for the player. Mompou is more slippery, smoother, not inelegant. A lesser influence on history than Satie, but maybe the better for it.

Edward Tatnall Canby

Fantasies, Ayres, and Dances: Elizabethan and Jacobean Consort Music. Julian Bream Consort.

RCA 7801-2-RC, CD; DDD; 61:01.

Sound: A Performance: A

England's "Top 40" of 1599 consisted of popular tunes such as John Dowland's "The Frog Galliard," Peter Phillips' "Pavin," and Richard Allison's "The Batchelars Delight" and was published in anthologies such as Thomas Morley's *The First Booke of Consort Lessons*. Now this hit parade is recreated by the Julian Bream Consort on *Fantasies, Ayres, and Dances*.

Featuring treble, bass, and tenor viols, Renaissance flute, pandora, cittern, and lutes, Bream's stellar consort includes such early music luminaries as James Tyler and Robert Spencer and steps lively through a set of both

Rockwell Blake's attempt to reconstruct the sound of a Mozart tenor may win him awards, but he could grow and hopefully will.

lighthearted and somber Elizabethan and Jacobean favorites. Several selections feature tenor Robert Tear, the remainder are instrumentals.

Recorded digitally in London's Wigmore Hall, the sound of these delicate instruments is pristine and well balanced. The principal harmonic voices are carried by the ensemble, while Bream's lute plays "divisions" and improvisations in and around the others.

The Julian Bream Consort's *Fantasies, Ayres, and Dances* is performed with a relaxed *joie de vivre* which adds sparkle to these already delightful popular gems from four centuries ago.

Michael Wright

"Victory at Sea" and other favorites.

Cincinnati Pops Orchestra, Erich Kunzel; William Tritt, piano.

Telarc CD-80175, CD; DDD; 61:02.

The "Victory at Sea" music on this CD is a condensed suite of five selections from the score of the immensely popular TV documentary. Many fans of this music will miss much of what they heard on the old RCA recordings of the complete score. However, they will surely appreciate hearing the five familiar pieces in this suite with such brilliant, punchy, exciting sound.

This is a typical Kunzel/Cincinnati Pops recording from Telarc—a big, lush, open sound with plenty of brilliant brass and bluster and great, thumping percussion. All of it super-charged and highly dynamic.

Bert Whyte

The Mozart Tenor. London Symphony Orchestra, Nicholas McGegan; Rockwell Blake, tenor.

Arabesque Z-6598, CD; 46:44.

Yes, I know. This pleasant-looking young tenor has made a fabulous rep already as "The Rossini Tenor." Critical acclaim, as they say, by the bushel and all sorts of awards. Okay, so now he becomes "The Mozart Tenor"—if rather at short length (a very short CD).

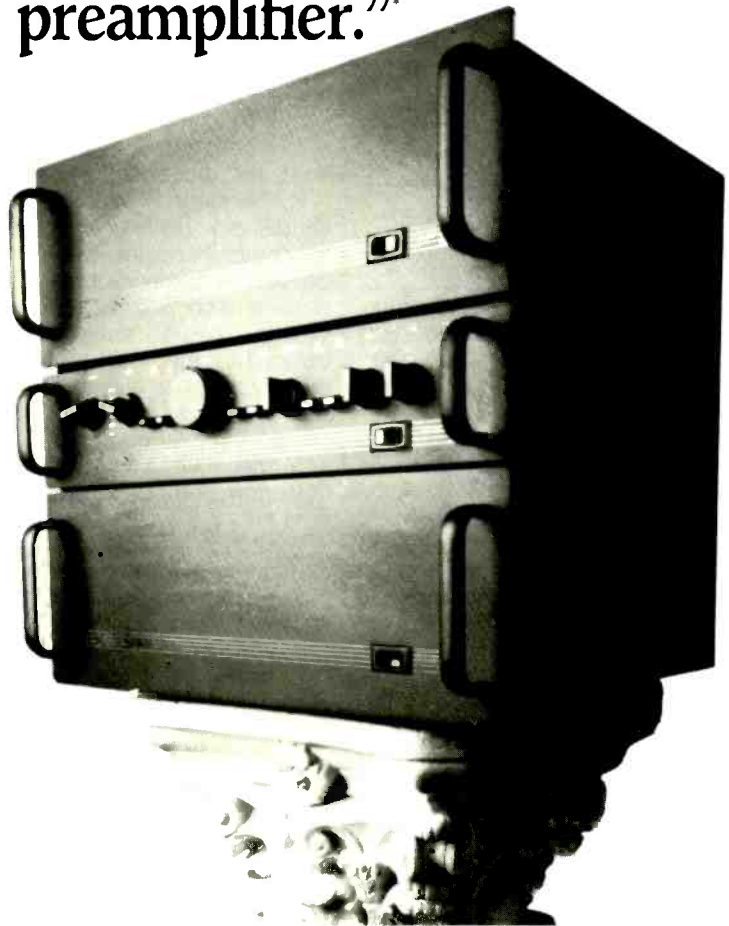
Let me observe that nobody, but nobody, has ever heard the sound of an actual Mozart tenor. That was far back in prehistory, sonically speaking. We try to imagine, to reconstruct, the sort of tenor we think might have sung the notes that are still extant on paper. Lots of us have strong ideas on this

point, including many a tenor himself. Also lots of listeners, who must pick and choose among availabilities.

So—dare I say it?—I was intrigued and looked forward to this record even before it arrived. I played a part of the first piece on it and, sadly, found no reason to go on.

Yes, I know. More awards, surely. Is everybody out of step but me? A minority will surely agree with me, but this review is for those who suspect they would go along. Even so, Blake could grow and hopefully will! I'll be trying him again. As "they" say, he's doing his thing. Edward Tatnall Canby

**"Quite Simply,
the MC-101 is a superb
preamplifier."**



Sonata Series

Music brought to you by B&K.

MARSALIS ARTS



The Majesty of the Blues: Wynton Marsalis
CBS CK-45091, CD.

Sound: A Performance: B+

Trio Jeepy: Branford Marsalis
CBS CK-44199, CD; **CX2-44199**, LP.

Sound: A/A- Performance: A

The Marsalis brothers are at it again, each involved with a multi-tiered jazz work, each expressing himself differently, taking different routes, yet arriving at or near the same place—traditionally and artistically speaking.

Wynton has put forth, in Ellington-like fashion, a complex, expressive, blues-drenched suite centered on his home town, New Orleans. Replete with marches, sermon, and parade, this CD first strips the idiom to the bone, in "The Majesty of the Blues (The Puheeman Strut)," then examines the sub-genre thoroughly, in "Hickory Dickory Dock." Through a catharsis ("The Death of Jazz"), Marsalis' sextet cleanses and dresses the wound, in "Premature Autopsies (Sermon)," thus allowing the healing process to take place and the celebration to begin: "Oh, But on the Third Day (Happy Feet Blues)."

There are a great many titillating, provocative, and introspective passages here. Wynton has a point to make and makes a worthwhile statement about the blues' and jazz's impact on, and place in, American music. On *Majesty*, Wynton surrounds himself with some young but thoroughly schooled musi-

cians: His favorite pianist and cohort, the talented Marcus Roberts, tenor and soprano saxophonist Todd Williams, altoist Wes Anderson, bassist Reginald Veal, and drummer Herlin Riley.

Furthermore, Wynton has matured in his delivery. He is only now beginning to comprehend his ability. Marsalis possesses immense but much unharnessed and still-developing talent. With the media's runaway, overly laudatory barrage, journalists have done this jazz star a disservice, foisting a heavy—and as yet somewhat undeserved—mantel upon him. To be fair, let's check him out 10, 15, or 20 years from now and see what kind of numbers he's put on the board.

Wynton is *learning* to be great. This is encouraging and makes *Majesty* that much more enjoyable. It is not by accident, nor even design, but out of genuine tribute that Marsalis offers a spot on the session to acknowledged elder statesmen—clarinetist Michael White, trombonist Freddy Lonzo, and Danny Barker on banjo—each of whom treats the all-Marsalis material specially, adding the called-for innate, Crescent City feel. Armstrong comes alive during "Death"; Jelly Roll Morton is omni-present on "Happy Feet," and one senses Sidney Bechet's presence throughout.

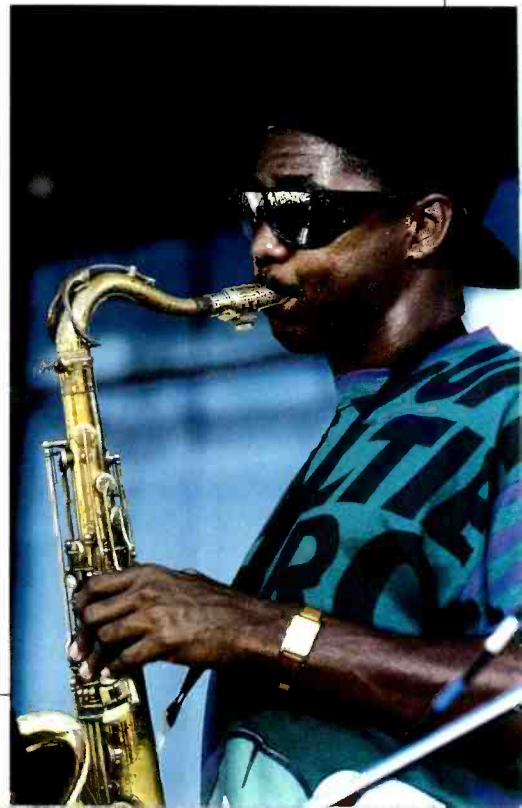
Ultimately, *Majesty* must be thought of as a rhythmic experiment. Mostly it succeeds, reminding us not only of those Wynton would like to remind us of (Satchmo, Bechet, Bird, Monk, Trane, Ornette and, more than any-

one, Ellington) but also modernists such as trumpeter Lester Bowie, who has woven tradition throughout his Brass Fantasy work, and keyboardist Carla Bley.

Aside from the heavy-handed, predominantly unaccompanied 16-minute oratory, *Majesty* accomplishes what it sets out to do: Offer us a blues primer.

Meanwhile, brother Branford's energetic and exhaustive double-LP/CD delight, *Trio Jeepy*, ranks as one of the year's most important releases. Like Wynton, Branford shows great deference to those who preceded him. Song selection ranges from Hoagy Carmichael's "Stardust" (oddly enough, as the bonus track, it's heard on the LP only) and "The Nearness of You," to Billy Strayhorn's "UMMG," to Ornette Coleman's "Peace," to present-day originals.

In fact, it is the Saxophone Colossus who most comes to mind here. As with Sonny Rollins, Branford's warmth, softness, and easy-going nature, working in tandem with his hard-edged, uncompromising musical attitude, will earn him a deserved spot in jazz history. It is no accident that Branford not only covers Rollins' "Doxy" here but, as the senior saxophonist did some 32 years earlier, also sets up this album in a pianoless trio format. He is joined in



Photographs: ©David Gahr

GLISTEN TO THE MUSIC!



SZAKCSI
"MYSTIC DREAMS"

NELSON RANGELL
"PLAYING FOR KEEPS"

DAVE GRUSIN
"MIGRATION"

LEE RITENOUR
"COLOR RIT"

THE RIPPINGTONS
"TOURIST IN PARADISE"

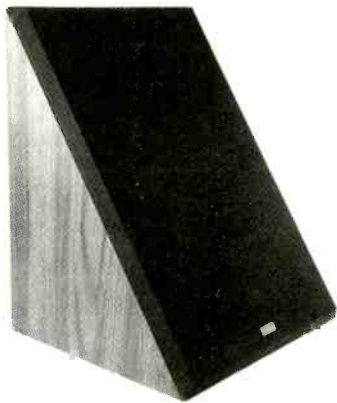
NEW YORK VOICES



Available on
Compact Disc,
HQ Cassette
and Records
© 1989 RCA Records

Enter No. 48 on Reader Service Card

THE
DIGITAL MASTER
COMPANY



RESOLUTION:
"the ability to
bring details
into focus"

Resolution. Focus. Clarity. Whatever you call it, the meaning is the same. Hearing subtle nuances; hearing the spaces between the sounds. Don't settle for less than you deserve. Spica speakers have it. You can too, for about half of what you'd expect to spend. Of course, you could choose to live without it. But why would you want to?

Call for the name of the
authorized Spica dealer
nearest you.

spica
HIGH RESOLUTION LOUDSPEAKERS

3425 Bryn Mawr NE
Albuquerque, New Mexico 87107
(505) 883-6120

The Divine Sarah Vaughan is an incredible sampling of her formative years. It shows why, even then, she was a legend.

this effort by the youthful, exuberant Jeff "Tain" Watts on drums, the ageless (79) bassist/photo-documentarian Milt Hinton, and on "Doxy," "Peace," and "Random Abstract (Tain's Rampage)," bassist Delbert Felix, who replaces Hinton.

"You have to be precocious to be sure," Rollins said about his pianoless setting on his own "Freedom Suite." "The challenge in that kind of playing [without a keyboard] is extended when you are doing it just with trio. . . . You have to make sure it doesn't get monotonous, just being three instruments. The plus side of it is that you have more freedom—if you are willing to deal with it."

Indeed, Branford represents a primary modern-day voice. However, like his brother Wynton, he has absorbed and learned a lot from those who precede him. The trio's original "Gutbucket Steepy," a slow, slow blues, reeks of the Southwest—of Arnett Cobb and Budd Johnson. And you know Hinton is magical on such arrangements. "Stardust" brings Prez back to life; Strayhorn's "UMMG" is Coltrane and Mobleyesque, as is "Makin' Whoopie (Reprise)." (There's a brief 40-second version of this number followed later by an 8-minute rendition.)

If there was any doubt about Branford Marsalis' ability, sense of history, and dedication to the art of jazz and saxophone, *Trio Jeepy* should lay it to rest. This is a magnificent endeavor.

Jon W. Poses

The Divine Sarah Vaughan—The Columbia Years, 1949-1953

Columbia C2K-44165, two CDs; 43:44 and 39:57.

Sound: B+ Performance: B+

This incredible two-volume Compact Disc set encompasses Sarah Vaughan's formative years when, as a 25-year-old stylist, she was making the transition from nightclub performer to major concert attraction. *The Divine Sarah Vaughan* represents approximately half the body of her Columbia work; given the quality of some of the songs of the period, the remainder is probably best forgotten. This release highlights an early chapter in a prodigious recording career and reveals why, even then, she was a legend.



Sarah Vaughan's style was considered a startling innovation, unlike anything her predecessors had been doing. She approaches a song as an instrumentalist might, using her skill as an accomplished musician to improvise with assured daring. Her vocal technique displays an innate sense of timing and control and, at her best, an impeccable clarity of diction. Few vocalists possess her dynamic range, which extends a full two octaves comfortably. There is an operatic tone to the upper register of her rich contralto tessitura, which she employs sometimes for effect.

All this is apparent on the 28 songs in this package. Many of them will be familiar, and, indeed, Vaughan has recorded some of them more than once over the years ("I Cried for You," "Mean to Me," "Summertime," and "Perdido" come to mind). While the orchestrations occasionally show their age—as do the limitations of the original technology—Sarah Vaughan's voice, then, as now, is a revelation. Listen to the eight sides Vaughan cut on two dates in May 1950 with then-husband George Treadwell's All-Stars. The group included a trumpeter who had created a sensation the year before, with the release of *The Birth of the Cool*. His name: Miles Davis.

Several of the transfers exhibit noise, as transcriptions from glass matrixes were sometimes used. But overall, engineer Mark Wilder has done an excellent job with the digital restoration, and the sonics are unimpaired.

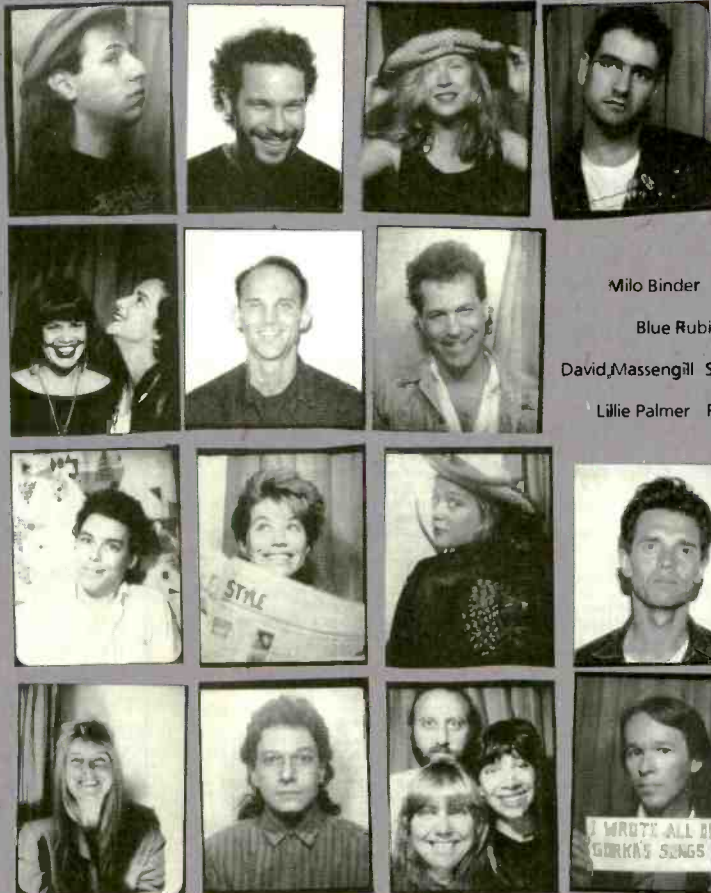
The Divine Sarah Vaughan—The Columbia Years, 1949-1953 is a welcome addition to the CD library of admirers

Photograph: Frank Driggs Collection

New Faces. New Folk.

LEGACY

A COLLECTION OF NEW FOLK MUSIC



Left to right

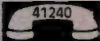
Milo Binder John Gorka Anne Bourne Kirk Kelly

Blue Rubies Steven Roback Cliff Eberhardt

David Massengill Sara Hickman Rebecca Jenkins Ian Matthews

Lillie Palmer Pierce Pettis Uncle Bonsai Bill Morrissey

Fifteen performances and one hour of music from some of the most promising, emerging, singer-songwriters of our time.

Hear for yourself. Call 1-800-553-4355 



WD6-1086



USE WHAT THE PROS USE

For over 20 years, S-711 INTRACLEAN® has been the professionals choice for cleaning tape heads, capstans, and pinch rollers. Professional recording engineers know that S-711's proprietary formulation of halogenated hydro-carbons breaks apart, not only tape oxides, but tape adhesives that clog the tape head's critical micro-gap area. In addition, S-711's remarkable rejuvenation abilities, restore lost life to the pinch roller. In fact, S-711 is so effective, that the worlds foremost manufacturer of Cassette Recorders, NAKAMICHI, chooses to use S-711 in their own service department.

INTRACLEAN® has maintenance products for all formats of audio, video, and digital sound reproduction. For more information or to find the authorized INTRACLEAN® DEALER in your area call 800 777-9580 (9am-4pm PST).

INTRACLEAN® RECORDER CARE PRODUCTS is a division AMERICAN RECORDER TECHNOLOGIES, INC., P.O. Box 3592, Simi Valley, CA 93063

Where to buy Polk Speakers

AUTHORIZED HOME DEALERS

CANADA Call Evolution Technology, Toronto for nearest dealer 1-416-947-8888
AK Anchorage: Magnum Electronics • Fairbanks: Hoyt's
AL Birmingham: Audition • Dothan: International Audio • Huntsville: Sound Distributors • Mobile: Hi Fi Zone • Montgomery: The Record Shop • Tuscaloosa: Kincaid Stereo & TV
AR Fayetteville/FL Smith: Stereo One • Little Rock: Leisure Electronics • Searcy: Softmark
AZ Phoenix/Mesa: Hi Fi Sales • Tucson: Audio Emporium • Yuma: Warehouse Stereo
CA Bakersfield: Casa Moore • Campbell: Sound Goods • Canoga Park: Shelley's • Carpinteria: Creative Stereo • Chico: Sounds By Dave • Corona Del Mar: Pacific Coast Audio Video • Escondido: Sound Company • Eureka: Eureka Audio Video • Lancaster: California Soundworks • Longbeach: Audio Concepts • Mountain View: Sound Goods • Napa: Futurvision • Orange: Absolute Audio • Penn Grove: California Stereo • Redondo: Systems Design • Riverside: Speakercraft • Sacramento: Good Guys • San Diego: Sound Company • San Francisco & Suburbs: Good Guys, Performance Stereo • San Gabriel: Audio Concepts • San Jose: Good Guys • San Luis Obispo: Audio Ecstasy • Santa Barbara: Creative Stereo • Santa Cruz: Sound Wave • Santa Maria: Creative Stereo • Santa Monica: Shelley's Stereo • Stockton: Gluskins • Thousand Oaks: Creative Stereo • Upland: Audio Haven • Ventura: Creative Stereo • Victorville: Incredible Sounds • Visalia: Metro Stereo • Westminster: Videotek Stereo
CO Boulder: Soundtrack • Colorado Springs: Sunshine Audio • Denver & Suburbs: Soundtrack • Glenwood Springs: Stereo Unlimited • Grand Junction: Sound Company • Minturn: Custom Audio Video • Pueblo: Sunshine Audio
CT Avon: Hi Fi Stereo House • Danbury: Carlson's • Fairfield: Audio Design • Greenwich: Al Frank Inc's • Hartford: Al Frank Inc's • New Haven: Audio • Newington: Hi Fi Stereo House • New London: Robert's • Norwalk: Auditorics • Waterbury: Zimmo Music
DE Wilmington: Bryn Mawr Stereo
FL Daytona Beach: Stereotypes • Ft. Myers: Stereo Garage • Ft. Lauderdale: Sound Advice • Ft. Pierce: Sound Shack • Ft. Walton Beach: Audio International • Gainesville: Electronics World • Jacksonville: Audio Tech, Spectrum Home Theater • Key West: Audio International • Lakeland: Sound Factory • Mary Esther: Palm Audio Video • Merritt Island: Southern Audio • Miami: Electronic Equipment Co., Sound Advice • Naples: Stereo Garage • Panama City: Watsound Stereo • Pensacola: All Pro Sound • Sunrise: Sound Advice • St. Petersburg: Cooper for Stereo, Sound Advice • Tallahassee: Stereo Store • Tampa: Sound Advice • W. Palm Beach: Electronic Connection, Sound Advice
GA Athens: Hi Fi Buys • Atlanta & Suburbs: Hi Fi Buys • Augusta: Stereo City • Brunswick: H & H Service Store • Columbus: Merit TV • Gainesville: Audio Dimensions • Macon: Georgia Music • Savannah: Audio Warehouse • Valdosta: Stereo Connection
HI Honolulu: Honolulu Audio Video
IA Davenport: Grigg's Music • Des Moines: Audio Labs • Dodge City: Sound World • Dubuque: Remiers Iowa City: Hawkeye Audio • Mason City: Sound World • Sioux City: Audio Visions • Waterloo: Team
ID Boise: Stereo Shoppe • Moscow: Stereo Shoppe • Sandpoint: Electracraft • Twin Falls: Audio Warehouse
IL Alton: Reliable Stereo • Aurora: Stereo Systems Inc. • Carbondale: Southern Stereo • Champaign: Good Vibes • Chicago & Suburbs: United Audio • Decatur: Team Electronics • Highland Park: Columbia • Joliet: Stereo Systems • Kankakee: Barrett's Entertainment • Naperville: Stereo Systems • Normal: Sundown One • Peoria: Team Electronics • Rockford: Columbia • Springfield: Sundown One • Spring Valley: Audio Labs • Sterling: Sterling Electronics
IN Bloomington: Campus Audio • Bluffton: Eley TV & Appliance • Evansville: Risley's • Ft. Wayne: Classic Stereo • Indianapolis: Ovalton • Lafayette: Good Vibes • Marion: Classic Stereo •

Michigan City: Audio Connection • Muncie: Classic Stereo • South Bend: Classic Stereo • Terre Haute: Stereo Crafters
KS Junction City: Audio Junction • Kansas City: Brands Mart • Overland Park: Audio Electronics, Brands Mart • Wichita: Audio Visions • Topeka: Nelson's
KY Bowling Green: Audio Center • Lexington: Ovalton Audio • Louisville: Audio Video Buy Design • Owensboro, Paducah: Risley's • Pikeville: Mayo Inc.
LA Alexandria: Simpson Electronics • Lafayette: Sound Electronics • Metairie & New Orleans: Alterman Audio
MA Boston: Goodwins, Waltham Camera & Stereo • Fitchburg: Fitchburg Music • N. Dartmouth: Sound II • Pittsfield: H.B.S. Stereo • Worcester: O'Coins
ME Bangor: Sound Source • Camden: Harbor Audio • Portland: New England Music
MD Baltimore: Soundscape • Gaithersburg: Audio Buys
MI Ann Arbor: Hi Fi Buys • Birmingham: Almas Hi Fi • Dearborn: Almas Hi Fi • Farmington Hills: Almas Hi Fi • Flint: Iron Center • Grand Rapids: Classic Stereo • Iron Mountain: Sound North • Kalamazoo: Classic Stereo • Lansing/MI: Hi Fi Buys • Potosky: Kurtz Music • Saginaw: Court St. Listening Room • Traverse City: Kurtz Music
MN Alexandria: Sound Shop • Duluth: Mel's TV & Audio • Mankato: Audio King • Minneapolis & Suburbs: Audio King • Rochester: Audio King • St. Paul: Audio King
MO Cape Girardeau: Stereo One • Columbia: Johnston Audio • Kansas City: Brands Mart • St. Louis: Sound Central
MS & Hattisburg: McLelland TV • Jackson: Hooper's • Pascagoula: Empress
MT Billings: Video Set • Sound Bozeman: Thirty Ear • Great Falls: Rocky Mountain Hi Fi • Kallispell: Audio Visions • Missoula: Aspen Sound
NC Boone: Holtons • Chapel Hill: Stereo Sound • Charlotte: Audio Video Systems Conover • Tri-City • Greensboro: Stereo Sound • Hendersonville: Pro Sound • Kinston: Stereo Concepts • Moorehead City: Anderson Audio • New Bern: Anderson Audio • Raleigh: Audio Buys, Stereo Sound • Rocky Mount: Microwave Audio • Wilmington: Atlantic Audio • Wilson: Modern Stereo • Winton: Salem: Stereo Sound
ND Bismarck: Pacific Sound • Fargo: Today Electronics
NE Kearney: Midwest Audio • Lincoln: Stereo West • Omaha: Stereo West • York: Midwest Audio
NH Concord: Audio of New England • Laconia: Lakeside Stereo • North Hampton: The New Audiophile • Salem: Cuomo's
NJ East Brunswick: Atlantic Stereo • Maple Shade: Bryn Mawr Stereo • Montclair: Perdue Radio • Paramus: Harvey Electronics • Raritan: AC • Ridgewood: Sounding Board • Shrewsbury: Monmouth Stereo • Toms River: Sound Camera • Wall Twp.: Monmouth Stereo • West Caldwell: Perdue Radio
NM Alamogordo: D&K Electronics • Albuquerque: West Coast Sound • Carlsbad: Beason's • Clovis: Towne Crier • Santa Fe: West Coast Sound
NV Reno: Elko Audio • Las Vegas: Upper Ear • Reno: Good Guys • South Shore Lake Tahoe: Audio Video Den
NY Albany: Clark Music, Sounds Great • Amherst: Speaker Shop • Batavia: Unicorn Audio • Buffalo: Speaker Shop • Corning: Chemung • Elmira: Chemung • Fredonia: Studio One • Glens Falls: Audio Genesis • Goshen: Longplayer's Stereo • Ithaca: Chemung, Sound Image • Jamestown: Studio One • Manhasset: Audio Breakthroughs • Massena: Hi Fi Shop • Newburgh: Audio Expressions • New Hartford: Adirondack Music • New York City: Audio Breakthroughs, Electronic Workshop, Harvey Electronics • Plattsburgh: Alpha Stereo • Rochester: JB Sound • Scarsdale: Listening Room • Syracuse: Clark Music • Vestal: Hart Electronics • White Plains: Harvey Electronics • Woodbury: Audio Breakthroughs

OH Akron: Audio Craft • Canton: Beiden Audio • Cleveland & Suburbs: Audio Craft • Cincinnati: Stereo Lab • Columbus: Stereo Lab • Dayton: Stereo Showcase • Findlay: Audio Craft • Lima: Classic Stereo • Toledo: Audio Craft
OK Lawton: Hi Fi Shop • Oklahoma City: Audio Dimensions • Shawnee: Rave Sounds • Stillwater: Carlines • Tulsa: Audio Advice
OR Eugene: University Hi Fi • Grants Pass: Sheekell's • Medford: Sheekell's • Salem: Kellys Home Center
PA Allentown: Bryn Mawr Stereo • Blakely: Hart Electronics • Bryn Mawr: Bryn Mawr Stereo • Camp Hill: Bryn Mawr Stereo • Chambersburg: Sunrise Electronics • Erie: Studio One • Harrisburg: Bryn Mawr Stereo • Johnstown: Gary's Entertainment • Kingstree: Hart Electronics • Lancaster: GNT Stereo • Longhorne: Bryn Mawr • Montgomeryville: Bryn Mawr Stereo • Natrona Heights: Stereo Land • Philadelphia & Suburbs: Bryn Mawr Stereo • Pittsburgh: Audio Junction • Quakertown: Bryn Mawr Stereo • Reading: G'n'T Stereo • Selinsgrove: Stereo Shoppe • State College: Paul & Tony's Stereo • Stroudsburg: Main St. Audio Video • Westford: Audio Insight • Williamsport: Robert M. Sites
PUERTO RICO Rio Piedras: Precision Audio RI M. Providence: Eastern Audio
SC Anderson: Music Machine • Charleston: Audio Warehouse • Columbia: Music Machine • Greenville: Music Machine • Greenwood: Stereo Shop • Spartanburg: Stereo Shop
SD Aberdeen: Engel Music • Rapid City: Team Electronics • Sioux Falls: Audio King
TN Chattanooga: R&R TV • Cookeville: Lindsey Ward • Jackson: New Wave Electronics • Kingsport: Audition • Knoxville: Lindsey Ward • McMinnville: Lindsey Ward • Memphis: New Wave Electronics • Nashville: Hi Fi Buys
TX Amarillo: Sound Systems Ltd. • Arlington: Sound Idea • Austin: Marcom Electronics • College Station: Audio Video • Corpus Christi: Tage Town • Dallas: Hillcrest Hi Fidelity • El Paso: Soundquest • Ft. Worth: Sound Idea • Houston: Sheffield Audio • Hurst: Sound Idea • Laredo: Metex International • Longview: Audio Techniques • Lubbock: Electronics Supercenter • McAllen: Metex • San Antonio: Mobile HiFi • San Marcos: Discovery Audio Video • Sherman: Worldwide Stereo • Temple: Audio Tech • Texarkana: Sound Towne • Victoria: Dyer Electronics • Waco: Audio Tech
UT Logan: Stokes Brothers • Salt Lake City: Broadway Music • St. George: Boulevard Home Furnishings
VA Bristol: Audition • Charlottesville: Holdens, Sound Machine • Falls Church/Manassas: Audio Buys • Harrisonburg: Ace Music • N. Electronics • Richmond: Gary's Stereo • Roanoke: Holden's • Virginia Beach: Digital Sound
VT Brattleboro: Scientific Stereo • Essex Junction: Creative Sound • Rutland: Mountain Music
WA Bellingham: QC Stereo • Chelan: Music Store • Oak Harbor: QC Stereo Center • Seattle/Bellevue/Lynnwood: Magnolia • Spokane: Seattle/Lynnwood • Tacoma: Magnolia
WI Appleton: Sound World • Eau Claire: EME Audio Systems • Green Bay: Sound World • L. Cross: Sound World • Madison: Happy Medium • Marinette: Sound Seller • Milwaukee: Audio Emporium • Oshkosh: Audio Plus • Wausau: Sound World
WV Harborsville, Beckley, Charleston: Pied Piper • Clarksburg: Audio Visual Concepts • Huntington: Pied Piper, Video Warehouse • Piedmont: Sound Gallery • Wheeling: Stereo Lab
WY Cheyenne: Electro Unlimited • Gillette/Sheridan: Star Video Library



To The Ordinaires, all is possible, and anything goes with anything else, but only if you have the right taste.

of the singer and the period alike. True Sarah Vaughan aficionados might care to know that her earlier recordings, for Musicraft, are now available on CD, as is the terrific-value Sassy Swings the Tivoli double CD on Mercury.

Michael Aldred

One: The Ordinaires
Restless/Bar-None Records 72615-2,
 CD; AAD; 43:40.

Sound: A — Performance: A —

The Ordinaires look at music genres and categories the way a nouvelle-cuisine chef looks at food ingredients. Anything is possible, anything goes with anything else—but only if you have the right taste. With their long-overdue second album, ironically entitled *One*, they charge through 10 compositions that begin with an Ornette Coleman frenzy of tortuous rhythms and free blowing and close with a cover of Led Zeppelin's "Kashmir."

A new-music big band that combines a rock rhythm section and guitars with violins, cellos, and saxophones, The Ordinaires move freely from complex, intricate arrangements to free-jazz saxophone blowing, swinging horn sections, and screaming electric guitar. *One* abounds with quotes and references: Jimi Hendrix's opening to "Manic Depression" forms the basis of "Racing Thoughts," and the whimsy of Erik Satie can be heard in "The Dance of the Coco Crispies."

I cite these references and name these names, but it doesn't quite do justice to The Ordinaires kinetic amalgamation. They make a joyous celebration of music that is both passionate and powerful, intelligent and fun. It's an apparently egoless band of virtuosos.

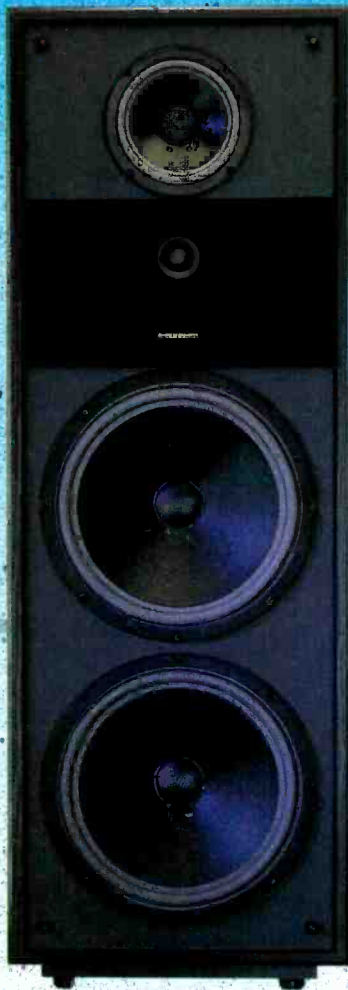
The Ordinaires keep this unusual mix precisely etched with crisp recording from New York's leading new music engineer, Martin Bisi, who maintains the electric crunch of the group without sacrificing the details.

As guitarist Robert Fripp once said of his perception of King Crimson, "if only it had the feel of Hendrix, if only the vocabulary was more sophisticated, and if only Bartók was on guitar with a Marshall stack turned up to 11." Add in some Ornette Coleman and a bit of bluesque, and you've got The Ordinaires.

John Diliberto



American
Acoustics[®]



*The
Dual Source
Concept*



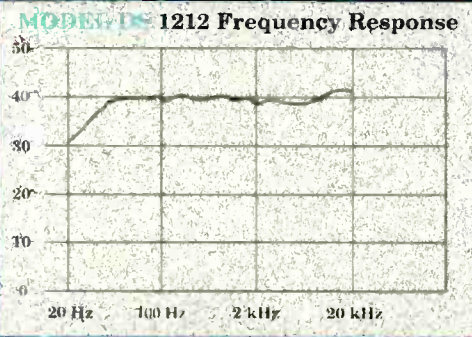
DS

American Acoustics is proud to introduce the **DS Formal Loudspeakers**. Bold. Aggressive. Representing the successful attainment of extremely sophisticated design demands and the highest level of sonic performance.

Meeting the challenge of digital's increased dynamics with outstanding bass response, greater clarity and detail, stereo imaging and transparency.

American engineered. American manufactured. American craftsmanship. You'll hear the difference.

Dual Source



DS 1010
dual 10" bass reflex system



DS 1212
dual 12" bass reflex system



DS 88
8" bass reflex system



DS 66
6 1/2" bass reflex system

Bold in design. Aggressive in performance. Each DS model gives you unique features not found in conventional systems.

Dual Source Bass. Each DS model uses two low frequency transducers to reproduce the lowest bass frequencies. This means each model outperforms its competitors in the area of both low and high level bass clarity. **Improved bass accuracy and greater clarity at all volume levels.**

Dynamic Symmetric Ports. All DS models use two bass reflex ports at the rear of their enclosures. Each port has a symmetric aperture at both ends. This allows high velocity bass power to be delivered into the listening room with near zero noise and distortion.

Direct Sound Table. The grille frame for each DS model incorporates a complex geometry on its frontal surface which nearly eliminates sound diffraction and provides improved treble. The sound leaving the DS treble driver is broadly dispersed into the listening room for uniform sound distribution. **Treble is crisp and clear with virtually no listener fatigue.**

Driver Synchronized Midrange.

The midrange driver is above the tweeter in all DS models to optimize the time domain response in the critical midrange frequencies. This inverted positioning provides **remarkable improvements in sound imaging and clarity** keeping the arrival times synchronized.

Density Stabilized Diaphragm Material. All DS models feature a new hybrid diaphragm material available exclusively from American Acoustics. This density stabilized composite material combines organic and polypropylene fibers to form a transducer diaphragm with unique properties. The diaphragms are further stabilized with a fluid polymer treatment which assures **long-term performance uniformity.**

Discrete Spectrum Crossovers.

The crossovers in all DS models provide several unique performance benefits. The DS 66 and DS 88 use a combination of a progressive midrange crossover and a high-slope treble crossover to achieve **distinct and clear spectral separation** between transducers. The DS 1010 and DS 1212 employ high-slope bass to midrange crossovers which allow the use of dual bass transducers and ear level midrange transducers. This provides a **distortion-free frequency transition** which results in impressive bass performance and extremely clear midrange reproduction.



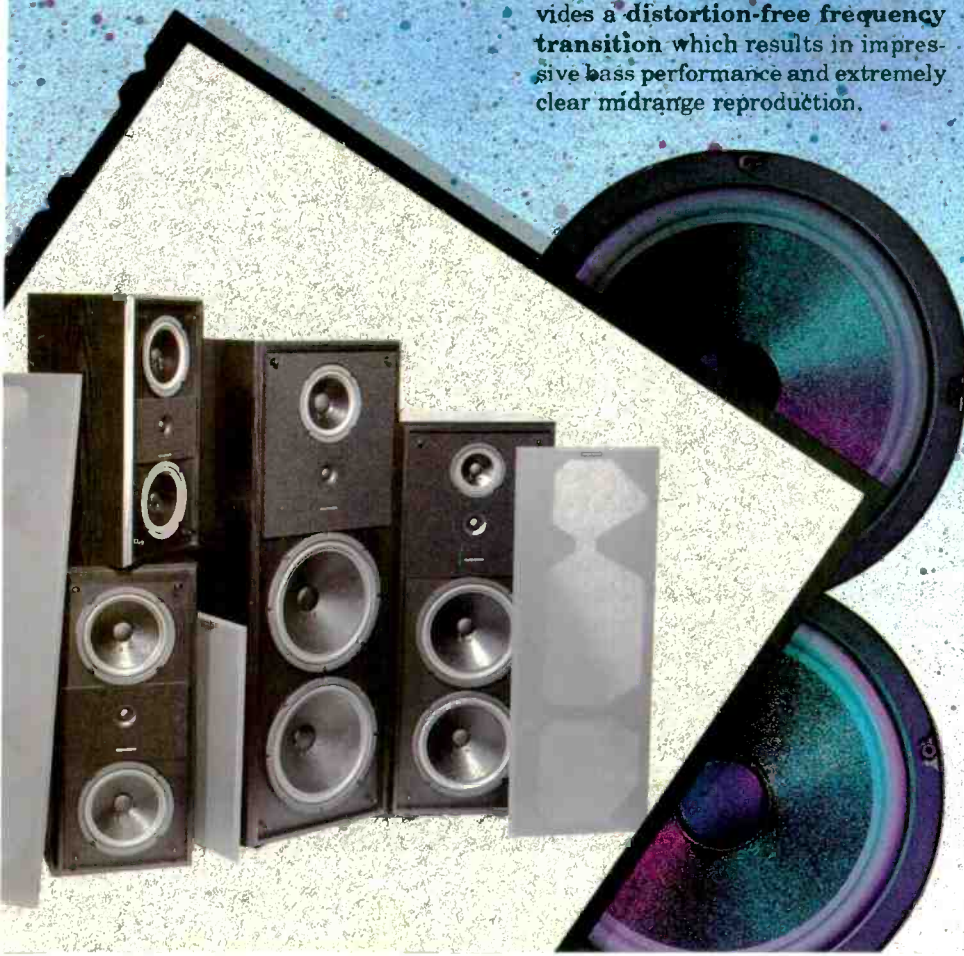
American
Acoustics®

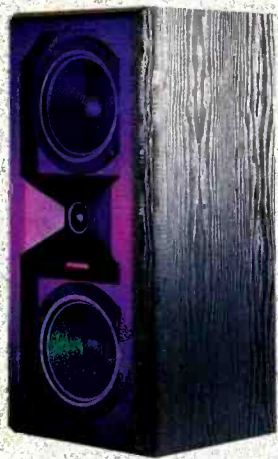


The superior sonic reproduction of today's recorded music required a "no-compromise" approach by American Acoustics' development engineers. It meant new thinking... new technology.

The result is an astoundingly brilliant series of loudspeakers. Hear and feel all the power of rock and roll... the clarity and precision of classical orchestration... the many colors of jazz. Once you hear DS, you'll understand why we didn't compromise.

You won't want to, either.





American Acoustics®

Dual Source

Model	DS 66	DS 88	DS 1010	DS 1212
System Type	bass reflex	bass reflex	bass reflex	bass reflex
Woofer	(2) 6 1/2", 1" voice coil	(2) 8", 1 1/2" voice coil	(2) 10", 1 1/2" voice coil	(2) 12", 2" voice coil
Midrange			5" sealed w/ferrofluid, 1" voice coil	6 1/2" sealed w/ferrofluid, 1 1/2" voice coil
Tweeter	1" soft dome	1" soft dome	1" soft dome	1" soft dome
Crossover	woofer to woofer/mid, 550Hz; woofer/mid to tweeter, 3500Hz	woofer to woofer/mid, 400Hz; woofer/mid to tweeter, 3.8kHz	woofer to mid, 650Hz; mid to tweeter, 3.7kHz	woofer to mid, 350Hz; mid to tweeter, 2.8kHz
Freq. Response	42Hz - 22kHz	38Hz - 22kHz	34Hz - 22kHz	23Hz - 22kHz
Sensitivity	93dB	93dB	94dB	95dB
Nom. Impedance	4 ohms	4 ohms	4 ohms	4 ohms
Power Handling	85 watts RMS/170 W peak	125 watts RMS/ 250 W peak	200 watts RMS/ 400 W peak	275 watts RMS/ 550 W peak
Height	21 1/2"	26 1/4"	37 1/4"	44"
Width	10 1/2"	12"	14"	15 1/2"
Depth	10 7/8"	12 7/8"	14 7/8"	17 7/8"

Specifications and product subject to change without notice.

At American Acoustics, we're proud of our products. Nestled in the gently rolling hills of northern Illinois, with a heritage of over a hundred years, we've grown to become a totally vertically integrated manufacturer. We build products with American pride and no-compromise labor. We convert raw materials such as copper, aluminum, steel, and wood to a finished hand-crafted product. Then stand behind it with an industry-leading ten-year limited warranty.

American Acoustics. An American-owned and operated company that believes in hard work, honesty, and quality service after the sale. We're confident you will see these values reflected in our products.

American Acoustics

One Mitek Plaza, Winslow, IL 61089
Phone: 815-367-3000 • Fax: 815-367-3851

SPECTRAL DMC-20 A New Reference Preamplifier for the Coming Decade



Advances in analog and digital source components are redefining the role of the preamplifier in today's consummate music system. The Spectral DMC-20 Reference Preamplifier dramatically defines this new role, setting performance standards for the 1990s.

With unprecedented flexibility and control features, the DMC-20 establishes a benchmark in preamplifier design. Spectral's innovative architecture provides seven audio sources, phase switching, and full tape facilities, surpassing the finest purist preamp in sonic performance.

The DMC-20 can provide precision accommodations for any phono cartridge. It can offer fully differential balanced input and output capability.

New breakthroughs in signal linearity are achieved in the DMC-20. Advanced design techniques produce the fastest signal response known in the audio industry. The result is superb musical coherence and transparency.

In the DMC-20 Reference Preamplifier, timeless qualities of care and craftsmanship join Spectral's flawless engineering to promise a lifetime of music enjoyment.



32nd ANNUAL EQUIPMENT DIRECTORY

Photograph: ©1989, Bill Ashe



CD PLAYERS & D/A CONVERTERS

MANUFACTURER	Model (RI) = Remote Included, (RO) = Remote Optional	Disc Capacity	Decoding System: Number of Bits	Output Filter: Analog Plus Digital = A, Digital Only = B, Analog Only = C	Line Outputs: Fixed = F, Var. = V, Balanced Analog = B	Other Outputs: Headphone = H, Headphone with Level Control = HL, Subcode Only = S, Digital = D, Fiber Optic = F	Frequency Response, Hz to kHz, ±dB	S/N Ratio, "A" Wtd., -dB	THD, %	Elapsed Time Display: From Disc Start = D, From Track Start = B, Both = B	Repeat/Time Display: To Disc End = D, To Track End = T, Both = B	Number of Programmable Selections	Repeat Functions: Entire Disc = D, Track = T, A-B Phrase = P, Entire Program = E	Weight, Lbs.	Price, \$	Notes
ACCU PHASE	DP80L/DC81L(RI)	1	20-8X	A	F/V	D	4-20 ±0.3	120	.0016	D	D	30	D/T	90	13,000.	Digital signal processing for volume and de-emphasis.
	DP70(RI)	1	16-4X	A	F/V	D	4-20 ±0.3	115	0.002	D	D	30	D/T	58	7600.00	
AOCOM	GCD-575(RI)	1	16-4X	A	F/V	HL/D	5-20 +0.1, -0.5	105	.0025	B	B	24	D/T/P/E	12	599.95	
A/O/S/	CD4(RO)	1	16-2X	A	F	H	20-20 ±0.25	102	0.01	B	B	16	D/T/P/E	22	850.00	
AIWA	XC-005(RI)	1	18-8X	A	F/B	HL/D/F	4-20 ±0.3	110	.0025	T	B	30	D/T/P	11.5	500.00	
	XC-004(RI)	1	18-4X	C	F	HL	20-20 ±0.5	105	0.004	D	D	20	D/T/P	10.6	400.00	
	XC-002(RI)	1	16-4X	C	F	H	20-20 ±0.5	100	0.004	T	D	20	D/T/P	10.4	280.00	
ANALOGIC DESIGN GROUP	NXa FET Hybrid(RI)	1	16-4X	A	F	H	5-20 ±0.8	99	0.01	T		20	D/T	11	1095.00	FET hybrid analog stage. Tube hybrid analog stage. Separate chassis for digital and analog sections. D/A converter. †FET version, 11 pounds, \$1349.00; tube hybrid version, 18 pounds, \$1949.00.
	NXa Tube Hybrid(RI)	1	16-4X	A	F	H	5-20 ±1	97	0.04	T		20	D/T	14	1495.00	
	Vertex(RI)	1	16-4X	A	F		5-20 ±0.6	102	0.02	T		20	D/T	23	2495.00	
	Adapt		16-8X	A	F/V		4-20 ±0.5	101	0.03					†	†	
ANALOG RESEARCH	Segue(RI)	1	16-4X	A	F	H	20-20 +0, -1	110	0.01	T		22	D/T/E	10	800.00	
	Legato(RI)	1	16-4X	A	F	H	20-20 +0, -1	107	0.01	T		22	D/T/E	10	1100.00	
AR	CD-06(RI)	1	16-4X	A	F/V	D	4-20 ±0.5	105	0.007	B	B	20	D/T/P/E	15	700.00	Remote has volume control.
ARAGON	D2A		18-8X		F	D/F	2-20 ±0.3	110	0.009					14		D/A converter; external power supply; remote polarity inversion.
ARCAM	170 CD Transport(RI)														1295.00	CD transport.
	Delta Black Box	1	16-4X	A	F	HL/D	20-20 ±0.3	110	0.01					8	649.95	D/A converter. Optional remote, \$99.95.
	Delta 70(RO)		16-4X	A	F/V		20-20 ±0.6	105	0.008	T		20	D/E	10	999.95	
ARISTON	Encore CD Player(RI)	1	16-4X	A	F	H/D	2-20	105	0.002	B	B			15	479.00	
AUDIO DYNAMICS	CD-1000E(RI)	1	16-1X	C	F	None	20-20 ±0.5	96	0.005	T	D	16	D/T/E	10 5/8	249.00	
	CD-2000E(RI)	1	16-4X	A	F	None	10-20 ±0.5	96	0.005	T	D	16	D/T/E	8 1/4	399.00	
A.V.A.	FET 3(RI)	1	16-4X	A	F	H	5-20 ±0.02	101	0.002	T		20	D/T/E	10	350.00	
	FET 3 Plus(RI)	1	16-4X	A	F	H	3-20 ±0.02	103	0.001	T		20	D/T/E	10	550.00	
	Transcendence(RI)	1	16-4X	A	F	H	2-20 ±0.01	105	0.001	T		20	D/T/E	11	950.00	
	FET Valve(RI)	1	16-4X	A	V	H	1-20 ±0.01	107	.0009	T		20	D/T/E	16	1195.00	

ES

The Sony CDP-R1.

Its very existence tells
you why our other CD players
have an unfair advantage.

Place DAT CD D/A
tab here



The unchallenged leadership of our reference standard CD player brings extraordinary technological advantages to the entire ES line.

Start with the world's most accomplished digital audio engineers—the ones who invented the Compact Disc format itself. Free them from the usual budgetary constraints. And challenge them to surpass their best efforts in transport design, servo circuitry, digital filtering, and system architecture.

The result is the Sony CDP-R1/DAS-R1 Compact Disc Reference System. This remarkable component compelled *Stereophile's* J. Gordon Holt to hail it as "...the best CD player I have heard at the time of writing."

Digital Sync for jitter-free performance.

In designing the CDP-R1, Sony ES engineers recognized a critical obstacle to improving CD playback quality: time-base errors known as "jitter." When jitter is present at the input to the D/A converter, these errors cause modulation in the analog signal, veiling the music and deforming the soundstage.

Our investigations led to the development of the Sony CXD-8003 Digital Sync IC. Incorporated into three new ES Series players, it maintains time-base

Place DAT CD D/A
tab here



And in Japan and Europe, the R1 has likewise driven the leading audiophile critics to unstinting admiration. But at a suggested retail price of \$8,000, it has been an experience reserved for the uncompromising few. Until now.

Now the Sony ES engineers have applied the invaluable lessons learned in the CDP-R1 to our other ES Series Compact Disc players. Which means now you can enjoy many of the benefits of an \$8,000 masterpiece without spending \$8,000.

Noise Shaping with 45-bit Processing.

The accumulation of fractional errors in conventional digital filters can result in less than full 16-bit decoding accuracy. That's why the Sony CXD-1144 digital filter IC of the CDP-R1 calculates to an unprecedented precision of 45 bits, while operating at an 8X oversampling rate. And it's this advanced technology that has been incorporated in our new CDP-508ESD, 608ESD, and X7ESD players.

To convey this superlative accuracy to the digital-to-analog converter, these players also incorporate Sony Noise Shaping technology. Noise Shaping reduces requantization noise and allows the 18-bit linear converters to extract more musical detail than ever before. In particular, bass fundamentals are reproduced with a strength and clarity that leaves conventional CD players far behind.

accuracy within millionths of a second, correcting errors long before they can affect the music.

Low-Noise Servo Stabilizer Circuit

For the CDP-R1, Sony ES engineers even examined the conventional assumptions about the most basic of CD functions: disc tracking. The result is Sony's Servo Stabilizer Circuit, a trailblazing design we've carried over to our other models. This stabilizer not only improves tracking on badly scratched discs, but reduces radiated servo noise by as much as 10 dB.

A performance sustained.

With a technical heritage such as this, it's no wonder the new ES Series CD players and CD changers perform so much better than so many others. But then, it's a superiority we really shouldn't flaunt. After all, we did start with an unfair advantage.

The excellence of Sony's ES Series is also reflected in the three-year limited parts and labor warranty (see your authorized Sony ES dealer for details). For more information on where you can audition the full line of Sony ES components, call 201-930-7156 (Monday-Friday, 9:00am-5:00pm EST).

For More Information



Call 1-800-553-4355



SONY

THE LEADER IN DIGITAL AUDIO™

CD PLAYERS & D/A CONVERTERS

MANUFACTURER	Model (RI) = Remote Included (RD) = Remote Optional	Disc Capacity	Decoding System: Oversampling Rate				Line Outputs: Analog Plus Digital = A, Analog Only = B, Analog Only = C	Other Outputs: Headphone = H, Headphone with Level Control = HL, Subwoofer Only = S, Digital = D, Fiber Optic = F	Frequency Response, Hz to kHz, ±dB	S/N Ratio, "A" Wtd., -dB	THD, %	Engage Time: Display, From Disc Start = D, From Track Start = T, Auto = A	Remaining Time: Display, To Disc End = D, To Track End = T, Auto = A	Number of Programmable Selections	Repeat Functions: Entire Disc = D, Track = T, A & Phrase = P, Entire Program = E	Weight, Lbs.	Price, \$	Notes
			A	F	D	Number of Bits												
BANG & OLUFSEN	CD3300(RD)	1	16-4X	A	F	D	3-20 ± 0.3	100	0.003	B	D		D	10.8	775.00			
	CD4500(RD)	1	16-4X	A	F	D	3-20 ± 0.3	110	0.003	B	D		D	9.9	800.00			
	CD5500(RD)	1	16-4X	A	F	D	3-20 ± 0.3	110	0.003	B	D	20	D	14.1	1100.00			
BRITISH FIDELITY	Digilog		16			F	14-20		.0001						995.00	D/A converter.		
CAE	MCD-12	1	16-4X	A	F		0-20 ± 0.05	95	.0015						1100.00	Modification of 16-bit Magnavox/Philips player.		
CALIFORNIA AUDIO LABS	Icon(RI)	1	18-8X	A	F	†	10-20 +0,-0.5	106	0.005	B	B	20	D/T/E	10	695.00	†Optional digital and fiber-optic outputs.		
	Tarcel MkIII(RI)	1	18-8X	A	F	†	10-20 +0,-0.1	106	0.020	B	B	20	D/T/E	12	1295.00			
	Aria MkII(RI)	1	18-8X	A	F	†	10-20 +0,-0.1	110	0.010	B	B	20	D/T/E		1995.00			
	Tempest III(RI)	1	18-8X	A	F	None	10-20 +0,-0.1	110	0.008	B	B	20	D/T/E		4495.00			
CARRERA	CD-3200	1	16-2X	A	F	H	20-20 ± 0.5	95	0.01	D	D		D/T/P	9	199.95	Combination CD changer tape deck (see also "Cassette Decks").		
	CD-7500(RI)	6	16-4X	A	F	H	20-20 ± 0.5	96	0.009	B	B	32	D/T/E	13	449.95			
CARVER	DTL-3300(RI)	1	18-8X	A	F	HL	5-20 ± 1	110	0.002	B	B	22	D/T/P/E	13	699.95	Digital Time Lens time-domain correction circuitry.		
	DTL-3200(RI)	1	16-8X	A	F	HL	2-20 ± 1	110	0.005	B	B	32	D/T/P/E	13	449.95	As above.		
	DTL-3100(RI)	1	16-4X	A	F	HL	2-20 ± 1	110	0.005	B	B	16	D/T/P/E	12	349.95	As above.		
CITIZEN	CBM-50CP(RD)	1	16-2X	B		H	20-20 +0.5,-1.5	92				16		0.8	249.99	Portable; includes headphones and a.c. adaptor.		
	CBM-3000(RD)	1	16-2X	B		HL	20-20 +0.5,-1.5	92				16		3	329.95	Portable; optional wired or wireless remote, \$40.00; includes a.c. adaptor and battery recharger.		
	CBM-777	1	16-2X	B		H	20-20 +1,-3	80				16		3	169.00	Portable; includes battery pack and a.c. adaptor.		
	CBM-2200	1	16-2X	B		H	20-20 +0.5,-1.5	92				16		1	244.95	Portable; includes headphones, rechargeable battery, and a.c. adaptor.		
CONRAD-JOHNSON	DF-1(RI)	1	14-4X	A	F/B		5-19 ± 0.5		0.25	T			D/T/E	19	1595.00	CD player/preamp; see also "Preamplifiers."		
CYRUS	PCMI(RI)	1	16-4X	A	V	HL/D	20-20 ± 0.5	96	0.003	B	B	20	D/T/P/E	16	999.00			
DENON	DCD-3520(RI)	1	20-8X	A	F/B	HL/D/F	2-20 ± 0.2	118	.0015	B	B	20	D/T/P/E	37½	1500.00	Dual D/A converters adjusted for four MSBs.		
	DCD-1520(RI)	1	20-8X	A	F/V	HL/D/F	2-20 ± 0.2	115	.0025	B	B	20	D/T/P/E	23½	750.00	Dual D/A converters adjusted for MSB.		
	DCD-1420(RI)	1	20-8X	A	F/V	HL/D/F	2-20 ± 0.2	108	0.003	B	B	20	D/T/P/E	28½	600.00	As above.		
	DCM-777(RI)	6	20-8X	A	F/V	HL/D/F	4-20 ± 0.2	106	0.003	T	T	32	D/T/E	13¼	700.00	As above; changer.		
	DCM-555(RI)	6	16-4X	A	F/V	HL/D	4-20 ± 0.1	103	0.004	T	T	32	D/T/E	13¼	550.00	As above.		
	DCD-920(RI)	1	20-8X	A	F/V	HL/D/F	2-20 ± 0.2	106	.0035	B	B	20	D/T/P/E	11	500.00	Dual D/A converters adjusted for MSB.		
	DCD-820(RI)	1	16-8X	A	V	HL/D	2-20 ± 0.2	102	0.004	B	B	20	D/T/P/E	9	400.00	As above; noise shaping.		
	DCD-620(RI)	1	16-8X	A	F	HL	2-20 ± 0.2	100	0.004	B	B	20	D/P/E	8½	300.00	As above.		
	DCD-520(RI)	1	16-4X	A	F	H	2-20 ± 0.2	98	0.005	B	B	20	D/P/E	8½	250.00	Dual D/A converters adjusted for MSB.		
DUAL	DCP-100	1	16-8X	A	V	HL	2-20 ± 0.2	90	0.005	B	B	32	D/T/E	1½	399.00	Portable; includes a.c. adaptor and rechargeable battery.		
DISTECH	LSI MKIII(RI)	1	16-4X	A	F	HL/D	2-20	110	0.001	B	B	20	D/T/P/E	10	1195.00	External power supply. Two external power supplies. As above.		
	LSI MKIV(RI)	1	16-4X	A	F	HL/D	2-20	110	0.001	B	B	20	D/T/P/E	15	1495.00			
	LSI MKV(RI)	1	16-4X	A	F	HL/D	2-20	120	0.001	B	B	20	D/T/P/E	20	3500.00			
	LSI MKV Signature (RI)	1	16-4X	A	F	HL/D/F	0-20	120	0.001	B	B	20	D/T/P/E	40	4000.00			
DUAL	CD5070RC(RI)	1	16-2X	A	F	H	20-20 ± 0.5	100	0.010	B	B	8	D/E	12	450.00			
	CD5150RC(RI)	1	16-4X	A	F	H/D	20-20 ± 0.1	100	0.01	B	B	20	D,T/P/E	12	500.00			
ESOTERIC	P1/D1(RI)	1	18-4X	A	V		0-20 ± 0.5	100	.0015			40	D/T/P/E	50½	5995.00			
EUPHONIC TECHNOLOGY	ET650 PX Signature(RI)	1	16-4X	A	F	D	20-20 ± 0.02	110	0.002	T	D	20	D/T/P/E	12½	1595.00			
FISHER	AD-ZI(RI)	1	18-8X	A	F	HL/D/F	2-20 ± 0.5	116	.0025	B	B	20	D/T/E	17.8	649.95	Changer.		
	DAC-ZI(RI)	5	18-8X	A	F	HL/D/F	2-20 ± 0.5	116	.0025	B	B	32	D/T/E	20.4	799.95			
	AD-751(RI)	1	16-8X	A	F	None	20-20 ± 0.5	90	0.07	B	B	16	D/T/E	8.4	199.95			
	AD-752(RI)	1	16-8X	A	F	None	20-20 ± 0.5	100	0.005	B	B	16	D/T/E	8.4	219.95			
	DAC-199(RI)	5	16-8X	A	F	HL	20-20 ± 0.5	100	0.005	B	B	32	D/T/E	12.1	299.95			

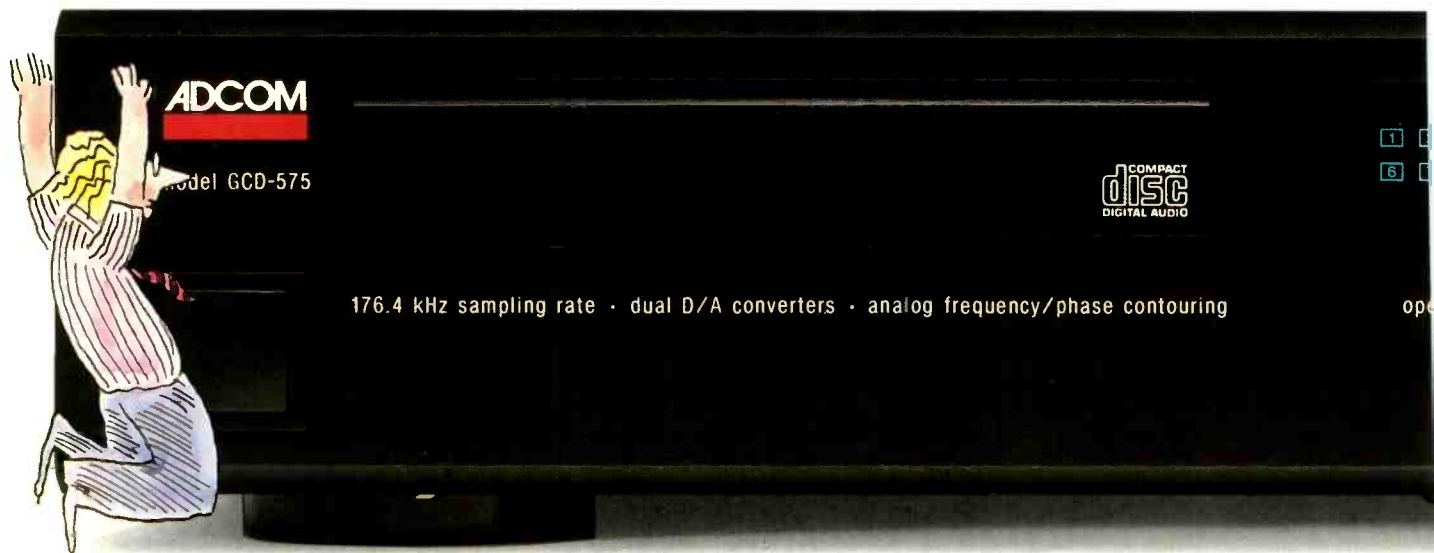
CD PLAYERS & D/A CONVERTERS

MANUFACTURER	Model (RI) = Remote Included, (RO) = Remote Optional	Disc Capacity	Decoding System		Digital Filter: Analog Plus Digital = A, Digital Only = B, Analog Only = C	Line Outputs: Analog Plus Digital = A, Digital Only = B, Analog Only = C	Other Outputs: Telephone = H, Headphone with Level Control = HL, Subcode Only = S, Digital = D, Fiber Optic = F	Frequency Response, Hz to KHz, ±dB	S/N Ratio, "A" Wtd., ±dB	THD, %	Elapsed Time Display: From Disc Start = 0, From Track Start = Both = B	Repeat Time Display To Disc End = D, To Track End = Both = B	Number of Programmable Selections	Repeat Functions: Entire Disc = D, Track = T, A-B Phrase = P	Weight, lbs.	Price, \$	Notes
			Number of Bits	Number of Bits													
GOLDSTAR	GCD-646R(RI)	1	16-4X	A		H	2-20 ± 0.5	100	0.005	T	B	20	D/T/P/E	9.9	299.00		
	GCD-626R(RI)	1	16-2X	A		H	5-20 ± 0.5	93	0.02	B	B	15	D/E	9	239.00		
	GCD-613	1	16-2X	A		H	5-20 ± 1.5	85	0.025	B	B	9	D/E	9	209.00		
GRUNDIG	CD-9000(RI)	1	16-4X	A	F/V	HL/D	20-20 ± 0.5	101	.0035	B	B	20	D/T/P/E		1099.00		
	CD-903(RI)	1	16-4X	A	F	HL	20-20 ± 0.5	101	0.005	B	B	20	D/T		899.00		
HAFLER	Iris CD(RO)	1	16-4X	A	F		20-20 ± 0.1			T		20	D/E				
HARMAN KARDON	HD7300	1	18-4X	A	F		4-20 ± 0.2	100	0.008	B		36	D/T/E		299.00		
	HD7400(RI)	1	18-4X	A	F		4-20 ± 0.2	100	0.008	B		36	D/T/E		349.00		
	HD7500(RI)	1	PWM	A	F/V	H	4-20 ± 0.2	106	0.003	B	B	30	D/T/P/E		449.00	Pulse width modulated bit stream; third-order noise shaping. As above.	
	HD7600(RI)	1	PWM	A	F/V	H/D/F	4-20 ± 0.2	106	0.003	B	B	30	D/T/P/E		599.00		
HITACHI	DA-6500	1	16	C	F		5-20	93	0.005			24	D/T/P/E	6½	200.00		
	DA-8200SW(RI)	1	16-2X	A	F		5-20	90	0.008	B		24	D/T/P/E	6½	280.00		
	DA-C70SW(RI)	12	16-2X	A	V	HL	5-20	95	0.006	B		32	D/T/E	12½	550.00	Changer.	
JVC	XLV21BK	1	18-4X	B	F	H	2-20	100	0.004	T	B	32	D/T/E	8	230.00	Dual D/A converters.	
	XLV31BK(RI)	1	18-4X	B	F	H	2-20	100	0.004	T	B	32	D/T/E	8	275.00	As above.	
	XLZ21BK(RI)	1	18-4X	B	F/V	HL/D	2-20	104	.0035	T	B	32	D/T/P/E	8.4	320.00	As above.	
	XLZ61BK(RI)	1	18-4X	B	F/V	HL/D/F	2-20	106	.0035	T	B	32	D/T/P/E		480.00	As above.	
	XLG512BK(RI)	1	18-4X	B	F/V	HL	2-20	104	.0035	T	B	32	D/T/P/E		500.00	As above; graphics capability.	
	XLZ1010TN(RI)	1	18-8X	B	F/V	HL/D/F	2-20	108	0.003	T	B	32	D/T/P/E	16.4	700.00	Four D/A converters.	
	XLM301BK	6	18-4X	B	F		2-20	100	0.004	T		32	D/T/E	12.2	350.00	Changer, dual D/A converters.	
	XLM401BK(RI)	6	18-4X	B	F	H/D	2-20	100	0.004	T		32	D/T/E	12.4	380.00	As above.	
	XLM701BK(RI)	7	18-4X	B	F	HL/D	2-20	100	0.004	T		32	D/T/E	15.3	570.00	As above.	
	KENWOOD	DP-8010(RI)	1	18-8X	A	F/V	HL/D/F	4-20	112	.0015	B	B	16	D/T/P/E	21	650.00	Digital jitter elimination circuit.
DP-7010(RI)		1	18-8X	A	F/V	HL/D	4-20	108	.0025	B	B	16	D/T/E	13	449.00	As above.	
DP-3010(RI)		1	18-8X	A	F/V	H	10-20	100	0.007	B	B	16	D/T/E	8½	349.00	As above.	
DP-2010(RI)		1	16-4X	A	F	H	10-20	100	0.008	B	B	16	D/T/E	8½	279.00	As above.	
DP-1510(RO)		1	16-4X	A	F	H	10-20	100	0.008	B	B	16	D/T/E	8½	249.00		
DP-M6010(RI)		7	16-8X	A	F	H	10-20	102	0.006	B	B	32	D/T/E	15	449.00	6 plus 1 changer.	
DP-M4010(RI)		6	16-4X	A	F	H	10-20	98	0.007	B	B	32	D/T/E	6	349.00	Changer.	
KINERGETICS	KCD-40(RI)	1	18-8X	A	V		20-20 ± 1	115	0.02	T	T	20	D/T/E	23	1995.00		
	KCD-20B(RI)	1	16-4X	A	V		20-20 ± 1	115	0.02	T	T	20	D/T/E	23	1195.00		
KRELL DIGITAL	SBP-64X	1	18-64X		F/B	D/F	20-20	110	0.03	T		20	D	30	8950.00	Dual D/A converters. As above. Top-loading CD turntable.	
	SBP-16X MD-11(RI)		18-16X		F		20-20	110	0.03	T							
LUXMAN	D-105u(RI)	1	18-8X	A	F/V	HL/D/F	5-20 + 0.1	105	0.05	B		32	D/T	18.7	1200.00	Hybrid with tubes.	
	DZ-111(RI)	1	16-4X	A	F	HL/D	5-20 + 0.05	105	0.06	B		32	D/T	9.3	350.00		
	DZ-112(RI)	1	18-8X	A	F/V	HL/D	5-20 + 0.05	106	0.005	B		32	D/T	9.9	500.00		
	DC-113(RI)	1	16-8X	A	F	HL/D	5-20 + 0.05	98	0.008	B		32	D/T	11.2	680.00	†6 plus 1 changer.	
	D-113D(RI)	1	16-8X	B		D/F	5-20 + 0.05					16	D/T	9.7	550.00		
MADRIGAL	Proceed CD(RI)	1	18-8X	A	F/B	D	10-20 + 0.02	105	0.004	D		20	D/T/E	27	1650.00		
MAGNAVDX	CDB-490(RO)	1	16-1X	C	F	H	2-20 ± 0.5	90	0.02	T		20	D/E	9	169.95		
	CDB-492(RI)	1	16-1X	C	F	H	2-20 ± 0.5	90	0.02	T		20	D/E	9	179.95		
	CDB-494(RO)	6	16-1X	C	F	H	2-20 ± 0.5	90	0.02	T		30	D/E	11	269.95	Changer; optional single-disc tray.	
	CDB-496(RI)	6	16-1X	C	F	H	2-20 ± 0.5	90	0.02	T		30	D/E	11	299.95	As above.	
	CDB-583(RI)	6	16-4X	C	F	H	2-20 ± 0.5	100	0.015	T	B	30	D/T/E	12.1	392.95	As above.	
	CDB-586(RI)	6	16-4X	C	F	H	2-20 ± 0.5	100	0.015	T	B	30	D/T/E	12.1	349.95	Changer; Favorite Track Selection.	
	CDB-610(RI)	1	16-4X	C	F	H	2-20 ± 0.5	100	.0025	T	B	20	D/T/P/E	9	229.95		
	CDB-630(RI)	1	16-4X	A	F/B	H/D	2-20 ± 0.5	105	.0025	T	B	20	D/T/P/E	9	399.95	Dual Favorite Track Selection.	
MARANTZ	CD-94(RI)	1	16-4X	A	B	HL/D/F	4-20 ± 0.5	96	0.003	B	B	†	D/T/P/E	28	1800.00	†1600. Favorite Track Selection.	
	CDA-94		16-4X	A	F/V/B	HL/D/F	2-20 ± 0.1	101	0.003					25	1800.00	D/A converter with fiber-optic and coaxial inputs.	
	CD-2472(RI)	1	16-2X		F		4-20 ± 0.5	95	0.007	B		20	D/T/E		229.95		
	CD-3577(RI)	1		A	B	HL	4-20	100	0.005	B	B	20	D/T/E		450.00	Timer play.	
	DC-3587(RI)	5	16-4X	A	F		2-20	95	0.05	B	B	20	D/T/E		380.00	Changer.	
	CD-40(RO)	1	16-2X		F					B		16	D/T/E		249.00		
	CDC-320(RI)	6	16-4X		F					B		15	D/T/E		369.00	As above.	
DC-2482(RI)	6	16-2X	C	F		4-20 ± 1		0.01	B		32	D/T/E		329.95	As above.		
McINTOSH	MCD7007(RI)	1	16-4X		F/V	H/D	20-20 + 0.03	114	.0012	B	D	20	D/T/P/E	18	1995.00		
MEITNER AUDIO	CD-3(RI)	1	16-4X	A	F	D	20-20 ± 0.5	96		B	B		D/T/P/E	25	3050.00	Floating-charge power supply.	
MELOS AUDIO	CD-TB(RI)	1	18-8X	A	V	F	20-20 ± 0.2	90	0.07	B		20	D/T/E	28	1895.00	Tube analog chassis with preamp function.	
	CD-T11B(RI)	1	18-8X	A	V	F	20-20 ± 0.2	90	0.07	B		20	D/T/E	26	1595.00	Tube analog chassis; external power supply.	
	Melos Processor		18-8X	A	F		20-20 ± 0.2	90	0.07					33	2300.00	D/A converter; two chassis, tube analog and digital.	

All good things come to those who wait.



Finally. A that reproduces not just bits a



Adcom's new GCD-575 Compact Disc Player has been worth waiting for. Now there's a CD player with analog audio circuits as technically advanced as its digital stages.

Since the human ear can only appreciate musical sounds in their analog format, Adcom began with the objective of producing the first affordable CD player whose direct-coupled audio output would deliver the long anticipated technical benefits of digital sound.

Class "A" Makes A Difference

Designers and engineers usually use Class "A" audio circuits where price is no object. In its purest form, Class "A" offers a highly sophisticated level of audio amplification, often demanded by those who can distinguish outstanding sonic performance from the merely average. Adcom's GCD-575 employs a no-compromise, Class "A" analog audio amplifier section which provides superior resolution by more clearly defining low-level information.

CD player all of the music, and bytes of it.



This higher resolution makes an audibly dramatic difference in the musicality of CD reproduction. To achieve this result, the analog audio circuits in the GCD-575 were based on the same proprietary high speed linear amplifiers used in Adcom's GFP-555 preamplifier, universally recognized for its outstanding musical integrity.

No other CD player at any price uses these superb audio components.

Digital Sound At Its Best

Adcom's selectable analog frequency/phase contour circuit enhances the musicality of CD's which have been poorly mixed, or digitally over equalized. Subtly contoured by the AFPC, many of these CDs become more listenable, with much of the fatiguing harshness and "glare" reduced. In addition, the stereo image and sound stage becomes more focused allowing for a more natural sonic presentation.

(Over please)

The Adcom GCD-575

Details You Can Hear

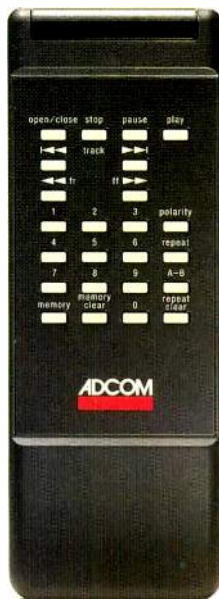
Importantly, Adcom's CD player is designed with a low output impedance (100 Ohms) so that it can operate up to its maximum capability with a wide variety of associated equipment. It is not only compatible with virtually all input stages of amplifiers, preamplifiers, tuner/preamplifiers, etc., but also permits the use of longer interconnecting audio cables, when required, with minimal signal deterioration.

Additionally the GCD-575 is supplied with a high quality, low-loss audio cable to prevent the sonic smear that conventional audio cables tend to cause. The use of this special cable and the 100 Ohm output impedance permits the GCD-575 to be used with Adcom's SLC-505 passive straight line controller. If no other source equipment will be used, the variable output (front panel controlled) can be used directly into your power amplifier, bypassing the preamplifier circuits normally required by other CD players.

A multi-winding power transformer, connected to three separate tightly regulated power supplies for the audio, digital and display circuitry, insures isolation of the different functions and optimal operation of each without interference.

The four special heavy feet installed on the GCD-575 are reversible metal castings. On one side, the flat surface insures a wide contact area. The reverse side is cast with built-in "Iso-points" which, when used in a three-foot configuration, operates as a "tripod" support system.

A special polarity-inverting switch permits you to reverse the normal positive polarity to negative (inverted) polarity. This corrects playback of CDs in which the polarity was incorrectly recorded (inverted), or for use in systems in which one of the components causes a reversal of correct polarity.



Full Function Remote Control

Specifications

Frequency Response: 5Hz - 20kHz, + 0.1, - 0.5dB

Signal-to-noise Ratio: 105dB

Dynamic Range: 98dB

THD: 0.0025%

IMD (70Hz difference): @ 5kHz
0.00018%

Channel Separation (1kHz): 95dB

Interchannel Phase Shift:
@ 20kHz Less than 1.8°

Output Impedance: Fixed 100Ω/
Variable 100Ω/Digital 75Ω

Output Level: Fixed 2.5V RMS
Variable Greater Than 4.5V RMS
Digital 0.5V peak-to-peak

Sampling Rate: 176.4kHz

Quantized Bits: 16-bit linear

Power: 120VAC/60Hz
(Available in 220/240V, 50Hz)

Dimensions: 17" (430mm)W ×
11-1/4" (285mm)D ×
3-7/16" (87mm)H

Weight: 12 lbs. (5.5 kg.)

Optional: Model RM-3 rack mount
adaptors. Available with white front
panel.

*Specifications subject to change
without notice.*

More Features For Better Value

Other features include a full function remote-control system with random access track capability; low group-delay digital and analog filters; triple-beam laser format; a direct digital output; playback of 3-inch discs without an adaptor; and a very-high-quality headphone output.

The GCD-575's advanced facilities include:

- Programming of up to 24 tracks
- Programming of any phrase
- Audible fast forward and reverse
- Adjustable introscan
- Auto space

Display functions include:

- Elapsed time on track or disc
- Time remaining on track or disc
- Programmed tracks
- Track being played
- Number of tracks up to 20

Why Should You Listen To Us?

Over the years, Adcom has earned a reputation for delivering superb performance at a modest price. The GCD-575 keeps faith with this tradition.

Once again, Adcom clears an innovative path through the jungle of confusing claims about "digital" sound, and provides a logical and direct path to musical purity.

If you've been waiting for a CD player which faithfully reproduces all of the music, not just bits and bytes of it, you'll want to visit your nearest authorized Adcom dealer right now... because while it may be true that all good things come to those who wait, you've waited long enough for a CD player this good.

ADCOM[®]
fine stereo components

11 Elkins Road, East Brunswick, NJ 08816
U.S.A. (201) 390-1130

Distributed in Canada by PRO ACOUSTICS INC.
Pointe Claire, Quebec H9R 4X5

©1988 ADCOM

Enter No. 9 on Reader Service Card

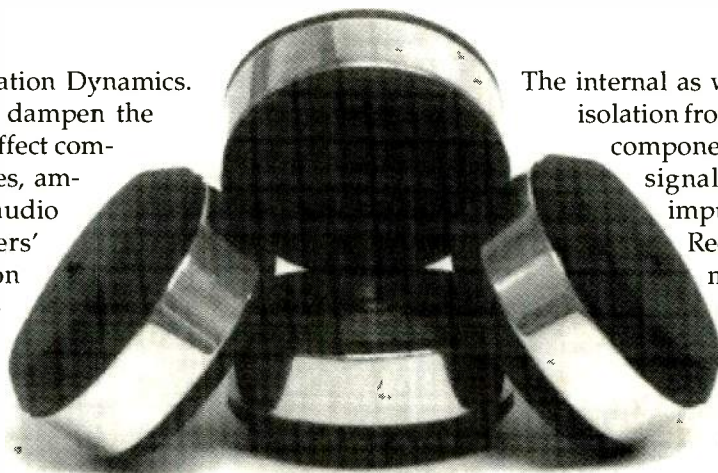
CD PLAYERS & D/A CONVERTERS

MANUFACTURER	Model (RI) - Remote Included, (RO) - Remote Optional	Disc Capacity	Decoding System		Digital Filter/Analog Pre-Digital = A, Digital Only = B, Analog Only = C	Line Outputs: Fixed = F, Var = V, Balanced Analog = B	D/A Converter: Headphone = H, Substage Only = S, Digital = D, Fiber Optic = F	Frequency Response, Hz to kHz, ±dB	S/N Ratio, "A" Wtd., -dB	THD, %	Elapsed-Time Display: From Disc Start = D, Free Track Start = B, Bon = 8	Repeat Time Display: To Disc End = D, To Track End = S, Bon = 9	Number of Programmable Selections	Repeat Functions: Entire Disc = D, Track = T, A-B Phase = P, Entire Program = L	Weight, Lbs.	Price, \$	Notes
			A	F/V													
MERIDIAN	207(RO)	1	16-4X	A	F/V	HL/D	20-20 ± 0.2	117	0.004	B	D	32	D/T/E		1990.00	Includes preamp functions; remote has volume control.	
	206(RI)	1	16-4X	A	F	HL/D/F	20-20 ± 0.2	115	0.004	B	D	32	D/T/E		1650.00		
MITSUBISHI	M-C5100(RI)	1	18-8X	A	F	HL/D/F	4-20 ± 0.5	104	0.003	T	D	20	D/T/P/E	11	450.00	Changer. CD/Video disc combi player.	
	M-C4100(RI)	5	16-2X	A	F	HL	8-20 ± 0.5	96	0.004	T	D	20	D/T/E	14	449.00		
	DP-212(RI)	1	16-2X	A	F	H	4-20 ± 0.5	96	0.004	T	D	36	D/T/E	8	249.00		
	DP-311R(RI)	1	16-4X	A	F	F	4-20 ± 0.3	105	0.003	T	B	36	D/T/P/E	14	499.00		
	M-V7010(RI)	1	18-4X	A	F	F	4-20 + 5, -1	100		T	B	20	D/T/P/E	24			
THE MDD SQUAD	Prism(RI)	1	16-4X	A	F	D	1-20 ± 0.1	100	0.01	T		20	D/E	14	1495.00		
MUSICAL CONCEPTS	Enigma(RI)	1	16-4X	C	F	H	5-20 ± 0.1	100	0.003	T		20	D/T/E		595.00	Optional digital output; shuffle play.	
	Era(RI)	1	16-4X	C	F	H	5-20 ± 0.1	100	0.003	T		20	D/T/E		895.00	As above.	
	Epoch(RI)	1	16-4X	C	F	H	5-20 ± 0.1	100	0.003	T		20	D/T/E		1195.00	As above; external dual-mono power supply.	
NAD	5100(RI)	1	16-4X	A	F/V	HL	5-20 + 0, -0.2	106	0.004	B	B	29	D/T/E	10 3/4	499.00	Changer.	
	5170(RI)	7	16-4X	A	F/V	HL/D	5-20 + 0.1, -0.3	103	0.006	B	B	32	D/T/E	13 1/2	699.00		
	5300(RI)	1	16-4X	A	F/V	HL/D	5-20 + 0, -0.5	111	0.002	B	B	29	D/T/E	10 3/8	899.00		
	5325(RI)	1	16-4X	A	F	F	5-20 + 0, -0.5	112	0.04	B	B	29	D/T/E	7 3/4	299.00		
	5340(RI)	1	16-8X	A	F/V	D	5-20 ± 0.1	107	0.003	B	B	32	D/T/E	7 3/4	399.00		
NAKAMICHI	DMS-7AII(RI)	1	16-4X	A	F	HL	5-20 ± 0.5	104	.0025	B	D	24	D/E	16 1/2	1995.00	Changer; includes single-disc tray; random play. As above.	
	DMS-5AII	1	16-4X	A	F	None	5-20 ± 0.5	104	.0025	B	D	0	D/E	16 1/2	1650.00		
	CDC-4A(RI)	6	16-8X	A	F/V	HL/D	5-20 ± 0.5	104	0.002	B	D	50	D/E	15 3/8	1195.00		
	CDC-3A(RI)	6	16-4X	A	F	HL	5-20 ± 0.5	102	.0025	B	D	50	D/E	13 1/4	795.00		
	COP-2A(RI)	1	16-4X	A	F	HL	5-20 ± 0.5	100	.0025	B	D	24	D/E	11 1/4	549.00		
	DMS-1A(RI)	1	16-2X	A	F	None	5-20 + 0.5, -1	96	0.006	D	D	15	D/E	8 1/4	349.00		
	1000P	1	20-8X	A	F/V/B	HL/D/F	5-20 ± 0.5	106	.0005	B	D	15	D/E	38 3/8	4600.00		
NEC	CD-530(RI)	1	16-4X	C	F	HL	20-20 ± 0.5	95	0.006	B	B	24	D/T	10 1/8	199.00	Dual D/A converters.	
	Renaissance CD-630(RI)	1	16-8X	A	F	HL/D	5-20 ± 0.5	105	.0025	B	B	24	D/T/P	11 1/8	299.00		
	Renaissance CD-730(RI)	1	16-16X	A	F	HL/D/F	5-20 ± 0.5	105	.0025	B	B	24	D/T/P	12 1/4	399.00		
	Renaissance CD-830(RI)	1	16-16X	A	F	HL/D/F	5-20 ± 0.5	105	.0025	B	B	24	D/T/P	25 1/4	999.00		
NIKKO	CD-400(RI)	1	16-4X	A	F	HL	20-20 ± 0.5	100	0.005	B	B	16	D/T/E	9	299.95		
ONKYO	DX-1500(RO)	1	16-2X	A	F	H	5-20	96	0.004	B	B	16	D/T/E	10.6	250.00	Shuffle play. As above; D/A converter adjusted for MSB; opto-coupling. D/A converter adjusted for MSB; opto-coupling; opto-drive. Opto-coupling; opto-drive. As above; D/A converter adjusted for four MSBs. Changer. As above; Music File memory for 340 discs. Shuttle search; variable speed scanning and cueing; digital polarity switch.	
	DX-1700(RI)	1	16-8X	A	F	H	5-20	100	0.004	T	B	20	D/T/E	10.4	300.00		
	DX-2700(RI)	1	16-8X	A	F	HL/D	5-20	100	0.004	T	B	20	D/T/E	10.6	350.00		
	DX-3500(RI)	1	16-8X	A	F/V	HL/D/F	2-20	100	0.003	T	B	20	D/T/P/E	11	420.00		
	Integra DX-5500(RI)	1	18-4X	C	F/V	HL/D/F	5-20	100	0.003	B	B	20	D/T/P/E	17.6	600.00		
	Integra DX-7500(RI)	1	18-8X	C	F/V	HL/D/F	2-20	108	.0015	B	B	20	D/T/P/E	19.4	700.00		
	DX-C300(RI)	6	16-8X	C	F	H	5-20	96	0.004	B	B	40	D/T/E	12.8	430.00		
DX-C500(RI)	6	16-8X	C	F	HL	5-20	96	0.004	B	B	40	D/T/E	12.8	530.00			
Grand Integra DX-G10(RI)	1	18-8X	A	F/V	HL/D/F	2-20	110	.0015	B	B	16	D/T/P/E	59.5	2500.00			
PANASONIC	SL-P3800C(RI)	6	16-4X	A	F		2-20 ± 0.5	96	0.006	B	B	36	D/T/E	12.8	379.95	Changer.	
	SL-PC362	1	16-4X	A	F		2-20 ± 1	96	0.05	B	B	20	D/T/E	8.6			
	SL-PS352	1	16-4X	A	F		2-20 ± 1	96	0.05	B	B	20	D/T/E	7.9	229.95		
PARASOUND	D/VF-900(RI)	1	16-4X	A	F	HL	5-20 ± 1	99	0.005	T		15	D/T/P	16	335.00	Variable high-frequency focus adjustment.	
PHILIPS	LHH-1000(RI)	1	16-4X	A	F/B	HL/D/F	2-20 ± 0.1	101	.0015	B	B	20	D/T/P/E	62	4000.00	Two chassis. CD/CD-V combi player.	
	CDV488(RI)	1	16-4X	A	F	HL/D/F	3-20 ± 0.5	97	0.003	B	B	20	D/T/P/E	27	1300.00		
	CD-960(RI)	1	16-4X	A	F	HL/D/F	2-20 ± 0.1	101	.0015	B	B	20	D/T/P/E	21	999.00		
	CD-80(RI)	1	16-4X	A	F/V	HL/D/F	2-20 ± 0.1	101	.0015	B	B	20	D/T/P/E	20	749.00		
	CD-840(RI)	1	1	A	F/V	H/D	20-20 ± 0.1			B	B	20	D/T/P/E	11	599.00		
	CD-60(RI)	1	16-4X	A	F/V	HL/D/F	20-20 ± 0.1	100	0.002	B	B	20	D/T/P/E	11	429.00		
	CD-50(RI)	1	16-4X	A	F/V	H/D	20-20 ± 0.1	98	0.005	B	B	20	D/T/P/E	10	329.00		
(Continued)	CDC875(RI)	6	16-4X	A	F/V	H/D	20-20 ± 0.1	100	0.002	B	B	32	D/T/P/E	14 1/2	479.00	As above; changer.	

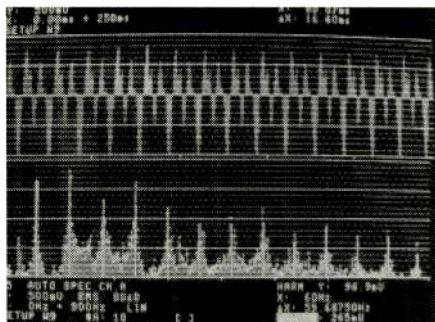
"CAVEAT EMPTOR"

Not all vibration control materials are created equal.

Developed by Sims Vibration Dynamics. The NAVCOM™ Silencers dampen the unwanted vibrations that effect compact disc players, turntables, amplifiers and other sensitive audio components. The Silencers' unique energy absorption material, NAVCOM™, reduces the transmission of vibrations throughout the listening frequency band width from 10 to 30,000hz.



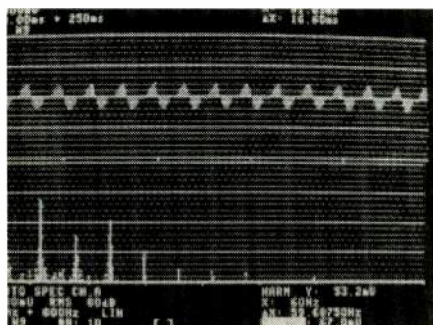
The internal as well as external vibration isolation from the Silencers allows the component to process pure audio signals rather than the false input of mechanical energy. Reducing the transmission of mechanical energy results in less distortion and this means an increase in focus and clarity from the highest highs to the lowest lows.



B & K reference test of vibration effects without isolation.

Results from a B & K 2032 FFT Spectrum Analyzer represent suppression of vibration measured in G forces. The first graph is a reference, run with no isolation whatsoever. You can see the prominent spikes in both the time and frequency domains. They measure 265 milligravities. The other test, using NAVCOM™, and it shows suppression of vibration all the way down to 67 milligravities.

"It was a rare and pleasant experience to encounter an accessory device whose sonic contributions were backed up by measured data."—Bert Whyte "Behind the Scenes", AUDIO MAGAZINE July 1989.



B & K test of vibration effects using Sims NAVCOM™ damping material.

FROM THE INDUSTRY LEADER IN
NOISE AND VIBRATION CONTROL...

SIMS VIBRATION DYNAMICS, INC.



Serious Dealer & Distributor inquiries welcome for the Silencers as well as the all new Second Generation Compact Disc Protection Stabilizer.

*Please address all inquiries to:
15127 N. E. 24TH—Suite No. 157
Redmond, WA 98052-5530*



We're making a big deal out of practically nothing.

The most difficult job for a compact disc player is to reproduce low amplitude signals. Fortunately, Yamaha has created a remarkable CD player that rises to the occasion.

The CDX-1120 reproduces those low amplitude signals that until now, have been distorted or lost in the noise generated by the digital-to-analog conversion process in most CD players.

Allowing you to distinguish the subtle variations between, say, both an oboe and clarinet softly playing middle C.

As well as enjoy improved ambiance, revealing the acoustic characteristics where the performance took place.

And superior imaging, clarifying the placement of each instrument in an orchestra.

All worthy reasons to take a good, soft listen to our remarkable new CDX-1120. Only then, can you truly appreciate Yamaha's Super Hi-Bit Technology.

Yamaha's exclusive Super Hi-Bit System utilizes the additional information generated by our 20-bit digital filter to more accurately

reproduce the low amplitude signals coming from the disc.

To achieve this superior sound definition, Yamaha uses four 18-bit D/A converters, each with an exclusive 4-bit Floating System to boost linearity to 22-bits.

Delivering four times greater resolution of low amplitude signals than even fixed 20-bit D/A converter systems.

What's more, Yamaha's exclusive Super Hi-Bit DAC Direct Output provides phase accuracy so close to the original recording, it's unprecedented in the industry.

The CDX-1120 also features Digital DeEmphasis and Digital Volume Control to give the best possible signal output - - uncompromised by analog components.

To fully appreciate the phenomenal CDX-1120, pay a visit to your local Yamaha dealer.

Once you hear it for yourself, the advantages will come across loud - and soft - and clear.

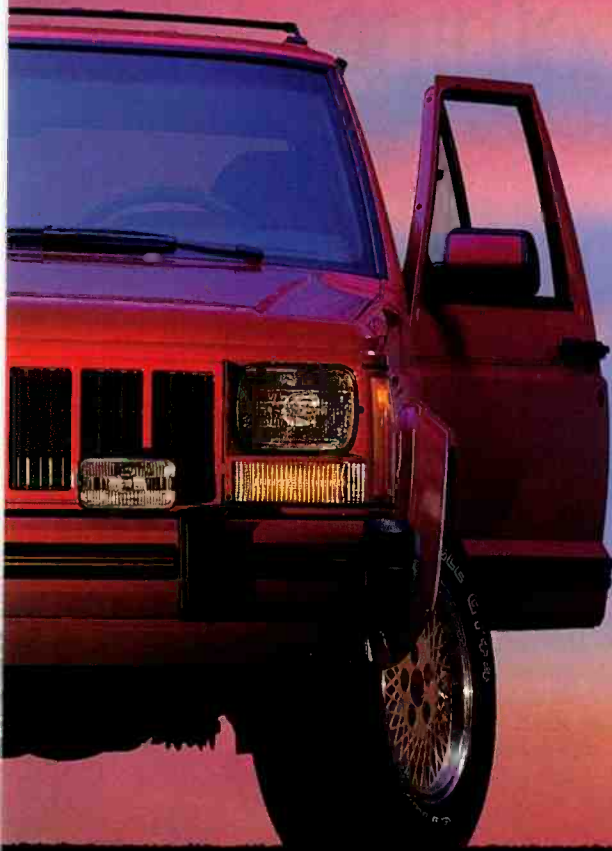


A full-function remote lets you control everything. With 24-track random access programming, 5-way repeat play and more.



YAMAHA®

LIMITED EDITION CD
Free With Purchase Of Any
Car CD Player Or Home 6-Disc
Multi-CD Player By 12/31/89.



Thanks to Pioneer's CD Changer system, this is



Before you buy a CD changer, there are two things you should consider.

Your home. And your car.


Because Pioneer makes a compatible 6-disc CD changer system for both, now you can enjoy your favorite music wherever you go.

The key to home and car compatibility



is Pioneer's ingenious 6-disc magazine, which works in all Pioneer home and car CD changers. It's the most convenient way to load, store and catalog your CDs.

All of Pioneer's home CD changers feature the latest innovations in digital

A man in a dark suit is running away from a house at sunset. The sky is a mix of orange, red, and blue. The house has a large window with a grid pattern. The man is carrying a briefcase and is running on a set of steps.

The only place you'll be without your music.

©1989 Pioneer Electronics (USA) Inc., Long Beach, CA



technology, as well as multiple programming capability and random play.

As for versatility, you simply won't find a better car CD changer system. A Pioneer car CD changer can either replace or be added on to your current car

stereo, using one of four advanced CD controller units.

Of course, there are still some places where you won't be able to enjoy Pioneer's 6-disc CD Changer system. But we're working on it.

 **PIONEER**[®]

For more information and the name of your nearest Pioneer Dealer, call toll-free 1-800-421-1404.

Enter No. 76 on Reader Service Card





LUXMAN

AT HOME IN THE 90'S



Home Entertainment in the 90's. . .

Several trends have emerged from the 80's:

- *The overall cost of owning a home in the United States has continued to soar.*
- *The admission price of concerts, movies and sporting events has continued to escalate.*
- *And, the performance quality and operating convenience of home audio and video components has dramatically improved.*

Entering the 90's these three factors will combine to fuel an increasing enthusiasm to entertain "at home." Simply stated, it has become more practical and more desirable to invest in high quality audio/video systems that deliver a whole new dimension in "home entertainment." With the proper combination of audio and video components, you can:

- *Enjoy music as if you were attending a "live" concert.*
- *Experience films like you do in a movie theatre.*
- *Observe sporting events as if you were at the stadium.*

Virtually every type of "live" entertainment can be faithfully reproduced in the home of the 90's, providing you design a system tailored to your individual needs.

Luxman Home Audio Components. . .

There are two basic elements of a home entertainment system:

Picture - Several manufacturers concentrate on improving picture quality with advanced technology in the area of large-screen televisions, Laserdisc video players, V.C.R's, and soon, high-definition picture screens.

Sound - Luxman audio components satisfy the "sonic requirements of each system and deliver the emotional impact of the original performance.

Every component is carefully designed to meet three performance criteria:

Sonic Realism - All efforts are made to reproduce music with all of the warmth and transparency of the original source.

Ease of Operation - Each component is designed for optimum convenience, both on the control panel and on the remote handpiece.

Long-Term Reliability - Every model incorporates proven circuit designs and exhaustive quality evaluations to provide uncompromising durability.

The trend towards high-quality home entertainment systems is a focal point in the 90's, and the audio components are the heart of each system. That's why Luxman is *at home in the 90's*.

Luxman at home in the 90's

... in every room

The Luxman remote controlled receivers (R-115, R-117) and preamplifier (TP-117) include a handpiece that operates all Luxman CD players and cassette decks, eliminating the need for multiple remotes. And these system control centers are equipped to feed information to any part of the house, enabling multiple-room enjoyment of both audio and video sources.

For example, a remote sensor eye (RC-501) can be installed in another part of the house, allowing you to run speaker wires to an extra pair of speakers and operate the entire system in that room.

This eliminates the need for another complete audio system in that listening area. And with a relatively simple procedure for running cable through the house, you can ultimately carry your handpiece into any room and turn the main system on and off, adjust volume, change radio stations, fast forward a compact disc, and more.

... and in every wall

The S-505 loudspeakers bring true high-fidelity sound to any wall or ceiling installation. Designed primarily for home entertainment rooms, S-505 loudspeakers are also moisture resistant and work well in the higher humidity of a kitchen, bathroom ... any place where in-wall speakers are desired. The grille accommodates the RC-501 sensor eye for easy "hidden" installation and can be painted to match any environment.



S-505 Wall Mount Loudspeakers w/hidden sensor eye



Each room in your home can connect to the main system with S-505 speakers, eliminating the need for another audio system in that room.

... introducing "multi-zone" remote

For the ultimate multi-room installation, the TP-117 "multi-zone" preamplifier adds the extra convenience of independent source select.

Most multiple room combinations have a limitation: The source selected in one room must be fed to all rooms simultaneously.

"Independent source select" means that you can listen to a compact disc in the bedroom, while someone else plays the radio in the living room, independent of each other.

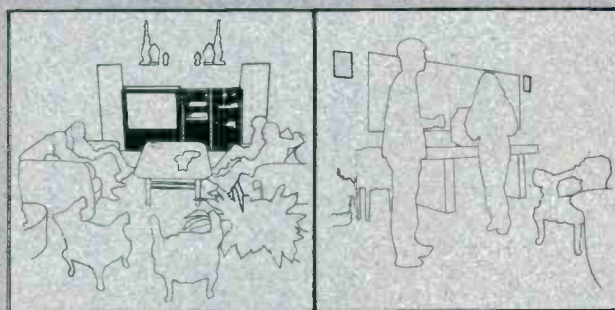
With the proper connections, the video signal coming from the main system can also travel down the same cables

used for basic "multi-room" installation. This enables remote televisions to receive the video signals from the main V.C.R. or Laserdisc player.

With a command repeater (RC-503), the handpiece of each video component can "talk" to the remote eyes, enabling complete remote operation at each location.

Whether used for music only, or integrated with a video system, Luxman components offer convenience, flexibility, and the most accurate sonic reproduction available today.

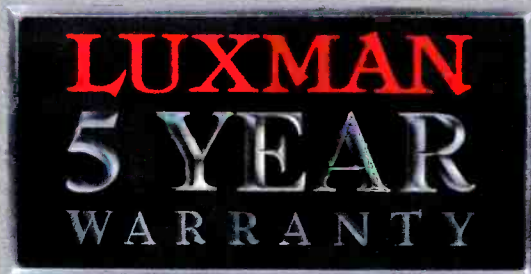
RC-503 Command Repeater



The TP-117 "multi-zone" preamplifier can feed all audio or video sources to any room for total independent operation.

Luxman is one of the most sophisticated and technically advanced audio product lines on the market today. With more than sixty years of experience in designing and producing audio products, we have made a number of innovative technological achievements. The end result is an international reputation for home audio components with musical warmth and transparency.

Luxman is committed to providing the highest quality product, but this is only a part of our total commitment. Every effort is made to ensure that our product will give valued customers the highest level of satisfaction for many years to come. That is why *all* Luxman home audio components are backed by the longest full-line warranty in the industry: 5 years parts and labor.



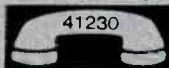
You will also find that the retailers that carry Luxman parallel this commitment to offer only the finest products with complete customer service. Should you need assistance or service on a Luxman component, just contact your local Luxman dealer.

For additional information on these and other Luxman components, or the authorized dealer nearest you:

CALL
1-800-4-LUXMAN

Enter No. 3 on Reader Service Card

For More Information



Call 1-800-553-4355

©1989 Luxman/Division of Alpine Electronics of America, 19145 Gramercy Place, Torrance, CA 90501
Note: Due to continuing product improvement, specifications and design are subject to change without notice.
Dolby and "HX-Pro" are registered trademarks of Dolby Laboratories, Inc.

CD PLAYERS & D/A CONVERTERS

MANUFACTURER	Model (RI) = Remote Included (RD) = Remote Optional	Disc Capacity	Decoding System:			Output Filter(s):		Line Outputs:		Other Outputs:		Frequency Response, Hz to kHz, ±dB		S/N Ratio, "A" Wtd., ±dB		THD, %		Bypass Time (Delay):		Repeat Time (Delay):		Number of Programmable Selections		Repeat Functions:		Weight, Lbs.	Price, \$	Notes
			Number of Bits	Over-sampling Rate	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone	Headphone			
SONY (Continued)	CDP-270(RD)	1	16-4X	A	F	HL	2-20 ±1	100	0.09	T	B	20	D/T/P/E	7 3/4	225.00	Changer. As above; Custom File. As above. Changer. As above. Portable with digital signal processing control. Portable. As above. As above; bass-enhancement circuit. Portable, includes AM/FM tuner; without tuner, Model D-2, \$200.00. Portable.												
	CDP-C900(RI)	10	16-8X	A	F	HL/D/F	2-20 ±0.3	105	0.004	T	B	32	D/T/E	14	470.00													
	CDP-C800(RI)	5	18-8X	A	F	HL/D/F	2-20 ±0.3	105	0.003	T	B	32	D/T/E	13 1/4	500.00													
	CDP-C700(RI)	5	16-8X	A	F	HL	2-20 ±0.3	105	0.004	T	B	32	D/T/E	12	400.00													
	CDP-C500(RI)	5	16-4X	A	F	HL	2-20 ±1	100	0.05	T	B	32	D/T/E	10 3/4	330.00													
	CDP-C400(RD)	5	16-4X	A	F	HL	2-20 ±1	100	0.05	T	B	32	D/T/E	10 3/4	300.00													
	D-555(RD)	1	16-8X	A	F	HL/D/F	20-20 ±1	90	0.008	T	B	22	D/T/P/E	1 1/2	450.00													
	D-25(RI)	1	16-4X	A	F	HL	20-20 +1,-3	85	0.008	T	B	22	D/T/P/E	1	350.00													
	D-180K(RD)	1	16-2X	A	F	HL	20-20 +1,-3	85	0.008	T	B	22	D/T/P/E	1 1/2	270.00													
	D-9(RD)	1	16-2X	A	F	HL	20-20 +1,-3	85	0.008	T	B	22	D/T/P/E	1 1/4	250.00													
D-T2(RD)	1	16-2X	A	F	HL	20-20 +1,-3	85	0.07	T	B		D/T/E	1	250.00														
D-88(RD)	1	16-2X	A	F	HL	20-20 +1,-3	85	0.07	T	B		D/T/E	7/8	360.00														
SONY ES	CDP-R1/DAS-R1(RI)	1	18-8X	A	F	S/D/F	10-20 +0,-0.5	110	.0025	T	B	20	D/T/P/E	75	8000.00	Two chassis. Changer. †24 selections per disc; Custom File programming. Changer; Custom File. As above.												
	CDP-X7ESD(RI)	1	18-8X	A	V/B	HL/S/D/F	2-20 ±0.3	115	.0015	T	B	20	D/T/P/E	37 1/2	2000.00													
	CDP-608ESD(RI)	1	18-8X	A	V	HL/S/D/F	2-20 ±0.3	113	.0022	T	B	20	D/T/P/E	25 1/4	900.00													
	CDP-508ESD(RI)	1	18-8X	A	V	HL/D/F	2-20 ±0.3	110	0.003	T	B	20	D/T/P/E	14 1/4	550.00													
	CDP-208ESD(RI)	1	16-8X	A	V	HL/D/F	2-20 ±0.3	102	0.003	T	B	20	D/T/P/E	9	380.00													
	CDP-C15ESD(RI)	10	18-8X	A	V	HL/S/D/F	2-20 ±0.3	115	.0025	T	B	†	D/T/E	14 1/2	800.00													
	CDP-C9ESD(RI)	10	18-8X	A	F	HL/D/F	2-20 ±0.3	105	0.003	T	B	20	D/T/E	14	500.00													
CDP-C8ESD(RI)	5	18-8X	A	V	HL/D/F	2-20 ±0.3	105	.0025	T	B	32	D/T/E	15 1/2	500.00														
SOUND-CRAFTSMEN	CD750(RI)	1		A	F	HL	5-20 ±0.5	100	0.005	T		15	D/T/P/E	16	599.00	Includes compander; 17-inch-wide version available.												
SOUNDESIGN	4928	1	16-2X	C	F	HL	20-20 ±3	80	0.5	T	D	16	D/T		199.95	Portable; includes headphones, battery recharger, and a.c. adaptor.												
SOUND ENGINEERING	PFM-1M	1	16-4X	A	F	D	0-20 +0,-2	112	0.003	T		20	D/T/E	16	1100.00													
	PFM-1R	1	16-4X	A	F	D	0-20 +0,-2	110	0.004	T		20	D/T/E	16	1250.00													
SPECTRAL AUDIO	SDR-1000 Digital Reference(RD)	1		A†	V		5-20 ±0.1	106	0.003	B	B			49	7895.00	†Selectable output filters. Combination CD player/preamp.												
SYLVANIA	CD-1490(RD)	1	16	C	F	H	2-20 ±0.5	90	0.02	T		20	D/E	9	169.95	Changer.												
	CD-1494(RD)	6	16	C	F	H	2-20 ±0.5	90	0.02	T		30	D/E	11	269.95													
SYMPHONIC	CD-2000A(RI)	1	16-1X	A	F	HL/S	20-20 ±2	90	0.01	T		16	D/T/E	8.6	299.95	Changer.												
	CD-3000A(RI)	6	16-2X	A	F	S	20-20 ±2	90	0.01	T		32	D/T/E	11.4	399.95													
TANDBERG	TCP-3025A	1	16-4X	A	V/B	HL	2-20 ±0.3	100	0.008	B	B			13														
TCP-3035A(RI)	1	16-4X	A	V/B	H	10-20 ±0.5	100	0.01	D				11 1/2															
TEAC	PD-165	1	16-4X	B	F		5-20 ±1	90	0.005	T	T	16	D/T/E	7	249.95	Changer.												
	PD-440(RI)	1	16-4X	B	F		5-20 ±1	90	0.005	T	B	20	D/T/E	8.4	279.95													
	PD-445(RI)	1	16-4X	B	F		5-20 ±1	90	0.005	T	B	20	D/T/E	8.5	299.95													
	PD-480(RI)	1	16-8X	B	F	H	2-20 ±0.5	100	0.008	T	D	20	D/T/E	8.4	399.95													
	PD-700M(RI)	6	16-4X	B	F		5-20 ±1	93	0.01			32	D/T/E	11.4	499.00													
TECHNICS	SL-P1300(RI)	1	18-8X	A	F/B	HL/D/F	2-20 ±0.2	112	0.003	B	B	20	D/T/P/E	35	1799.00	Wired remote port; search dial; audible pause; rocker switch; pitch control; one-touch memory by time code.												
	SL-P1200(RI)	1	16-2X	A	F	HL/S	4-20 ±0.1	106	.0025	B	B	20	D/T/E	32	1499.00	Dual D/A converters; search dial; audible pause; rocker switch; pitch control.												
	SL-PC30(RI)	5	16-4X	A	F		2-20 ±1	96	0.05	B	B	36	D/T/E	13	369.00	Changer. As above; dual D/A converters.												
	SL-PC20(RI)	5	16-4X	A	F		2-20 ±1	96	0.05	B	B	20	D/T/E	8 5/8	329.00													
	SL-PC10	5	16-4X	A	F		2-20 ±1	96	0.05	B	B	20	D/T/E	8 5/8	289.00	As above. Four D/A converters.												
	SL-P999(RI)	1	20-8X	A	F	HL/F	2-20 ±0.3	113	.0023	B	B	32	D/T/P/E	13	599.00													
	SL-P555(RI)	1	18-4X	A	F/V	HL/F	2-20 ±0.3	100	.0035	B	B	32	D/T/P/E	11	409.00	As above. As above.												
	SL-P222(RI)	1	18-4X	A	F/V	HL/F	2-20 ±0.5	96	0.005	B	B	20	D/T/E	8	289.00													
	SL-P102(RI)	1	16-4X	A	F	HL	2-20 ±1	96	0.05	B	B	20	D/T/E	8	219.00	Dual D/A converters. As above.												
	SL-P101	1	16-4X	A	F		2-20 ±1	96	0.05	B	B	20	D/T/E	8	198.00													
SL-XP6(RI)	1	16-4X	A	F/V	HL	20-20 +0.5,-1	88	0.008	B		18	D/T/E	3/4	379.00	As above; portable; includes rechargeable batteries, a.c. adaptor, and earphones.													
SL-XP2(RI)	1	16-4X	A	F/V	HL			88		B			D/T/E	3/4	229.00	As above.												
THETA DIGITAL (Continued)	DS Pre		16-8X	A	F/V	D	0-20 +0,-0.1	104	0.002					28	4000.00	Preamp with D/A conversion (see also "Preampifiers"); three chassis.												

AMPLIFIERS

MANUFACTURER	POWER AMP															PREAMP			Notes	
	Model (P) = Remote Included, (R) = Remote Optional	Type: Integrate = I, Basic = B, Tube = T, Hybrid = H, Mono = M	Rated THD, %	Balanced Inputs?	Rated Slew Rate, V/μs	High Level Sensitivity, mV	Does Unit Invert Polarity?	Cont. Avg. Watts/Channel	Peak Avg. Watts/Channel into 8 Ohms	Rate Full Power Bandwidth, Hz to kHz	Class of Output Operation	Dynamic Headroom, dB	Input Impedance, kOhms	MM Phono S.N. - oh - k: Wtd. re. 5 mV	MM Phono Sensitivity, mV	Moving Coil Input?	Weight, Lbs.	Price, \$		
CARVIN	FET 400	B	0.05	Yes	30	1V	No	100	200	20-60	AB							31	499.00	Bridgeable; subsonic and ultrasonic filters; MOS-FET. As above.
	FET 900	B	0.05	Yes	50	1V	No	200	300	20-60	AB							35	669.00	
CARY AUDIO DESIGN	DH-50	B/T/M				750	No	50		20-20	A/AB							30	1295.00	†1000 watts.
	DH-100	B/T/M				750	No	100		16-24	A/AB							35	2995.00	
	DH-300	B/T/M				750	No	300		16-24	A/AB							45	4995.00	
	DH-500	B/T/M				750	No	500		16-24	A/AB							55	6995.00	
	DH-1000	B/T/M				750	No	†		16-24	A/AB							70	9995.00	
CELLO	Performance	B/M		Yes														16,000.	Four chassis.	
	Encore	B		Yes														6000.00	Quad mono.	
CLASSÉ AUDIO	DR-8	B	0.01	Yes		900	No	70	140	0.5-80	A/AB	5	100					53	2395.00	Bridges to 280 watts into 8 ohms and 550 watts into 4 ohms. As above but 400 and 800 watts. As above but 100 and 200 watts. As above but 180 and 360 watts.
	DR-9	B	0.01	Yes		1V	No	100	200	0.5-80	A/AB	5	100					65	3495.00	
	DR-3B	B	0.01	No		800	No	25	50	0.5-80	A	8	100					75	3195.00	
	DR-3VHC	B	0.01	No		800	No	45	90	0.5-80	A	8	100					105	4495.00	
CLASSIC AUDIO LTD.	CA260	B/H	0.1	No		775	No	50	50	20-20	AB1	1.5	100					66	1299.00	Bridgeable. †Pro version has balanced inputs. As above; MOS-FET. As above.
	Moscode 301	B/H	0.05	†			No	150	225	20-20	A/AB	1.5	100					40	1699.00	
	Moscode 601 Mono Block	B/H/M	0.05	†			No	325	500	20-20	AB	1.5	100					55	3299.00	
DON J. COCHRAN	Delta Mode	B/H/M	0.07	Yes	65	1.6V	No	200	200	0.5-50		0.4	50					58	10,000.	Differential signal path; balanced bridge output.
CONRAD-JOHNSON	MF80	B	0.5					80		20-20	AB		100					38	1395.00	
	MV50	B/T	1					45		20-20			100					39	1685.00	
	MV100	B/T	1					90		20-20			100				80	2950.00		
	Premier 1B	B/T	1					150		20-20			100				135	5750.00		
	VTF200	B/H	1					200		20-20			100				125	4995.00		
COUNTERPOINT	SA-100	B/H	0.8	No			No	100	170	5-100	AB	3	100						1195.00	
	SA-220	B/H	0.5	No			No	220	420	1.2-200	AB	3	100						2495.00	
	SA-220/220	B/H/M	0.5	No			No	600	700	1.2-200	AB	3	100						4990.00	
	SA-4	B/H/M	0.2	No	6		No	140	96	1-100	AB Var.	3	100						6095.00	
CREEK	4040S2	I	0.01	Yes	150	250	No	40	50	20-20	AB	1		75	2.5	350	No	10	450.00	100-μV sensitivity and 1-kilohm loading for MC input. Bridges to 200 watts.
	4140S2	I	0.01	Yes	150	250	No	45	75	20-20	AB	1		75	2.5	500	Yes	11	550.00	
	5050	I	0.01	Yes	150	250	No	60	100	20-20	AB	1		75	2.0	2V	Yes	22	995.00	
CREST AUDIO	FA2401	B	0.025	Yes	35	1.1V	No	325	550	20-20	AB	1.5	20					36	1769.00	Bridgeable. As above. As above. As above. †1200 watts. Bridgeable; operates into 2 ohms. As above. As above. As above. Bridgeable. As above. As above. As above.
	FA1201	B	0.025	Yes	35	870	No	290	450	20-20	AB	1.5	20					33	1319.00	
	FA901	B	0.025	Yes	35	710	No	225	300	20-20	AB	1.5	20					30	879.00	
	FA601	B	0.025	Yes	35	650	No	125	200	20-20	AB	1.5	20					26	764.00	
	8001	B	0.025	Yes	35	1.8V	No	750	†	20-20	AB	2	20					80	3189.00	
	7001	B	0.02	Yes	35	1.4V	No	550	715	20-20	AB	2	20					50	2589.00	
	6001	B	0.025	Yes	35	1.2V	No	400	600	20-20	AB	2	20					48	2189.00	
	4801	B	0.025	Yes	35	1.1V	No	300	480	20-20	AB	2	20					45	1589.00	
	CC301	B	0.025	Yes	35	1.1V	No	350	500	20-20	AB	1.5	20					50	1389.00	
	CC151	B	0.05	Yes	35	1V	No	150	300	20-20	AB	1.5	20					45	1189.00	
	1501A	B	0.06	Yes	25	610	No	75	125	20-20	AB	1	20					17	839.00	
	1001A	B	0.06	Yes	20	420	No	40	70	20-20	AB	1	20					17	679.00	
	CROWN INTERNATIONAL	Delta-Omega 2000	B/M	0.05	Yes	32	Sel.	No	730	†	0-45	AB/B							92	
Macro-Tech 10K		B/M		Yes			No	†	††		AB/B							130	9995.00	†1000 watts. ††1850 watts.
PSA-2DX		B	0.002	No	30	2.1V	No	265	380	20-20	AB/B							57	2195.00	
PSA-2X		B	0.002	No	30	2.1V	No	265	380	20-20	AB/B							57	1995.00	
Macro-Tech 2400		B	0.1	Yes	13	Sel.	No	515	710	20-20	AB/B							51¾	1995.00	
Macro-Tech 1200		B	0.1	Yes	13	Sel.	No	295	400	20-20	AB/B							44¼	1565.00	
PS-400		B	0.001	Opt.	16	1.8V	No	165	260	20-20	AB/B							55	1259.00	
Micro-Tech 1200		B	0.1	Yes	13	Sel.	No	295	400	20-20	AB/B							44¼	1295.00	
Macro-Tech 600		B	0.1	Yes	13	Sel.	No	220	275	20-20	AB/B							39¼	1295.00	
DC-300A-II Power Base 2		B	0.001	No	8	1.8V	Sel.	No	155	250	20-20	AB/B							45	1095.00
(Continued)		B	0.1	Yes	13	Sel.	No	320	400	20-20	AB/B							32	1049.00	Bridged or parallel mono operation.

Now the Classics Are for Everyone.

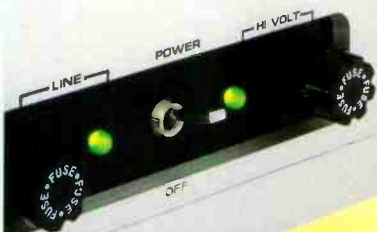
audio research

HIGH DEFINITION®
STEREO POWER AMPLIFIER
CLASSIC 60



audio research

HIGH DEFINITION®
STEREO POWER AMPLIFIER
CLASSIC 30



Despite the undoubted pleasure that high-performance amplifiers bring to legions of audiophiles and music lovers, such rarified performance usually comes at relatively high cost.

Audio Research believes that highly accurate music reproduction isn't just the prerogative of the well-heeled audio enthusiast, but the natural desire of every serious music lover.

Audio Research now proudly introduces the Classic 60 and the Classic 30, two new, moderately priced stereo hybrid amplifiers that come surprisingly close to the benchmark set by the acclaimed Classic 150 hybrid monaural amplifier.

It doesn't take a "golden ear" to immediately perceive the emotional power and sonic authority the Classic 60 and Classic 30 bring to any good musical program. Silences are more silent by an order of magnitude; the soundstage is broad, deep, tall; instrumental timbres have an uncommon truth to them; dynamics soft and loud are unbelievably convincing.

And the Classic 60 and Classic 30 are designed to provide years of trouble-free service. You don't need to be a technician to use and enjoy them.

Quite simply, the Classic 60 and Classic 30 bring world-class audio performance within reach of most music lovers. Audition one today at your nearest Audio Research dealer.

20
classic years

1970 - 1990

audio research®
HIGH DEFINITION®



Anodized black front panel available at additional cost.



Anodized black front panel available at additional cost.

For effortless musicality and value second to none... it has to be the Classic 60.

The new Classic 60 Hybrid Stereo Power Amplifier resembles the long-popular D115 in Audio Research's family of High Definition® power amplifiers. But its lineage is strictly Classic 150. Which means nothing less than state-of-the-art in design, construction, musicality and operational convenience...at an affordable price.

Like the Classic 150, the Classic 60 proceeds from the notion that power ratings don't always describe a power amplifier's real capabilities. Far more important are such qualities as dynamic stability, lucidity, subtlety.

And to achieve those, Audio Research has used its traditional partial cathode coupling along with triode operation of the Classic 60's eight 6550 power output tubes. Additional circuit improvements, as well as the usual rigorous parts selection and manufacturing Audio Research is noted for, also contribute sonically.

Translated into the language of listening, this signifies stunning bandwidth, a noise floor virtually beneath audibility and musically fulfilling SPLs at dramatically lower gain settings. Dynamics, timbres of individual instruments, soundstage, and musical emotion all surge out from a black velvet of silence.

Simply put, the Classic 60 resolves far more of a musical program than amplifiers rated at two, three or four times its seemingly modest 60 WPC.

But the Classic 60 is easily up to the task of driving all but the most demanding loudspeakers, even in spacious listening rooms. And while it shows modest pre-amplifiers in their best light, it also shines when coupled with premiere designs, such as Audio Research's SP14 or SP15.

Convenience figures high on the Classic 60's list of attributes, as well. For example, DC balance of the output tubes is maintained automatically, while tube biasing continuously adjusts to changes in incoming line voltage. Performance



For performance, convenience, musicality and value, the clear choice is the Classic 60.

stays razor-sharp without bothersome tweaking or adjustments. And quiet fan cooling, along with triode operation, means significantly longer tube life. A Classic 60 owner can look forward to years of low-maintenance performance.

Putting the state-of-the art within everyone's reach... the Classic 30.

It's tempting to regard the Classic 30 as merely the smaller sibling of the Classic 60 and Classic 150.

But the skeptical music lover or audiophile who auditions the Classic 30 is in for quite a shock. Because this "little" hybrid stereo amplifier—rated at 30 WPC— packs a sonic authority and eloquent musical veracity that larger, more conventional power amplifiers might envy. Our engineers have discovered that sometimes less is very definitely more.

Of course, the Classic 30 features almost all the same technology as its bigger brothers, scaled down for more modest applications. It has four 6550s instead of eight.

two 6FQ7 driver tubes instead of four; no fans, because it runs remarkably cool without any help whatever.

But this smaller design still retains a similar degree of exceptional musical resolution. Even at low gain settings, the Classic 30 is far more musically lucid than amplifiers objectively far more powerful.

The Classic 30 is at its pristine best with moderately efficient loudspeakers in small- to medium-sized listening rooms; with program materials that demand high resolution and subtlety rather than pure muscle. In that context, it reveals the same sonic mastery as its more powerful siblings.

But don't take our word for it. Audition a Classic 30 today and discover just how much more music can come alive...with "less".



In addition to gaining superlative sonic performance, every Classic 60 or Classic 30 owner can rely on Audio Research's 20-year tradition of service and support.

CLASSIC 60 SPECIFICATIONS

(AC line set at 120V 60Hz for these specifications)

POWER OUTPUT: 60 watts minimum continuous at 16 ohms from 15Hz to 20kHz with less than 1.0% total harmonic distortion (typically below .005% at 1 watt)

Approximate actual power available at "clipping": 62 watts (1kHz) (Note that actual power output is dependent upon both line voltage and "condition" i.e. if power line has high distortion, maximum power will be affected adversely, although from a listening standpoint this is not very critical.)

POWER BANDWIDTH: (-3dB Points) 12Hz to 40kHz

INPUT SENSITIVITY: .55V RMS for rated output

INPUT IMPEDANCE: 100K ohms, nominal

OUTPUT REGULATION: Approximately 0.3dB 16 ohm load to open circuit (Damping factor approximately 30)

NEGATIVE FEEDBACK: 20dB

SLEW RATE: 20 volts/microsecond

RISE TIME: 2.0 microseconds

HUM & NOISE: Less than 2.0mV RMS - 84dB below rated output (20kHz bandwidth unweighted, inputs shorted)

POWER SUPPLY ENERGY STORAGE: Approximately 280 joules

POWER REQUIREMENTS: 105-125VAC 60Hz (210-250VAC 50Hz) 500 watts at rated output, 700 watts maximum, 370 watts at "idle"

TUBES REQUIRED: 4 - Matched pair 6550 (low gas) - Power Output, 4 - 6FQ7/6CG7 - Drivers

DIMENSIONS: 19" (48 cm) W (standard rack panel) x 7" (18 cm) H x 15.75" (40 cm) D (front panel back). Handles extend 1 5/8" (4.1 cm) forward of the front panel. Output connectors extend 1" behind rear panel.

WEIGHT: 63 lbs. (28.64 kg) Net; 76 lbs. (34.55 kg) Shipping



Quiet, efficient cooling fans mounted inside the top cover of the Classic 60 help maintain thermal stability of internal components for consistent, trouble-free service.

CLASSIC 30 SPECIFICATIONS

(AC line set at 120V 60Hz for these specifications)

POWER OUTPUT: 30 watts minimum continuous at 16 ohms from 17Hz to 20kHz with less than 1.0% total harmonic distortion (typically below .005% at 1 watt)

Approximate actual power available at "clipping": 32 watts (1kHz) (Note that actual power output is dependent upon both line voltage and "condition" i.e. if power line has high distortion, maximum power will be affected adversely, although from a listening standpoint this is not very critical.)

POWER BANDWIDTH: (-3dB Points) 15Hz to 50kHz

INPUT SENSITIVITY: .4V RMS for rated output

INPUT IMPEDANCE: 100K ohms, nominal

OUTPUT REGULATION: Approximately 0.4dB 16 ohm load to open circuit (Damping factor approximately 23)

NEGATIVE FEEDBACK: 19dB

SLEW RATE: 15 volts/microsecond

RISE TIME: 3.5 microseconds

HUM & NOISE: Less than 0.5mV RMS - 93dB below rated output (20kHz bandwidth unweighted, inputs shorted)

POWER SUPPLY ENERGY STORAGE: Approximately 150 joules

POWER REQUIREMENTS: 105-125VAC 60Hz (210-250VAC 50Hz) 300 watts at rated output, 400 watts maximum, 200 watts at "idle"

TUBES REQUIRED: 2 - Matched pair 6550 (low gas) - Power Output; 2 - 6FQ7/6CG7 - Drivers

DIMENSIONS: 19" (48 cm) W (standard rack panel, x 7" (18 cm) H x 14.5" (37 cm) D (front panel back). Handles extend 1 5/8" (4.1 cm) forward of the front panel. Output connectors extend 1" behind rear panel.

WEIGHT: 46 lbs. (20.9 kg) Net; 62 lbs. (28.2 kg) Shipping



4, 8 and 16-ohm output taps enable the Classic 30 owner to closely match the impedance characteristics of loudspeakers for better dynamic performance, more musical satisfaction.

© 1989 Audio Research Corporation

Three-Year Limited Warranty

All Audio Research products are backed by a Three-Year Limited Warranty: vacuum tubes are warranted against defects for 90 days. For one year from date of purchase. Audio

Research pays round-trip freight charges on any equipment requiring warranty service at the factory. See your authorized Audio Research dealer for details.

audio research®

H I G H D E F I N I T I O N ®

6801 Shingle Creek Parkway / Minneapolis, Minnesota 55430 / Phone: 612/566-7570 FAX: 612-566-3402

Enter No. 1 on Reader Service Card

AMPLIFIERS

MANUFACTURER	Model (RI) = Remote Included, (RO) = Remote Optional	Type: Integrated = I, Base = B, Line = L, Video = V, Mono = M	Rated THD, %	Balanced Inputs?	Rated Slew Rate, V/μs	High-Level Sensitivity, mV	Does Unit Invert, Polarity?	Cont. Avg. Watts/Channel, mW	Cont. Avg. Watts/Channel into 8 Ohms, Hz to kHz	Rated Full-Power Bandwidth, Hz to kHz	POWER AMP							PREAMP			Notes			
											Class of Output Operation	Dynamic Headroom, dB	Input Impedance, Ω	MM Phono S.N. - dB	MM Phono Sensitivity, mV	MM Phono Sensitivity, mV	Moving Coil Input?	Weight, Lbs.	Price, \$					
CROWN INTERNATIONAL (Continued)	Micro-Tech 600	B	0.1	Yes	13	Sel.	No	220	275	20-20	AB/B										39¼	995.00	As above.	
	PS-200	B	0.001	Opt.	16	1.3V	No	95	135	20-20	AB/B										25	819.00	As above.	
	Power Base 1	B	0.1	Yes	13	Sel.	No	200		20-20	AB/B										30	799.00		
	D-150A-II	B	0.001	No	6	1.2V	No	75		20-20	AB/B										24	795.00		
D-75	B	0.001	No	6	812	No	35	40	20-20	AB/B										10	524.00			
CYRUS	I	I	0.003	Yes	†	65	No	30	40	20-20	AB	1.4	14	84	0.4		Yes	15	499.00	†Slew factor of 10. Biamp capable. As above. Add-on power supply, Model PSX, \$699.00.				
	II	I	0.003	Yes	†	50	No	50	80	20-20	AB	1.4	14	84	0.3		Yes	16	799.00					
DB SYSTEMS	DB-6A	B	0.003	No	15	1V	No	40	70	20-20	AB	3	48								18	795.00	Three-times power-supply capacitance optional. Per pair, \$1550.00.	
	DB-6A-M	B/M	0.008	No	30	1V	No	140	225	20-20	AB	3	48								18	795.00		
DBX	BX-3MkII	B	0.003	No	200	1V	No	400	500	20-20	AB	1.5	20								46.4	1299.00	Two-, three-, or four-channel operation.	
DENON	POA-6600A	B/M	0.02	Yes	500			260		5-80	†		25								34½	750.00	Remote power switching control. †Optical Class A. As above; no negative feedback. Dual mono. Remote power switching control; bridgeable. Coaxial and optical inputs; O/A converters.	
	POA-4400	B/M	0.015	Yes	500			150		5-80			25								22¾	500.00		
	POA-2400	B	0.01	No				200		5-80	†		25								38½	750.00		
	POA-800	B	0.05	No				50		10-50			25								15½	320.00		
	PMA-1520	I	0.005	No		150		130		5-50	†		47	95	2.5	160	Yes	28½	1000.00					
	PMA-920	I	0.005	No		150		115		5-50	†		47	94	2.5	160	Yes	24¼	600.00					
	PMA-720	I	0.01	No		150		90		5-40	†			88	2.5	160	Yes	17¼	450.00					
PMA-520	I	0.015	No		150		70		5-40	†			88	2.5	160	Yes	16¼	350.00						
PMA-320	I	0.05	No		150		60		5-40				86	2.5	160	Yes	12¾	300.00						
PMA-250	I	0.08	No		150		30		10-40				72	2.5	160	No	10¾	250.00						
DISTECH	LSIIa Stereo	B	0.02	No	65	120	No	120	250	3-100	AB	3.2	75									1250.00	Pair	
	LSIIa Mono	B/M	0.01	No	100	120	No	120	250	3-100	AB	5	75									3000.00		
DORETECH	Triode-70	B/T	1.0	No		1.2V	No	25	25		AB		470								29	519.00	Modification of Dynaco ST-70; triode output; bridges to 50 watts into 2, 4, or 8 ohms.	
DUAL	PA5060	I	0.01	Yes				60		6-95			78	2.5	140	Yes	21	399.00						
	PA5030	I	0.01	Yes				30		6-90			78	2.5	140	Yes	17	299.00						
ELECTRO-COMPA NIET	AW 100	B	0.2					No	100	180	A/AB										39	2195.00	Nine inputs; video switching.	
	AW 250	B	0.2					No	250	380	A/AB										65	3995.00		
	EC 100(RI)	I	0.2	No				No	100	180							Yes							
ELECTRON KINETICS	Eagle 2A	B	0.1	No	120	1.3V	No	120	240	0-100	AB	0.5	100								31	1395.00		
	Eagle 400	B/M	0.1	No	240	1.3V	No	400	800	0-100	AB	1	100								32	1695.00		
ESSENCE	150 Mk II	B	0.01	Opt.			No	200	300	5-500	AB		20								70	3895.00	Vibrationally isolated.	
EXPOSURE	X VIII	I					No	35		20-20	AB										18	1025.00	†Optional. Includes preamp power supply.	
	VIII Super	B					No	50		20-20	AB										15	1125.00		
	IV Dual	B					No	55		20-20	AB										33	2075.00		
	IV Dual Regulated	B					No	80		20-20	AB										33	2875.00		
FENTON AUDIO	Stereobate	B/M	0.025		500	500	No	300	600	20-100	A/AB		10								66	2300.00	MOS-FET; water-cooled. Pair	
FM ACOUSTICS	Resolution Series 610	B	0.009	Yes	30	1.6V	Var.	250	350	20-20	A		35								53	12,500.	Operates into 0.1-ohm load or less; output current, 200 amps or more, peak.	
	Resolution Series 810	B	0.008	Yes	30	1.6V	Var.	430	750	20-20	A		40								110	22,500.		
	FM 300A	B	0.009	No	25	1.6V	No	100	150	20-20	A		4								26½			
	FM 600A ULI	B	0.008	No	25	1.6V	No	250	350	20-20	A		4.5								42			
FM 800A ULI	B	0.007	No	25	1.6V	No	400	600	20-20	A		4.5								64				
FORTÉ AUDIO	1a	B	0.1	No	40	1V	No	50	80	7-30	A	0	75								31	1100.00	30 amps, peak, per channel. As above.	
	3	B	0.1	No	40	1.9V	No	200	320	7-30	AB	1.3	75								31	1100.00		
FOSGATE-AUDIONICS	M-60 mkII	B/M	0.10	No		Var.	No	40	60	20-20	AB	1.0	50								6	199.00	High-current design. Three-channel operation.	
	M-100 mkII	B/M	0.10	No		Var.	No	80	150	20-20	AB	1.0	50								12	399.00		
	S-100 mkII	B	0.10	No		Var.	No	80	130	20-20	AB	1.0	50								14	499.00		
	T-100 mkII	B	0.10	No		Var.	No	75	125	20-20	AB	1.0	50								16	599.00		

AMPLIFIERS

MANUFACTURER	Model (RI) = Remote Included (RD) = Remote Optional	Type Integrated = I, Hybrid = H, Mono = M	Rated THD, %	Balanced Inputs?	Rated Slew Rate, V/μs	High-Level Sensitivity, mV	Does Unit Invert Polarity?	Cont. Avg. Watts Channel into 8 Ohms	Cont. Avg. Watts Channel into 4 Ohms	Rated Full-Power Bandwidth, Hz to kHz	POWER AMP					PREAMP			Notes	
											Class of Output Operation	Dynamic Headroom, dB	Input Impedance, kOhms	MM Phono S/N, — db, A wtd. re 5 mV	MM Phono Sensitivity, mV	Moving Coil Input?	Weight, lbs.	Price, \$		
GOLDMUND	Mimesis 3(RD)	B	0.01	Yes	100	155	No	100	200	0-850		100						34	5690.00	A.C. polarity switch.
	Mimesis 6	B	0.01	No	100	155	No	80	150	0-600		50					27½	2690.00	As above; star ground configuration. Fits directly into Goldmund Apologue speaker.	
	Mimesis 9	B	0.01	Yes	100	155	No	175	350	0-1M		50					143	8990.00		
	Goldcube(RD)	B/M		No			No												10,000.	
GRUNDIG	A-9000	I	0.005	No		150	No	120	200	5-80	AB	1.5	50	82	2.5	160	Yes		1199.00	
	A-903	I		No		180	No	100	150	5-50	AB	1.5	50	78	1.9	160	No		699.00	
HAFLER	SE120	B	0.008	No	13		No	65	75	20-20	AB	1.8	23					18	325.00	Bridgeable. As above; ambience recovery system.
	DH120	B	0.009	No	30		No	62		20-20	AB	1.8	22					18	349.00	
	XL280	B	0.05	No	75		No	145	200	20-20	AB	1.4	47					27	675.00	Bridgeable; kit, \$600.00. Kit, \$700.00. Bridgeable.
	DH500	B	0.025	No	40		No	255	400	20-20	AB	1.5	47					49	749.00	
	XL600	B	0.05	No	100		No	305	450	20-20	AB	1.4	47					51	1195.00	
HARMAN KARDON	HK6100	I	0.09	No	90	135	No	30	30	20-20	AB		22	78	2.2	130	No	12¾	249.00	Selectable power-supply voltage; active/passive phono section. As above; phase-correct loudness control. As above. Selectable power-supply voltage; active/passive phono section; interactive A/V switching. As above.
	HK6200	I	0.09	No	90	135	No	45	45	20-20	AB		22	80	2.2	120	No	13½	349.00	
	HK6500	I	0.09	No	90	135	No	70	70	20-20	AB		22	80	2.2	130	Yes	18¾	549.00	
	HK6600	I	0.08	No	180	135	No	90	90	20-20	AB		22	80	2.2	130	Yes	22½	699.00	
	HK6800	I	0.08	No	280	135	No	120	120	20-20	AB		22	80	2.2	220	Yes		949.00	
	HK6900	I	0.08	No	280	135	No	170	170	20-20	AB		22	80	2.2	220	Yes		1299.00	
HARMAN KARDON CITATION	twenty-two	B	0.08		160	1V	No	200	200	20-20	AB		22					45	1149.00	Bridges to 400 watts. Bridges to 200 watts.
	twenty-four	B	0.08		160	1V	No	100	100	20-20	AB		22					33	699.00	
HEYBROOK	P-3	B	0.05				No	100	150	20-50	AB							20	898.00	
INTEGRA AUDIO	Integra MF120 Mono-Blocks	B/M			500		No	120			AB		100					32	3000.00	Pair
JADIS	JA-30	B/T/M		No	775	No	35	35	20-35	A								50	5700.00	Bi-wired; auto bias.
	JA-80	B/T/M		No	775	No	75	75	20-35	A								80	9900.00	As above.
	JA-200	B/T/M		No	775	No	175	175	20-20	A								200	15,500.00	Four chassis; auto bias. As above.
	JA-500	B/T/M		No	775	No	400	400	20-20	AB									20,000.00	Pair
	DEFY 0-7	B/T		No	775	No	100	100	15-60	AB								80	4500.00	Pair
JRM	Power Tower	B/M	0.02		100	†	No	††	†††	0.6-75	AB	3	50					75	2500.00	†(2)2.0 and (2)1.1 V. ††(2)180 and (2)70 watts. †††(2)500 and (2)250 watts into 2 ohms. All-cascode design.
	Power Tower/B Pro	B/M	0.02		100	†	No	††	†††	0.6-75	AB	3	50					90	3100.00	†(2)2.0 and (2)1.1 V. ††(2)600 and (2)200 watts. †††(2)900 and (2)300 watts into 2 ohms. All-cascode design; bridged outputs.
JVC	AXZ911BK(RI)	I	0.003	No	400					20-20	A Sup. A	30	80	2.5	100	Yes	44	1100.00	Direct digital inputs. As above; 18-bit D/A converters.	
	AXZ1010TN(RI)	I	0.004	No	300					20-20	A Sup. A	30	82	4	100	Yes	37			
KENWOOD	KA-V7000(RI)	I	0.05		150	No	100			5-45		47	78	2.5	135	No	34	999.00	Video control amp; Dolby Pro Logic; six audio and six video inputs.	
	KA-V1000R(RI)	I	0.02		150	No	80			5-45		47	83	2.5	145	No	30	849.00	Video control amp; Dolby Surround; inputs as above.	
	Basic-M2A	B	0.004		100	No	220	396	5-100			47					34	679.00		
	Basic-M1A	B	0.008		100	No	125	198	10-75			47					21½	429.00		
	KA-880D	I	0.008		150				10-45			47	92	2.5	200		22	429.00		
	KA-128(RI)	I	0.05		150				10-100			47	81	2.5	100		19	349.00		
	KA-88	I	0.05		150			10-100			47	81	2.5	100		16½	279.00			
KINERGETICS RESEARCH	KBA-75	B	0.02	No	65	1.5V	No	75	150	5-100	A	3	100					55	1495.00	Dual mono.
	KBA-202	B/M	0.10	No	65	1.5V	No	250	400	5-100	AB	3	100						2250.00	
KLIMO	Kent	B/T/M	0.3	No			No	35	35		AB							19	2550.00	Output transformerless.
	DK-OPTL	B/T/M	0.25	No			No	115	80		AB							42	6550.00	

THE ADCOM GFP-555 PREAMPLIFIER



A remarkable combination of exceptional performance, flexibility and value.

The GFP-555's musical performance is outstanding—by any measurement or listening criterion. For example, *Stereophile** calls it "one of the most satisfying preamps around in terms of overall tonal balance . . . You can go back to it after a few weeks and still feel it to be basically right; it reveals most associated equipment as more colored than itself."

At the same time, the GFP-555 is surprisingly affordable. Again, from *Stereophile**: "It is unclear from close examination why it should cost only \$500 . . . it outperforms several competitors from the \$2500 bracket."

Here are just a few examples of how we did it. The GFP-555's gain path includes the most innovative state-of-the-art linear amplifiers ever used in high fidelity components, and is simple and direct from input to output.

The speed of the gain stages is almost fifty times faster than CD or LP signals. And the noise and distortion measurements are incredibly low. Direct coupling makes possible a frequency response from below 1 Hz to beyond 400,000 Hz.

Superb construction, incorporating regulated power supplies with large filter capacitors, provides superior performance no matter how widely the musical signal or AC line voltage may fluctuate.

As for flexibility, you can listen to any source while taping from another. There's an unusual number of inputs and outputs, plus adjustable phono gain and capacitance.

If you'd like the full story of this remarkable preamplifier and the review from *Stereophile**, please write. Of course, the fastest way to hear its demonstrably superior combination of sonic performance, flexibility and value is to visit your nearest Adcom dealer.

*Vol. 9 No. 7 (Nov. 1986)

ADCOM®

11 Elkins Road, East Brunswick, NJ 08816 201-390-1130

Distributed in Canada by PRO ACOUSTICS, INC.,
Pointe Claire, Quebec H9R 4X5

Enter No. 10 on Reader Service Card

THE LEGEND CONTINUES



SAE began its efforts over two decades ago with a devotion to engineering and design of sonically superior, sophisticated audio components. We began with rapid success of basic power amplifiers that were capable of tremendous current capabilities and linear power bandwidths. Our symmetrical amplifier circuits are well proven and continue to win critical acclaim and the ears of music lovers worldwide.

Industry firsts from SAE have continued from the early years of high current amplifier designs, digital FM tuning, graphic and parametric equalization and signal routing techniques to the latest microprocessor controlled component separates, our Computer Direct-Line '02' Series.

The six model '02' Series system offers power flexibility of 100, 200 and 600 watts per channel from the A202 and A502 Dual High Resolution Power Amplifiers. The A502 is a very special amp, capable of operating in stereo at 200 watts per channel continuous RMS power or at 600 watts per channel in a dual mono block configuration via rear panel switches and the use of two A502 amplifiers.

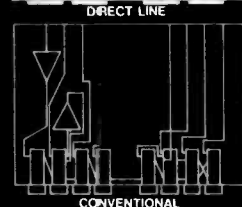
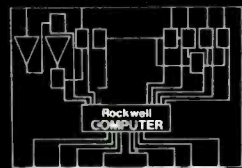
The heart of the '02' Series is the P102 Computer Direct-Line Preamplifier. As a control source for all signal information, the P102 was designed for optimum performance of sonics, switching simplicity and flexibility in listening system situations. The P102 and its matching source components, C102 Cassette Deck, D102 Compact Disc Player and T102 Stereo Tuner are all controlled by a proprietary SAE microprocessor loaded with the software for a multitude of audio system functions.

This central processing unit enables each stage of the component to be designed for optimum performance. The front panel control switching

devices, audio signal processing and electrical supply stages must be isolated to reduce signal path distance, eliminate switching distortion and provide a lifetime of factory fresh specifications. Use of state-of-the-art electronic switching devices immediately adjacent to the rear panel terminals prevents any audio

information from appearing at the front panel which greatly reduces the signal path distance and isolates power supply regulation

• DIRECT LINE™ CONCEPT



to avoid magnetic interference with the musical signal.

Similar to our symmetrical amplifiers, there is a circuit in the T102 Stereo Tuner which is complementary, having mirror-imaged positive and negative sine wave circuits to enhance stereo imaging and sensitivity through the FM airwave-to-audio conversion process.

The C102 Cassette Deck is a Full Logic machine with all mechanical transport functions loaded into an electric drawer that is neatly concealed within the machine or placed at hand with the touch of a button. Alpha-numeric LED displays for time functions, Music Search and recording levels provide at-a-glance reference of program status.

Our D102 Compact Disc Player is a full-function remote controlled component complete with independent outputs for fixed and variable levels and a headphone terminal with its own amplifier for private listening situations. A special feature not commonly found in most disc players but which the D102 provides is the *cueing function*. Quite similar to that of the professional broadcast compact disc systems, the D102 offers the ability to precisely locate the beginning of a selection and maintain the position of the laser while the recording functions of the cassette deck are engaged. The end result is a very pleasing recording of selections from a variety of discs without wasting precious tape time and enduring inconsistent and noisy gaps between recorded tracks.

The design philosophy of SAE has always been one of maintaining the leading edge of audio technology and structural integrity in its products. It was conceived that way many years ago and it will remain as such.

SAE is recently under new ownership and we look forward to great success and new advancements for the company and for our loyal customers of years past and years to come.

SAE
SCIENTIFIC AUDIO ELECTRONICS

1703 STEWART STREET
SANTA MONICA, CALIFORNIA 90404

AMPLIFIERS

MANUFACTURER	Model	Type	Remote Includ. (RI) = Remote Includ. (RD) = Remote Optional	Type Integrated = 1, Basic = B, Tube = T, Hybrid = H, Mono = M	Rated THD, %	Balanced Inputs?	Rated Slew Rate, V/μS	High-Level Sensitivity, mV	Does Unit Invert Polarity?	Cont. Avg. Watts Channel into 8 Ohms	Cont. Avg. Watts Channel into 4 Ohms	POWER AMP					PREAMP				Notes					
												Rated Full-Power Bandwidth, Hz to kHz	Class of Output Operation	Dynamic Headroom, dB	Input Impedance, kOhms	MM Phono S.W., dB	MM Phono Sensitivity, mV	Moving Coil Input?	Weight, Lbs.	Price, \$						
KLYNE AUDIO ARTS	SKX 120	B	0.1	Yes			No	100	200	0.1-200	A/AB		50										Balanced design.			
KRELL	KSA-80B	B	0.05	Yes	500	680	No	100	200	0-500	A	3	47										75	3950.00	Reprogrammable to 160 watts mono. Reprogrammable to 400 watts mono.	
	KSA-200B	B	0.05	Yes	500	1V	No	200	400	0-500	A	3	47										115	5700.00		
	KMA-160	B/M	0.05	Yes	700	1V	No	160	320	0-500	A	3	47										75	7900.00		
	KMA-400	B/M	0.05	Yes	700	1.3V	No	400	800	0-500	A	3	47										115	11,400.00		
	KRS-100	B/M	0.05	Yes	800	1V	No	100	200	0-800	A	3	47										150	14,000.00		
	KRS-200	B/M	0.05	Yes	800	1V	No	200	400	0-800	A	3	47										250	18,000.00		
	Altair	B	0.05	No	500	1V	No	80	160	0-500	AB	2	47									45	5500.00			
LAZARUS	H1A 50/50	B/H	0.2	No			Sel.	50	100	5-80	A												35	1920.00	Bridgeable. Two chassis; balanced differential. Bridgeable.	
	H1A M200	B/H/M	0.2	Yes			Sel.	200	350	5-80	AB												35	3840.00		
	200/200	B/H	0.2	No			Sel.	200	350	5-80	AB												35	1750.00		
ELECTRON	JH 50	B/T	0.3	No			No	50	50	13-95	AB												62	3950.00		
LEGACY	The Power Amplifier	B	0.05	No	50	120	No	250	400	20-20	AB	2.0	25										60	996.00		
MARK LEVINSOHN	No. 20.5	B/M	0.3	Yes		141	Sel.	100	200	20-20	A												90	5750.00	Regulated power supply. Dual mono. As above.	
	No. 23	B	0.3	Yes		141	Sel.	200	400	20-20	AB												83	4975.00		
	No. 27	B	0.3	Yes		141	Sel.	100	200	20-20	AB												75	3495.00		
	ML-11	B	0.5	No		141	No	50	100	20-20	AB												36	2100.00		
LEXICON	525	B	0.1	No	11		No	105	105	5-45	AB	1.5	24										38	1295.00	Five-channel operation.	
LINN HI-FI	LK280	B						80	160	20-20	AB												20	1495.00		
	INTEK	I						50		20-20													25	995.00		
LUXMAN	LV111	I	0.05	No	15	150	No	40		20-20	AB			40	82	2.5	140	No	14.3					350.00	Direct digital inputs. As above. Bridgeable.	
	LV112	I	0.05	No	20	150	No	55		20-20	AB			40	84	2.5	140	No	19.8					550.00		
	LV113	I	0.05	No	20	150	No	65		20-20	AB			40	84	2.5	140	No	21.6					750.00		
	LV105u	I/H	0.25	No	12	150	No	80		20-20	AB			47	90	2.0	160	Yes	25.3					1000.00		
	LV117	I	0.05	No	12	150	No	110		20-20	AB			47					34.5					1200.00		
	M113	B	0.03	No	15	Sel.	No	50		20-20	AB			42					18.7					600.00		
	M117	B	0.03	No	20	1V	No	200		20-20	AB			37					52					1250.00		
	MADISON FIELDING	PA900	B	0.01	No	20	100	No	150	220	20-20	AB	1.5	100										29		1350.00
PA750		B	0.01	No	20	100	No	75	150	20-20	AB	1.5	100										19	800.00		
CA700(RD)		I	0.01	No	20	100	Yes	60	100	20-20	AB	1.0	20										18	1200.00		
CA300(RD)		I	0.015	No	15	100	Yes	40	60	20-20	AB	1.2	20										20	1700.00		
MARANTZ	PM 94	I	0.02	No	70	150	No	140	200	20-20	†												83	2000.00	†Quarter A. MOS-FET. CD/phono direct. As above. As above.	
	PM 84D	I	0.03	No	30		No	100	125	20-20	†												40	1100.00		
	PM 74D	I						100			†												23.1	750.00		
	PM 65V	I						65															22.9	520.00		
	PM 25	I						30															11.7	350.00		
MAVRICK	Dimensional Optics AMS Stereo	B	0.05	No	100	700	No	170	330	1-150	A	3	50											3000.00	Optical output devices.	
	Dimensional Optics AMS Mono	B/M	0.05	No	100	700	No	180	350	1-150	A	3	50											5000.00	As above.	
	Dimensional Optics Ultimate Mono	B/M	0.05	No	100	700	No	280	550	1-150	A	3	50											10,000.00	As above.	
McINTOSH	MC2500	B	0.02				Sel.	500	500	20-20														129	3495.00	Bridgeable. As above. †Balanced, 40 kilohms; unbalanced, 20 kilohms. As above. Bridgeable.
	MC2720	B	0.02				Sel.	270	270	20-20														82	2295.00	
	MC2200	B	.0005	Yes			Sel.	200	300	20-20														55	2595.00	
	MC754	B	0.02				Sel.	100	100	20-20														21	995.00	
MEITNER AUDIO	STR-55	B	0.25		75	650	No	50		0.1-100	AB													18	1595.00	Floating charge power supply. As above.
	MTR-101	B/M	0.25		75	900	No	100	200	0.1-100	AB													21	3400.00	

Stradivarius would have smiled.

For Andrew Singer, music is not just a pastime, it's a passion. Sound by Singer is the realization of that passion—a place where the sweet strains of music are faithfully reproduced.

"I'm a fanatic where music reproduction is concerned. That's why I spend hours each week evaluating components to create synergistic audio systems which capture the essence of live music. Often, I turn to Audio Research preamps and power amps. Their uncompromising attitude towards performance mirrors my own."

Stradivarius would have been convinced. So will you.

To sample our masterpieces, call:
(212) 683-0925

165 EAST 33RD STREET (Bet Lex & 3rd) ■ N.Y., NY 10016
—LOOK FOR OUR NEW LOCATION IN JANUARY—
18 EAST 16TH STREET ■ 9 LISTENING ROOMS!

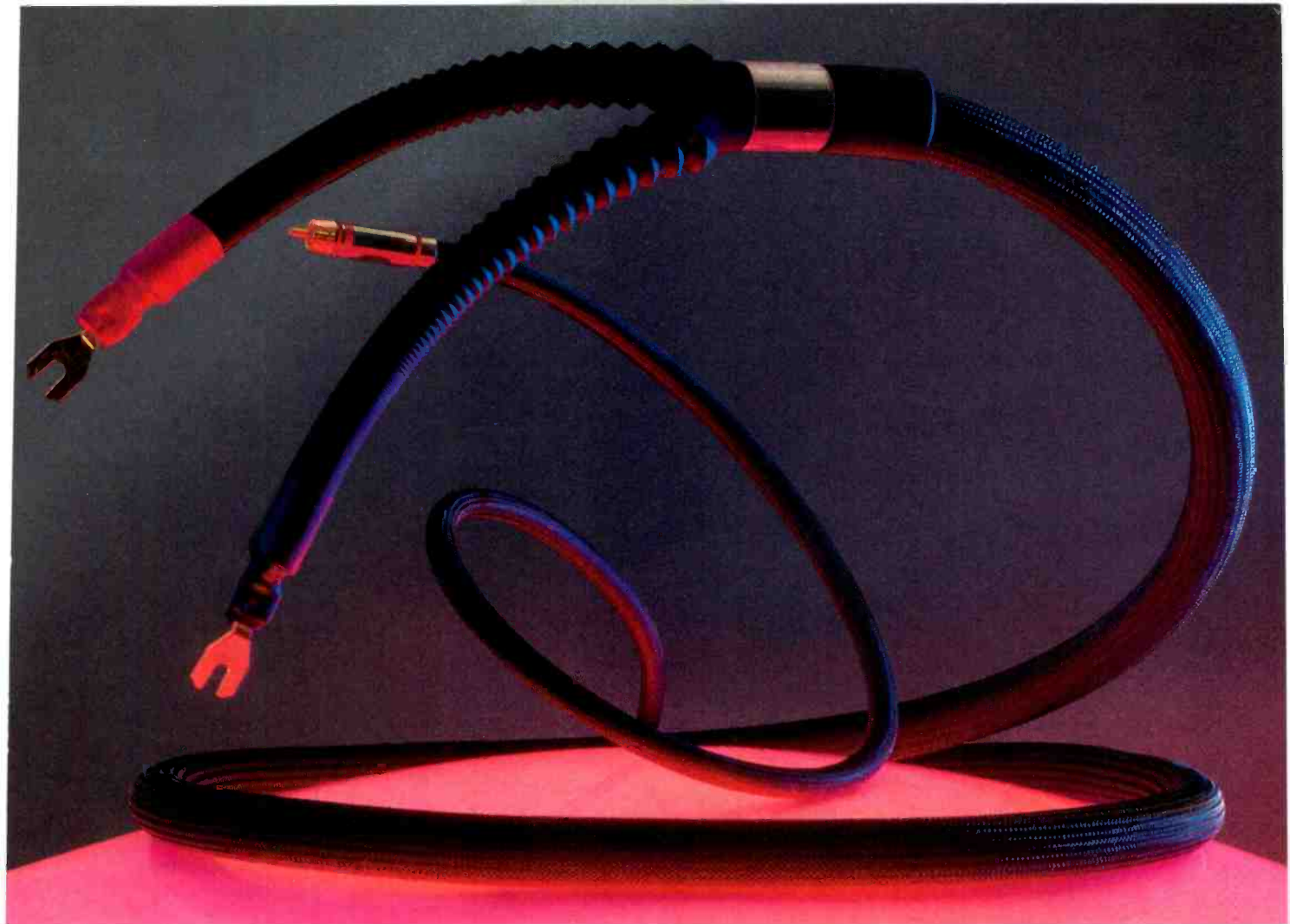
SOUNDBYSINGER, LTD.

ACCUPHASE ■ ACOUSTIC ENERGY ■ ADCOM ■ APOGEE ■ ARAGON ■ ARISTON ■ AUDIBLE ILLUSIONS ■ AUDIO ACCESS ■ AUDIOQUEST ■ AUDIO RESEARCH ■ BENZ MICRO ■ BOSTON ACOUSTICS ■ CALIFORNIA AUDIO LABS ■ CLASSE AUDIO ■ CONVERGENT AUDIO TECHNOLOGY ■ CREEK ■ CWD ■ DUNTECH ■ EPOS ■ FOSGATE ■ GOLDRING ■ GOODMANS ■ GRADO ■ HEYBROCK ■ KISEIKI ■ KOETSU ■ KRELL (including Krell Ref.) ■ KRELL DIGITAL ■ LIVEWIRE ■ MARTIN-LOGAN ■ MERIDIAN ■ MOD SQUAD ■ MONSTER CABLE (including Sigma) ■ MUSEATEX ■ NAD ■ NILES ■ NITTY GRITTY ■ ONIX ■ PIONEER ELITE ■ PIONEER VIDEO ■ PIVOTELLI ■ PRISMA ■ PROAC ■ PS AUDIO ■ REGA ■ REVOX ■ ROKSAN ENGINEERING ■ ROYD ■ RPG DIFFUSORS ■ SIGMET ■ SIMS SILENCERS ■ VIDIKRON ■ SNELL ACOUSTICS ■ SONANCE ■ SME ■ SOUND ORGANIZATION ■ SOUNDSTREAM ■ STAX ■ SUMIKO ■ TALISMAN ■ TALWAR ■ TARGET ■ TERA ■ THETA DIGITAL ■ VANDERSTEEN ■ VENDETTA RESEARCH ■ VERSA DYNAMICS ■ WHARFEDALE ■ VPI ■ WADIA DIGITAL

Enter No. 123 on Reader Service Card

AMPLIFIERS

MANUFACTURER	Model (RM) - Remote Included, (RO) = Remote Optional	Type: Integrated - I, Box = B, Tube = T, Hybrid = H, Mono = M	Rated THD, %	Balanced Inputs?	Rated Stew. Rate, V/μs	High-Level Sensitivity, mV	Does Unit Invert Polarity?	Cont. Avg. Watts Channel, mv	Cont. Avg. Watts Channel into 8 Ohms	Rated Full-Power Bandwidth, Hz to kHz	POWER AMP				PREAMP				Notes					
											AB	3	100	Class of Output Operation	Dynamic Headroom, dB	MM Phone S/N, -dB	A, kHz, re. 5 mV	MM Phone Sensitivity, mV		Moving Coil Input?	Weight, Lbs.	Price, \$		
																							100	100
MELOS AUDIO	TM-90 ST II	B/T	0.05	No		1.5		70	70	20-20	AB	3	100								1595.00			
	TM-100 ST	B/T	0.1	No		1.5		90	90	20-20	AB	3	100								1995.00			
	Modern Triode 200	B/T/M	0.1	Yes		1.5		200	200	20-20	AB	3	100								2995.00			
	Modern Triode 400	B/T/M	0.1	Yes		1.5		400	400	20-20	AB	3	100								Pair 4500.00			
MERIDIAN	205	B/M	0.04	No		775	Yes	100	150	20-20	†	2	11							13	1790.00	†Class AA, non-switching, Signal-sense auto turn-on.		
MFA SYSTEMS	M80	B/T/M	0.25	No	40	800	No	75	80	12-150	A/AB1	1.2	500								35	2760.00	Class-A operation to 40 watts.	
	M120B	B/T/M	0.15	No	40	900	No	120	120	14-120	A/AB1	1.2	500								60	3960.00	As above to 60 watts.	
	M200C	B/T/M	0.3	No	40	1V	No	200	200	14-120	A/AB1	1.2	500								80	5960.00	As above to 100 watts.	
	D75	B/T	0.25	No	40	800	No	75	75	12-150	A/AB1	1.2	500								60	1960.00	As above to 40 watts.	
MIRROR IMAGE	1.1S	B	0.05	No	300	1.5V	No	200	400	1-300	A/AB	1.5	50								47	3000.00	Soft start. As above.	
	1.1SB	B	0.05	Yes	300	1.5V	No	200	400	1-300	A/AB	1.5	50 Sel.								48	3500.00		
	1.1S +	B	0.05	Yes	300	1.5V	No	200	400	1-300	A/AB	1.5	50 Sel.								65	4500.00		
	1.1M	B/M	0.05	Yes	300	1.5V	No	200	400	1-300	A/AB	1.5	50 Sel.								60	7000.00		
MOTIF	MS50	B	1.0					50		20-20	AB		100								40	2350.00	FET. As above.	
	MS100	B	1.0					100		20-20	AB		100								60	3250.00		
	MS200	B	1.0					200		20-20	AB		100								95	5000.00		
MTX	MTA 225	B/M	0.02	Yes	15				25	20-20													549.95	Bridgeable; operates into 2 ohms. As above.
	MTA 250	B/M	0.02	Yes	15				50	20-20													649.95	
MUSEATEX AUDIO	Melior	B	0.25		75		No	100		0.1-100	AB		22										1995.00	Floating charge power supply.
MUSE ELECTRONICS	100	B	0.10	No		890	No	100	200		AB		51								28	1000.00	Rise-time, 2.5 μs.	
	150	B/M	0.50	No		960	No	125	250		AB		51								28	950.00		
MUSICAL DESIGN	D-140	B	0.007	No	30	1V	No	140	225	3-70	AB		22								28	1195.00	Dual-mono power supply.	
MUSIC REFERENCE	RM-9	B/T	0.2	No		Var.	No	100	100	20-40	A,AB	1.5	100								60	2500.00	Variable feedback; setup indicators; 2-, 4-, and 8-ohm taps.	
NAD	2100	B	0.03	No	35	Var.	No	50		20-20	AB	6	20								21	399.00	Bridgeable. As above.	
	2400	B	0.03	No	30	Var.	No	100		20-20	AB	5.7	20								22	599.00		
	2600A	B	0.03	No	35	Var.	No	150		20-20	AB	4	20								28½	799.00		
	3225PE	I	0.03	No	15	200	No	25		20-20	AB	4	20		75	0.5	200	No			13	249.00		
	3240	I	0.03	No	15	160	No	40		20-20	AB	6	22		76	0.55	180	No			15	399.00		
	3400(RI)	I	0.03	No	30	100	No	100		20-20	AB	5.7	20		80	0.35	180	Yes			24½	799.00		
NAIM AUDIO	NAI 2	I	0.1	No		75	No	18	25	5-20	B				2.5	120	No				11	795.00	Can be adapted for use as preamp. Includes 24-V power supply for NAIM preamps. As above.	
	NAP 90	B	0.1	No		700	No	30	45	5-40	B		100								12	725.00		
	NAP 140	B	0.1	No		700	No	45	70	5-40	B		100								14	1145.00		
	NAP 250	B	0.1	No		900	No	70	125	5-40	B		100								30	2795.00		
NAP 135	B/M	0.1	No		900	No	75	135	5-40	B		100								33	2795.00			
NAKAMICHI	PA-7AII	B	0.05	No		140	No	225		5-50	Stasis	1.7	50								62¾	2195.00		
	PA-5AII	B	0.05	No		140	No	150		5-50	Stasis	1.7	50								47¾	1550.00		
NEC	Renaissance M-50	B/M	0.004	No	100	Sel.	No	50	100	20-20	AB	2.0									18½	375.00	Variable high- and low-cut filters. †Five-channel operation, 30 watts x 4 and 60 watts x 1; three-channel, 60 watts x 3.	
	AVA-505	I	0.03	No	100	Sel.	No	†		50-20	AB	2.0									20¾	449.00		
NELSON-REED	Subwoofer Controller	B	0.1	No		500	No	100	200		AB		20								50	1600.00	Amp/xover for subwoofers.	
NESTOROVIC LABS	NA-1	B/T/M	0.5	Yes		Sel.	Var.	150	150	20-20	AB										65	2750.00		
NIKKO	Alpha-400	B	0.002	No		1V	No	120	135	5-80	AB	1.0	47								28	550.00	Bridgeable.	
	Alpha-600	B	0.004	No		1V	No	180	260	5-80	AB	1.6	50								30	660.00		
	Alpha-800	B	0.005	No		1V	No	250	420	5-80	AB	1.2	47								50	1300.00		
	Alpha-2000	B	0.001	Yes		1V	No	330	360	5-40	AB	1.8	47								57	1800.00		
	IA-400	I	0.003	No		150	No	80	130	10-60	AB	1.8	47		94	2.5	150	Yes			32	530.00		
	IA-600	I	0.003	No		150	No	120	210	10-60	AB	1.5	47		94	2.5	150	Yes			32	660.00		
NOW HEAR THIS	VA-1	B	0.01	Yes	5	300	Yes	20	30	20-25	AB	1	10								7	150.00	Direct video input.	



The Highest Expression of Audio Cable Art.

M_Σ2 SIGMA SERIES
SPEAKER CABLES

M_Σ2000 SIGMA SERIES
AUDIO INTERCONNECT

*Smooth • Clear • Transparent • Dynamic
Exciting • Natural • Frequently Breathtaking*

The New M Sigma Series Cables are an accumulation of the most revolutionary audio cable technologies ever designed to advance the art of listening.

The musical results are pure magic.

Since its introduction less than one year ago, the Sigma Series has already been established as *the* audiophile standard for the finest interconnect and speaker cable available anywhere. At any price.

We invite you to audition the M_Σ2 Sigma speaker cable and the M_Σ2000 Sigma interconnect cable in your system, in the privacy of your own home. Available through selected Sigma Series dealers.

For a free audition in your home, contact Monster Cable for an M Sigma dealer near you.

M_Σ Sigma Series™
For Serious Audiophiles Only

AMPLIFIERS

MANUFACTURER	Model (R) = Remote Included (RO) = Remote Optional	Type: Integrated = I, Basic = B, Tube = T, Hybrid = H, Mono = M	Rated THD, %	Balanced Inputs?	Rated Slew Rate, V/μs	High-Level Sensitivity, mV	Does Unit Invert Polarity?	Cont. Avg. Watts	Cont. Avg. Watts Channel into 8 Ohms	Rated Full Power Bandwidth, Hz to kHz	POWER AMP				PREAMP				Notes		
											Class of Output Operation	Dynamic Headroom, dB	Input Impedance, kilohms	MM Phono S.N., -dB	MM Phono Sensitivity, mV	Moving Coil Input?	Weight, Lbs.	Price, \$			
NRG CONTROL	A400M	B/M	0.05	No	800	1.8V	No	400	800	0.4-1M	A	1	100						110	11,200.	Operates in Class A up to 100 watts into 8 ohms.
	A200S	B	0.05	No	600	1.3V	No	200	400	0.4-1M	A	1	100					110	5600.00		
	400S	B	0.05	No	800	1.8V	No	400	800	0.4-1M	A/AB	1	100					110	5600.00		
OCTAVE RESEARCH	OR-1	B	0.9	No			No	85	170	20-20	A/AB	0	100						66	3650.00	Dual mono; no negative feedback; bridges to 340 watts with Balanced Line Driver (\$850.00). No negative feedback; bridges as above.
	OR-3	B	0.9	No			No	85	170	20-20	AB	0	100						40	1900.00	
ONIX AUDIO	OA21	I	0.01	Yes	150	250	No	50	70	20-20	AB	1.3		75	2.0	500	†	11	750.00	†Optional. Add-on power supply, Model S.O.A.P., \$525.00.	
	OA20	I	0.01	Yes	100	250	No	35	60	20-20	AB	1.0		75	1.80	220		9	389.00		
	OA601	B	0.1	Yes		900	No	60	120	5-40	B							28	1845.00		
	OA401	B	0.1	Yes		700	No	40	70	5-40	B							15	1050.00		
ONKYO	M-5160	B	0.09	No			No	150		20-20	AB		50					20.1	360.00	Dual D/A converters. A/V amp; with universal remote, Model A-RV400M, \$450.00. Dual mono. As above. As above; dual D/A converters.	
	Integra M-502	B	0.003	No			No	140		20-20	AB		20					40.8	650.00		
	Integra M-504	B	0.003	No			No	165		20-20	AB		20				46	830.00			
	A-8200(RI)	I	0.06	No			No	60	100	20-20	AB		80	2.5		Yes	15.9	320.00			
	Integra A-8500	I	0.008	No			No	80	120	20-20	AB		93	2.5		Yes	27.5	420.00			
	Integra A-8700	I	0.008	No			No	105	160	20-20	AB		94	2.5		Yes	29.7	530.00			
	Integra A-8800	I	0.008	No			No	100		20-20	AB		94	2.5		Yes	32	850.00			
	A-RV400(RI)	I	0.08	No			No	100		20-20	AB		80	2.5		No	20.1	400.00			
	Grand Integra M-508	B	0.003	No			No	200		20-20	AB		20					55.1	1200.00		
	Grand Integra M-510	B	0.005	No			No	300	500	20-20	AB		20					138	4500.00		
Grand Integra A-G10(RI)	I	0.008	No			Yes	135	240	20-20	AB		50					66.1	3000.00			
PARASOUND	HCA-2200	B	0.05		125	250	No	200	385	5-100	A/AB	1.5	50						19	895.00	Bridges to 500 watts. Bridges to 260 watts; phone input jacks. Jacks as above. C-MOS input switching; variable loudness contour. As above.
	HCA-800II	B	0.05		100	250	No	90	140	8-90	A/AB	1.5	30							395.00	
	HCA-500	B	0.2		63	250	No	50	75	10-40	AB	1.2	30	75	1.5	250		16	285.00		
	C/HD-650	I	0.1		55	110	No	65	80	20-40	AB	1.5	47					17	330.00		
	C/HD-350	I	0.15		45	110	No	35	55	20-40	AB	1.5	47	75	1.5	250		12½	220.00		
PHILIPS	FA-80	I	0.08	No	150		No	100	140	20-20	A/AB		33	86	2.5		Yes	32	599.00	20 watts per channel in Class-A mode.	
	FA-50	I	0.03	No	150		No	70	95	20-20	AB		33	86	2.5		Yes	25	399.00		
PIONEER	A-71	I	0.003	No			No	120	170	20-20	AB		50	95	2.5	200	Yes	60	1100.00	Optical input and output.	
	VSA-1000	I	0.005	No			No	100	200	20-20	AB		30	83	2.5	150	No	27	1000.00		
	A-91D	I	0.003	No			No	120	170	20-20	AB		50	95	2.5	200	Yes	65	1600.00		
	A-757	I	0.003	No			No	100	135	20-20	AB		50		2.5	200	Yes	42	750.00		
	M-91	B	0.003	No			No	200	200	20-20	AB	1.0	50					60	1400.00		
	A-335	I	0.02	No			No	40	50	20-20	AB		40	89	2.5	150	No	16	250.00		
PRIMARE SYSTEMS	Series 928	B/M	0.08	Yes	40		No	100	200		AB							37½	5500.00	Pair	
PRODIGY AUDIO LABS	Mono 150	B/T/M		No	35			150		5-100	AB		240					100	7000.00	Output transformerless. MOS-FET; bipolar design.	
	MAX FET 100	B/M	0.004	No	75			100		15-50	AB		47					42	1695.00		
PROTON	AM-656(RI)	I	0.02	Yes	150		No	60	120	10-50		6.0	15	85	2.5	150	Yes	28.6	700.00		
	D-1200	I	0.02	Yes	150		No	100	200	10-40		6.8	15	120			No	33	699.00		
	AA-1150	I	0.02	Yes	150		No	50	100	12-70		7.0	12	115			No	25.3	519.00		
PS AUDIO	200CX	B	0.01	No	200		No	200	400	5-20	AB	0.5	100					70	1950.00		
	100C	B	0.01	No	120		No	120	200	5-20	AB	0.5	100					35	1195.00		
PSE	Studio IV	B	0.01	No	100	1.2V	No	100	195	0-100	A/AB	1	50					27	850.00	High-current output.	
	Studio V	B/M	0.2	Yes	200	1.2V	No	120	230	0-500	A/AB	1	50					27	800.00		
QED	A240CDII	I	0.1	No	300			40	65	5-30	AB			72	3		No	12	585.00		
	A240SAMKII	I	0.1	No	300			40	65	5-30	AB			72	3		Yes	12	750.00		
	A270MKII	I	0.1	No	300			50	85	5-30	AB			72	3		Yes	16	900.00		
QSC	1080	B	0.1	Yes	12	800	†	35	50	5-120	AB	2	††					12	538.00	†Polarity inversion with unbalanced inputs only. ††Balanced, 20 kilohms; unbalanced, 10 kilohms. Bridgeable; headphone jacks.	

THE END OF THE COMPACT RISK.

Most audiophiles think of CD changers as the station wagons of the digital world. Convenient to be sure. But certainly not exciting.

Until now.

Because Onkyo's new DX-C300 and DX-C500 CD changers will change your mind as well as your discs. And they'll put an end to the risk of sacrificing musical enjoyment for the ease of multi-disc operation.



Optional magazines allow your choice of single disc simplicity or multi-disc convenience.

Onkyo's AccuBit technology is the reason. AccuBit insures that even the quietest musical passages and subtle nuances are reproduced with stunning clarity. How? AccuBit starts with high precision Digital-to-Analog converters. And individually calibrates each one for maximum accuracy. This critical adjustment allows all the music on your discs to reach your ears. And not get lost in the distortions that plague conventional CD changers.

Until the DX-C300 and DX-C500, only the finest single disc players could claim such extraordinary sophistication. But that's just what you expect from Onkyo, the company with an unparalleled reputation for making high end sound affordable.

Onkyo.

The End Of The Compact Risk.

ONKYO
RISING ABOVE THE CD JUNGLE

200 Williams Drive, Ramsey, NJ 07446

In Canada: H. Roy Gray Ltd.
14 Lairdlaw Blvd., Markham, Ontario L3P 1W7

For More Information

41244

Call 1-800-553-4355



AMPLIFIERS

MANUFACTURER	POWER AMP												PREAMP				Notes									
	Model (RI) = Remote Included, (RO) = Remote Optional	Type	Integrated Type	Rated THD, %	Balanced Inputs?	Rated Slow Rate, V/μs	High-Level Sensitivity, mV	Does Unit Invert Polarity?	Cont. Avg. Watts Channel 1, mW	Cont. Avg. Watts Channel 2, mW	Rated Full-Power Bandwidth, Hz to kHz	Class of Output Operation	Dynamic Headroom, dB	Input Impedance, Kilohms	MM Phone S/N, -dB, "A" with re: 5 mV	MM Phone Sensitivity, mV		Moving Coil Input?	Weight, Lbs.	Price, \$						
																					MM Phone Sensitivity, mV	Moving Coil Input?	Weight, Lbs.	Price, \$		
QSC (Continued)	1100	B		0.1	Yes	14	1V	↑	50	75	5-100	AB	2	↑↑					12	568.00	As above.					
	1200	B		0.1	Yes	12	1V	↑	100	150	5-60	AB	2	↑↑					24	598.00	Bridgeable.					
	1400	B		0.1	Yes	18	1V	↑	200	300	5-65	AB	2	↑↑					34	798.00	As above.					
	1700	B		0.1	Yes	21	1V	↑	325	500	5-70	AB	2	↑↑					54	1248.00	As above.					
	MX-700	B		0.1	Yes	15	960	↑	150	225	8-300	AB	3	↑↑					25	598.00	As above.					
	MX-1500	B		0.1	Yes	20	1V	↑	330	500	8-300	G	3	↑↑					47	1098.00	As above.					
	MX-2000	B		0.1	Yes	20	1V	↑	375	600	8-300	G	2	↑↑					70	1498.00	As above.					
	MPS 2300(RO)	I		0.1	Yes	25	1V	↑	125	125	20-20	AB	2	↑↑					29	1168.00	Mixer/amp; 70 V switchable.					
	A2300	B		0.1	Yes	25	1V	↑	125	125	20-20	AB	2	↑↑					29	788.00	70 V switchable.					
	A2150	B/M		0.1	Yes	25	1V	↑	125	125	20-20	AB	2	↑↑					26	598.00	As above.					
	3200	B		0.1	Yes	12	1V	↑	110	140	8-300	G	3	↑↑					26	958.00	Bridgeable.					
	3350	B		0.1	Yes	14	1V	↑	200	300	8-300	G	3	↑↑					41	1248.00	As above.					
	3500	B		0.1	Yes	20	1V	↑	325	450	8-300	G	3	↑↑					50	1488.00	As above.					
	3800	B		0.1	Yes	20	1V	↑	375	600	8-300	G	2	↑↑					75	1958.00	As above.					
QUAO	306	B		0.01	No		500	Yes	50	80	20-20								1.5	20			699.00	Feed forward error-correction circuitry; current dumping. As above.		
	606	B		0.01	No		500	Yes	140	220	20-20								1.5	20						
QUICKSILVER AUDIO	KT88	B/T/M			No			No	60	60	13-55	AB		100									30	925.00	Operates into 0.5 ohm.	
RADFORD	STA35	B/T		0.25	No	15	750	No	35	50	20-20	AB2		1.5	100								37½	2495.00	8 amps, peak to peak; LED bias setup. As above but 15 amps.	
	MAS0	B/T/M		0.25	No	15	750	No	50	65	20-20	A		1.8	100								35½	2115.00		
REVOX	B242-S	B		0.01	Yes	80	Adj.	No	200	300	20-20	AB	3										37½	3500.00	Bridgeable.	
	B242	B		0.01	Yes	80	Adj.	No	200	300	20-20	AB	3										37½	3000.00	As above.	
	B250-S(RO)	I		0.015	No		250	No	100	150	20-20	AB	2.8		80	2.5		↑				33	2500.00	Optional.		
	B250(RO)	I		0.015	No		250	No	60	90	20-20	AB	2.8		80	2.5		↑				28	1275.00			
ROCKFORD FOSGATE	RF-2000	B		0.05	No	80		No	250	350	20-20	AB	7	20												Bridgeable; chassis on floating ground.
ROTEL	RA820BX3	I		0.3	No		150	No	30		20-20	AB			80	2.5	170	Yes		15½		299.00				
	RA840BX3	I		0.03	No		150	No	50		20-20	AB			80	2.5	170	Yes		16		399.00				
	RB850	B		0.03	No			No	50		4-100	AB							25			299.00			Bridgeable.	
	RB870BX	B		0.03	No			No	100		4-100	A/AB							22			499.00			As above.	
JEFF ROWLAND DESIGN GROUP	1	B		0.035	Yes	70	136	No	60	120	0.3-300	A/AB		Sel.								46	2950.00	Bridges to 240 watts.		
	3	B/M		0.08	Yes	45	136	No	100	200	0.15-175	A/AB		Sel.								46	4550.00			
	5	B		0.075	Yes	75	136	No	150	300	0.15-250	A/AB		Sel.								103	5500.00	Bridges to 570 watts.		
	7	B/M		0.045	Yes	50	136	No	350	700	0.15-160	A/AB		Sel.								135	9800.00	Pair		
SAE	I102	I		0.02	No		150	No	60	90	20-20	AB	1.0		82				Yes		26	499.00			Programmable, digital tone memories. Switching for two pairs of speakers.	
	A202	B		0.02	No			No	100	150	20-20	AB	1.2								31	499.00			Bridges to 600 watts.	
	A502	B		0.02	No			No	200	300	20-20	AB	1.2								48	799.00				
	P50	B		0.017	Yes	25		No	70	115	20-20	AB	3.0								21	600.00				
	X10A	B		0.01	Yes			No	100	150	20-20	A	1.5								35	900.00			Bridges to 375 watts.	
SANSUI	Vintage B-2102MOS	B		0.008	Yes	150	100	No	110	150	10-20	A											77	3750.00	MOS-FET.	
	Vintage B-2102	B		0.003	No	350	100	No	200	350	20-20	A	1.4	56								39	1200.00			
	Vintage AU-X911DG	I		0.005	Yes	180	150	No	100	120	20-20	A	1.5	47	86	2.5	210	Yes		40		1250.00			1-bit D/A converter.	
	Vintage AU-X711	I		0.005	Yes	180			100		20-20	A	1.5	47	88	2.5		Yes		40		975.00				
	Vintage AU-X701	I		0.005	Yes	180	150		100	120	20-20	A	1.5	47	88	2.5	210	Yes		37		775.00				
	Vintage AU-X611AV	I		0.008	No		150		80	130	20-20	A	1.4	47	87	2.5	150	Yes		24¼		750.00			Video buffer amps and processor loops.	
	Vintage AU-X501	I		0.005	No	100	150		80	130	20-20	A	1.4	47	83	2.5	210	Yes		23¾		450.00				
	Vintage AU-X301i	I		0.05	No		200		65		20-20	A	1.4	47	80	3.5	150	Yes		30		350.00				
	B-3000	B		0.05	No		100	No	120		20-20	A		33								21¼	260.00			
	B-1000	B		0.05	No		100	No	75		20-20	A		33								15½	210.00			
	A-2000	I		0.07	No		180	No	50		20-20	A		47	75	3.5	120	No				12½	260.00			
	A-1000	I		0.07	No		180	No	30		20-20	A		47	75	3.5	120	No				9½	200.00			
SESCOM	PO-3	B		0.02	No		750	No	2		50-15			100								½	71.40			Requires PO-1 power supply, \$71.40. As above.
	PO-4	B/M		0.02	No		750	No	4		50-15			100								½	52.00			As above.
	PO-5	I		0.02	No		750	No	2		50-15			100								½	120.00			As above.
	SH-1 MK II	B		0.01	No		750	No	10	15	20-20			50		70	1.8	220	No		12		290.00			
SHERWOOD	AI-1110	I		0.2	No		150		50		40-20	AB		47	75	2.5	150	No		15.4		159.95			Direct inputs; surround sound. As above.	
	AI-1210R(RI) AM-7040	I/B		0.05/0.03	No/Yes		150/1V		100/200	340	20-20/20-20	AB/AB		47/47	79	2.5	200	No		27.5/56.2		329.95/599.95			High-speed MOS-FET.	
SHURE HTS	HTS50SPA	B		0.1	No		1V	No	100		20-20	AB	1.5								27	999.00			Bridgeable; includes processing for Shure HTS speakers.	



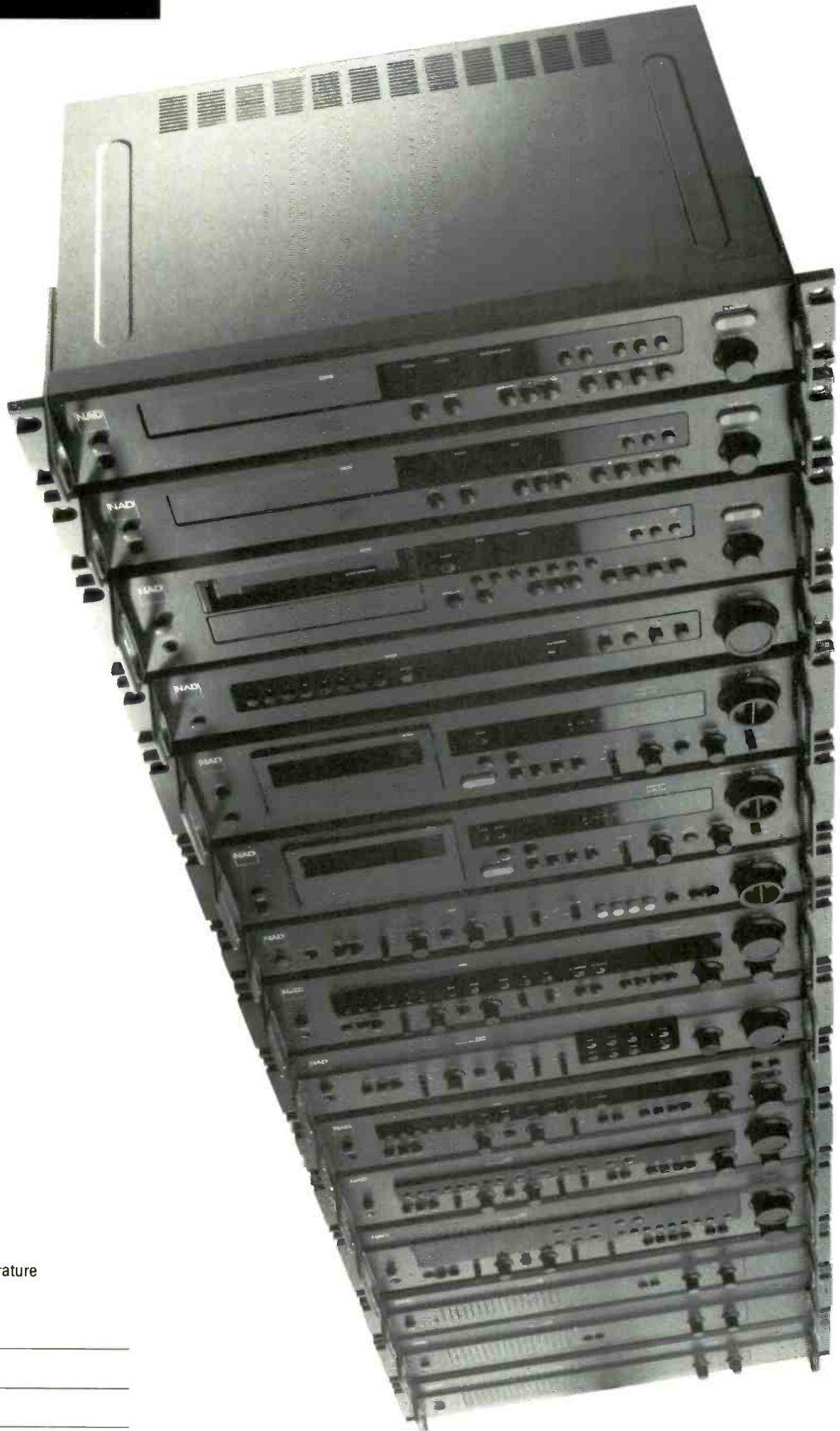
the refreshest

SURGEON GENERAL'S WARNING: Quitting Smoking Now Greatly Reduces Serious Risks to Your Health.

17 mg. "tar", 1.2 mg. nicotine av. per cigarette by FTC method.

The Monitor Series

Designed not to a price, but to a standard.



5300 CD Player
5100 CD Player
5170 Multi-CD Player

4300 Tuner

6100 Cassette Deck
6300 Cassette Deck

1300 Preamplifier
1700 Preamplifier/Tuner

3400 Integrated Amplifier

7100 Receiver
7400 Receiver
7600 Receiver

2100 Power Amplifier
2400 Power Amplifier
2600 Power Amplifier

Please send Monitor Series literature
and dealer locations to:

Name _____

Address _____

City _____

State _____ Zip _____

Your last audio system?

The sole point of audio is to fully enjoy music. Alone, or with friends and family. At a party, dinner, or with video and popcorn. It should be easy to do.

The NAD Monitor Series is designed to provide this enjoyment, flexibility, and ease of use. To unobtrusively provide music in all its richness and variety. Selection after selection. Day after day. Year after year.

The result of an international three-year development program, the Monitor Series has, since its introduction, garnered accolades from the audio press, customers, and dealers worldwide. Each component establishes new standards in its category.

And, as a true component system, The Monitor Series is designed for change and growth. Yours.

Play as you go

The standard route to improving your hi-fi system has been the replacement of components. Rather than designing in this fashion, we chose to create a system that would make "planned obsolescence" itself obsolete. We call our approach The NAD Building Blocks Design Philosophy. You can start with an amp and preamp. Or one of our outstanding receivers. Add components, as usual, say a second tape deck, or our superb multi-CD player. But there's more.

Don't junk the receiver, add an amplifier

When the time is right (you move your system to a larger room, or new living quarters, or acquire new speakers, for instance) add a second amplifier.

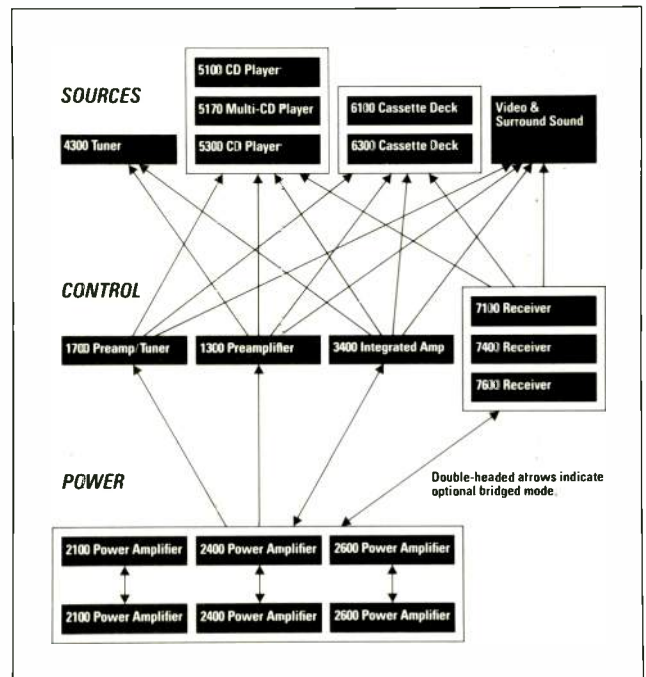
Why a second amplifier? Because every Monitor Series power amp (or receiver, or integrated amp) can be bridged into mono, with an impressive increase in power and dynamic range.

Our 100 watt amplifier alone, for example, provides up to 300 watts of precisely controlled dynamic power, due to our exclusive Power Envelope circuitry. Bridge it with another 100 watt amplifier and you'll have up to 500 watts of clean dynamic power for musical peaks.

The NAD Monitor Series is the only audio component system which provides this option *across the board*.



For the music, pure and simple.



The Monitor Series provides numerous paths for enhanced listening. You start with a superb remote control audio system. You don't have to overbuy. And

you can upgrade your system repeatedly, without ever trading in. Your investment will never become obsolete.

Unified remote control

And all the while, no matter what size system you choose, you will be using our Unified Remote Control. This advanced design remote drives the entire Monitor Series*, and is a pleasure to hold in your hand and use.

Only at selected knowledgeable dealers

We invite you to visit one of our carefully selected dealers for a complete listening session. Call us at (617) 762-0202 for the name of your nearest dealer, or send the coupon for detailed literature, to: NAD(USA), Inc., 575 University Avenue, Norwood, Massachusetts 02062.

*The 5170 Multi-CD Player, due to its remote programming capabilities, has its own full-function remote control.

AMPLIFIERS

MANUFACTURER	Model (R) = Remote Included, (RO) = Remote Optional	Type: Integrated = Basic, B Tube = Hybrid = H, Mono = M	Rated THD, %	Balanced Inputs?	Rated Slow Rate, V/μS	High-Level Sensitivity, mV	Does Unit Invert Polarity?	Cont. Avg. Watts Channel into 8 Ohms	Cont. Avg. Watts Channel into 4 Ohms	Rated Full-Power Bandwidth, Hz to kHz	POWER AMP					PREAMP			Notes				
											Class of Output Operation	Dynamic Headroom, dB	MM Phono S.N. - dB	MM Phono Sensitivity, Kilohms	MM Phono Sensitivity, mV	Moving Coil Input?	Weight, Lbs.	Price, \$					
SILBERSAND	FM-40(RI)	B/M		Yes	1V	No		600		A/AB		†								71	35,000.00 Pair	†Balanced, 2.7 kilohms; unbalanced, 47 kilohms. Class-A operation up to 100 watts; liquid-cooled.	
SIMA	W-2003	B	0.05	No	60	1.5V	No	225	450	20-20	AB		22							45	1350.00	Bridges to 850 watts. Bridges to 400 watts. Bridges to 200 watts; high-current design.	
	W-2002	B	0.05	No	60	1V	No	125	200	20-20	AB		22						23	850.00			
	W-3050	B	0.05	No	60	500	No	50	100	20-20	AB		22						30	995.00			
	PW-3000	I	0.09	No	60	200	No	50	90	20-20	AB		18	80	2.75	160	Yes		15	695.00			
SONANCE	VCA1(RI)	I	0.05	No	20	500	No	60	100	20-20	AB		1.1	47							1500.00	Includes ASW1 in-wall subwoofer (see "Loudspeakers") and remote wall-mount volume control.	
SONOGRAPHE	SA120	B	1.0			1.1V	No	120		20-20	AB		100							40	995.00	FET.	
SONY ES	TA-N77ES	B	0.0018		150		No	200	270	10-100	AB		1.8	2						60 ³ / ₄	1200.00	Bridges to 580 watts. Bridges to 300 watts. Bridges to 100 watts; surround amp.	
	TA-N55ES	B	0.005		125		No	110	150	10-100	AB		2	2						40 ¹ / ₂	500.00		
	TA-N110	B	0.08		180		No	45	55	10-40	AB		1.3	4					12	300.00			
SOUND-CRAFTSMEN	Pro-Power Ten	B	0.05		40	120	No	600	900	20-20	AB		1.5	32						60	1399.00	Two-, three-, or four-channel operation; MOS-FET; LED power meters. MOS-FET; LED power meters; without meters; Model Pro-Power Three, \$749.00; 17-inch-width, Model Power Four-17, \$849.00. Signal-tracking supply; LED meters. MOS-FET; LED meters; without meters; Model Pro-Reference One, \$599.00. MOS-FET; operates into 2 ohms.	
	Pro-Power Four	B	0.05		50	120	No	205	300	20-20	AB		1.7	32						30	849.00		
	A5002	B	0.05		50	120	No	250	375	20-20	H		2.1	32					52	949.00			
	Pro-Reference Two	B	0.05		50	120	No	100	190	20-20	AB		3.0	32					30	699.00			
	Pro-Power One PCR800	B	0.05		50	120	No	205	300	20-20	AB		1.7	32					23	579.00			
	PCR800	B	0.05		40	120	No	205	300	20-20	AB		1.7	32							539.00		
SOUND ENGINEERING	PFM-3	B	0.1	Yes	100	1.8V	No	150	300	1-100	A/AB		0.5	20							55	1850.00	
SOUNDSTREAM	DA-1	B	0.05	No	35	1V	No	200	300	20-20	AB		1.8	22						35	1195.00	Bridgeable; infrared speaker selector.	
SOUNDWAVE FIDELITY	Symphony 2	B	0.09	No	200	1.1V	No	100	140	0.2-60	AB		1.0	25						25 ¹ / ₂	795.00		
	Symphony 4	B	0.15	No	200	1.6V	No	200	400	0.2-60	AB		2.0	25						51	2000.00		
SPECTRAL AUDIO	DMA-200	B	0.01	Yes	†	200	No	200	380	0-2M	A		2							87	5995.00	†1000 V/μS. Bridgeable.	
	DMA-50	B	0.01	Yes	500	200	No	80	160	0-2M	AB		6							19	2495.00		
SPECTRASCAN	BPA-101B	B	0.07	No	40	1V	No	120	175	2-120	AB		†	10						40	1895.00	†Regulated power supply. Bridges to 350 watts.	
J. E. SUGDEN	A25	I	0.035	Yes	4.8	150	No	29		20-20	AB									12	495.00	Bridges to 95 watts. Bridges to 108 watts. Bridges to 100 watts.	
	A28II	I	0.05	Yes	8	150	No	44		20-20	AB									16	775.00		
	A48III	I	0.04	Yes	8	150	No	52		20-20	AB									17	875.00		
	P28	B	0.03	Yes	8	150	No	47		20-20	AB									15	595.00		
	P128	B/M	0.02	Yes	7	600	No	80	106	20-20	AB									32	1595.00 Pair		
	AV51	B	0.09	Yes	48	150	No	70	138	20-20	B									27	2495.00		
SUMO	Polaris	B	0.05	No	65		No	100	175	20-20	AB		1.5	47						29	749.00	MOS-FET. As above; balanced output.	
	Andromeda II	B	0.05	Yes	115		No	200	400	20-20	AB		3.0	47						55	1499.00		
	Ulysses	B	0.05	No	85		No	60	100	20-20	AB		2.0	47						25	549.00	MOS-FET. Balanced output.	
	Nine Plus	B	0.10	No	25		No	65	120	20-20	A		1	1M					35	1299.00			
SUPERPHON	Maxx 80B	B		No			No	40	80	0-100	AB			50						12 ¹ / ₂	499.00	Bridges to 160 watts into 8 ohms and 80 watts into 4 ohms.	
SYMETRIX	A220	B	0.05	Yes	15	500	No	20	20	20-20	AB		2.5	10						9	315.00	Bridgeable. For high-impedance headphones.	
	SX204	B	0.01	Yes	6	150	No	0.5			AB			10						2	269.00		
SYMPHONIC LINE	RG 1 MK II	B						100	200		AB									45	3595.00		
TANDBERG	TPA-3016A	B	0.05	No			No	220	400		AB		200							62			
	TPA-3026A	B	0.02	No			No	150			AB		200							31.4			
	TPA-3036A	B	0.08	No			No	100	120		AB		100							23.4			
	TIA-3032A	I	0.09	No			No	100	115		AB		100	72	75	70	Yes			23			

The Monitor Series

Designed not to a price, but to a standard.



Introducing the foundation of your new hi-fi system.

"Rarely do we encounter an audio component as thoroughly satisfying as the NAD 1700... Aside from the many notable qualities of the Model 1700, it also makes an eloquent case for the preamplifier/tuner as the heart of a component hi-fi system."

Julian Hirsch, *Stereo Review*, 6/88

If you are about to assemble a new audio system, the Monitor Series 1700 Preamplifier/Tuner deserves your consideration. Few tuners at any price can surpass the 1700's ability to deliver excellent sound under widely varying reception conditions. Few preamps can match its freedom from hum and noise, or its accurate, transparent reproduction of every audio signal.

Moreover, we have designed the 1700 to be used as the *control center* of an expandable component system. You can create a high performance audio system that goes anywhere from 50 to 500 watts, using our new Monitor Series power amplifiers. In fact, you can easily start a system with lower power and upgrade later by bridging an identical amp. And our unified remote control will drive the NAD Monitor Series cassette decks and CD players.

The ultimate judgement, yours, should be made by

listening. We invite you to do so at one of our carefully selected dealers. You may be surprised at what you hear.

Call us at (617) 762-0202 for your nearest dealer, or send the coupon for detailed product literature, to: NAD(USA), Inc. 575 University Avenue, Norwood, Massachusetts 02062.



For the music, pure and simple.

Please send 1700 Preamplifier/Tuner information and dealer locations to:

Name

Address

City

State Zip

A10

AMPLIFIERS

MANUFACTURER	Model (R) = Remote Included, (RD) = Remote Optional	Type: Integrated = I, Basic = B, Tube = T, Hybrid = H, Mono = M	Rated THD, %	Balanced Inputs?	Rated Slew Rate, V/μs	High-Level Sensitivity, mV	Does Unit Invert Polarity?	Cont. Avg. Watts/Channel into 8 Ohms	Cont. Avg. Watts/Channel into 4 Ohms	Rated Full-Power Bandwidth, Hz to KHz	POWER AMP				PREAMP		Notes			
											Class of Output Operation	Dynamic Headroom, dB	Input Impedance, kilohms	MM Phono S.N. - dB, A* Wdr. re 5 mV	MM Phono Sensitivity, mV	Moving Coil Input?		Weight, Lbs.	Price, \$	
TECHNICS	SE-M100	I	0.005	No	100	115	150	20-20	AA	1.4						35	1099.00			
	SE-A5MK2	B	0.002	No	90	150	170	20-20	New A	1.5					40 1/2	1099.00				
	SE-A100	B	0.007	No	75	170	240	20-20	AA	1.0					69	1899.00				
	SU-V90D	I	0.003	No		100	125	20-20	AA			79	0.25	150	Yes	29	1049.00			
	SU-V660	J	0.007	No		90		20-20	AA			76			No		379.00			
	SU-V460	I	0.007	No		50		20-20	AA			76			No		299.00			
THRESHOLD	SA 12e	B/M	0.1	Yes	50	2.1V	No	275	550	0-40	Stasis, Class A	0	†				120	7200.00	†Balanced, 600 ohms; unbalanced, 50 kilohms. 70 amps continuous per channel, 200 amps peak per channel. 60 amps continuous per channel, 200 amps peak per channel. 50 amps continuous per channel, 135 amps peak per channel. 35 amps continuous per channel, 120 amps peak per channel. 40 amps continuous per channel, 150 amps peak per channel. 30 amps continuous per channel, 100 amps peak per channel. 16 amps continuous per channel, 80 amps peak per channel. ††1 horsepower into 8 ohms, 2 horsepower into 4 ohms. 35 amps continuous per channel, 200 amps peak per channel. 30 amps continuous per channel, 120 amps peak per channel. 25 amps continuous per channel, 100 amps peak per channel. 12 amps continuous per channel, 100 amps peak per channel. 10 amps continuous per channel, 80 amps peak per channel. 8 amps continuous per channel, 50 amps peak per channel.	
	SA 10e	B/M	0.1	Yes	50	1.8V	No	175	350	0-40	Stasis, Class A	0	†				79	4800.00		
	SA/6e	B/M	0.1	Yes	50	1.6V	No	125	250	0-40	Stasis, Class A	0	†				56	3600.00		
	SA/4e	B	0.1	Yes	50	1.3V	No	100	200	0-40	Stasis, Class A	0	†				97	5900.00		
	SA 3.9e	B	0.1	Yes	50	1V	No	60	120	0-40	Stasis, Class A	0	†				56	3600.00		
	SA 1	B/M	0.15	No	50	1.7V	No	160	320	7-40	Stasis, Class A	0	75				79	4400.00		
	SA/2	B/M	0.15	No	50	1.3V	No	100	200	7-40	Stasis, Class A	0	75				56	3150.00		
	SA/3	B	0.15	No	50	950	No	50	100	7-40	Stasis, Class A	0	75				56	3150.00		
	S/1600e	B/M	0.15	Yes	100	1.8V	No	††	††	0-40	Stasis, Class A/AB	1	†				120	7200.00		
	S/550e	B	0.1	Yes	50	2V	No	250	425	0-40	Stasis, Class A/AB	1	†				97	5900.00		
	S/450e	B	0.1	Yes	50	1.8V	No	200	350	0-40	Stasis, Class A/AB	1	†				79	4800.00		
	S/350e	B	0.1	Yes	50	1.6V	No	150	260	0-40	Stasis, Class A/AB	1	†				56	3600.00		
TOSHIBA	XB-1000(RI)	I	0.009	Yes	150		†		7-70							150	No	23.1	999.00	†50 watts x 4; bridges to 120 watts x 2. Direct digital inputs and outputs; dual D/A converters; video inputs and outputs; see also "Ambience & Surround Sound Processors."
	VECTOR RESEARCH	VA-1450	B	0.03	No	150	No	60	100	20-20	AB	2.5						20	349.95	Bridgeable.
		VTL	Stereo 50/50	B/T		No	775	No	50	50	20-30	A1						30	1150.00	
			Stereo 90/90	B/T		No	775	No	90	90	20-30	A1						48	1950.00	
			Compact 100	B/T/M		No	775	No	100	100	20-30	A1						39	2650.00	
			De Luxe 120	B/T/M		No	775	No	120	120	20-30	A1/A						50	3300.00	
De Luxe 225			B/T/M		No	775	No	225	225	20-30	A1						65	4200.00		
De Luxe 300	B/T/M			No	775	No	300	300	20-30	A1						75	4900.00			
De Luxe 500	B/T/M			No	775	No	500	500	20-30	A1						120	8000.00			
Ichiban Triode 200	B/T/M			No	775	No	200	200	20-30	A						90	7000.00			
Manley Reference C160	B/T/M			No	775	No	160	160	20-30	A1						43	3300.00			
Manley Reference 150	B/T/M			No	775	No	150	150	20-30	A1						55	4800.00			
Manley Reference 350	B/T/M			No	775	No	350	350	20-30	A1						80	6600.00			

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. Audiophile-quality single-play at the drop of a disc into the single-play drawer. Or audiophile-quality multi-play (up to seven discs, or seven hours) with the pre-loadable magazine.

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.

Call us at (617) 762-0202 for your nearest dealer, or send the coupon for detailed product literature, to: NAD(USA), Inc. 575 University Avenue, Norwood, Massachusetts 02062.

Please send 5170 Multi-CD Player information and dealer locations to:

Name _____

Address _____

City _____

State _____ Zip _____

A10



For the music, pure and simple.

AMPLIFIERS

MANUFACTURER	Model (R) = Remote Included, (RO) = Remote Optional	Type: Integrated, 1 Tube = B, Mono = M	Rated THD, %	Balanced Inputs?	Rated Slew Rate, V/μS	High-Level Sensitivity, mv	Does Unit Invert Polarity?	Cont. Avg. Watts Channel into 8 Ohms	Cont. Avg. Watts Channel into 4 Ohms	Rated Full-Power Bandwidth, Hz to KHz	POWER AMP				PREAMP		Notes		
											Class of Output Operation	Dynamic Headroom, dB	Input Impedance, Kilohms	MM Phono S.N. - dB, "A" Wdr. re 5 mv	MM Phono Sensitivity, mv	Moving Coil Input?		Weight, Lbs.	Price, \$
VTL (Continued)	Manley Reference 500	B/T/M	No		775	No	500	500	20-30	A1		130				135	9600.00 Pair		
	Manley Reference Ichiban Triode 200	B/T/M	No		775	No	200	200	20-30	A		130				95	8400.00 Pair		
	Manley Reference 1000	B/T/M	No		775	No	†	†	20-30	A1		130				155	14,000.00 Pair	†1000 watts.	
WINGATE AUDIO	2000A	B		Opt.	100	120	No	100	200	0.1-250	A					67	3900.00	Dual mono; bridgeable; no negative feedback. As above. Operates into 16 ohms; high voltage for ES speakers.	
	4000A 6000AX	B B		Opt. Opt.	100 100	120 120	No No	200 300	400	0.1-250 0.1-250	A A					70 70	4600.00 4600.00		
YAMAHA	MX-2000	B	0.003	No	1.2V	No	130	180	10-100	A	1.4	20					61%	1899.00	†45 watts into 6 ohms. Active servo technology; digital.
	MX-1000	B	0.003	No	1.6V	No	260	330	10-60	A	2.3	60					45%	1199.00	
	MX-800	B	0.003	No	1.3V	No	170	230	10-60	A	2.0	60					31%	849.00	
	MX-600	B	0.003	No	1.1V	No	135	190	10-60	A	2.1	60					28%	529.00	
	AX-430	I	0.015		150		55		20-20	AB	2.7	30	75	2.5		Yes	13%	299.00	
	MX-10000	B	.0005		1.5V		250	400	20-20	A	1.5	25					94%	7000.00	
	YST A90M(RI)	I	0.09		150		†		20-20	AB	1.3	47	80	0.37	60	No	14%	700.00	
	AX-900U	I	0.005		150	No	130		20-20	AB	1.4	47	93	2.5	160	Yes	37%	749.00	
	AX-700U	I	0.005		150	No	110		20-20	AB	1.4	47	92	2.5	160	Yes	26%	599.00	
	AX-630	I	0.01		150	No	85		20-20	AB	2.8	47	92	2.5	150	Yes	17%	449.00	
MX-55	B	0.002		1V		70		20-20	AB	1.8	20					20%	599.00		
MX-35	B	0.05			940		40		20-20	AB	1.5	20					11	299.00	
YBA	YBA1	B	0.09	No		No	85	170	20-20	A	2.2	27					47	6000.00	Dual mono. As above. As above.
	YBA2	B	0.09	No		No	70	140	20-20	A	2.0	27					27	3000.00	
	YBA3	B	0.1	No		No	50	90	20-20	A	2.0	27					23	1800.00	

Hafner SE

SE, a new generation of sonic excellence and inherent value from Hafner. This new series of affordable components will be available this fall. For the nearest authorized dealer call 1-800-366-1619.

Hafner "The Affordable High-End"



DENON

PCM AUDIO TECHNOLOGY / COMPACT DISC

WHAT MAKES ONE AUDIO BRAND SOUND BETTER.

CD PLAYERS have always been susceptible to errors in converting digital data to analog audio. In fact, academic researchers recently declared that error in converting the Most Significant Bit is a primary cause of audible problems. Every Denon Compact Disc Player since 1983 has corrected this problem with the Super Linear Converter.

Now, with the new "Delta" conversion circuit, Denon's DCD-3520 and DCD-1520 represent the closest approach yet to true 16-bit linearity. Denon's 20-bit 8x oversampling digital filter joined to a pair of true 20-bit Super Linear Converters quite simply elevate digital playback to a new level of musicality.

DCD-1520



But then, Denon built the world's first professional digital audio recorder back in 1972. And we've recorded digital master tapes of unsurpassed musical accuracy.

It's simply easier to make digital audio sound more like music when you know what music sounds like.

DENON

DESIGN INTEGRITY

Enter No. 40 on Reader Service Card

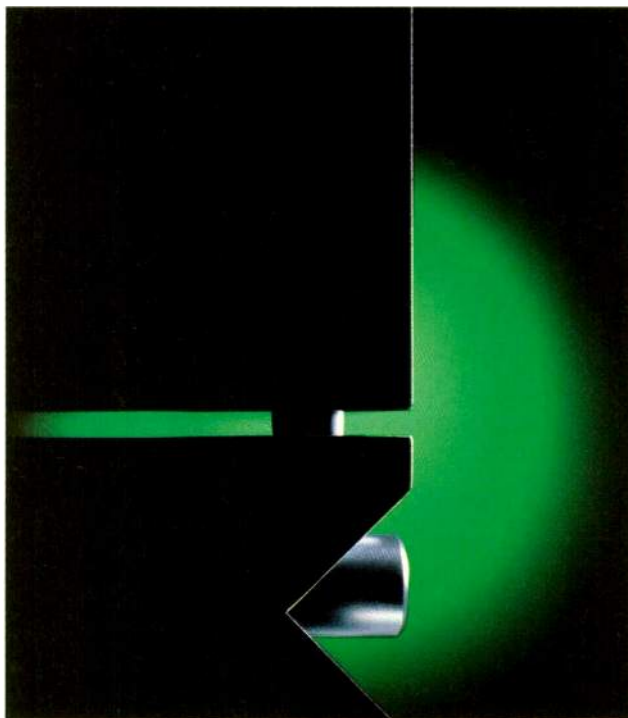
Denon America Inc. 222 New Road, Parsippany, NJ 07054 (201) 575-7810



PREAMPLIFIERS

MANUFACTURER	Model (R) = Remote Included, (RO) = Remote Optional	Type: Tube = T, Hybrid = H, Mono = M, Digital = D, Moving Coil Stage Only = MC, Phono Stage Only = P	Frequency Response, Hz to kHz, ±dB	Maximum Output, V	THD, %	PHONO STAGE										Price, \$	Notes	
						Balanced Inputs = 1, Balanced Outputs = 0	High-Level Sensitivity, mV	Number of Tape & Processor Loops	Does Unit Invert Polarity?	MM Phono Sensitivity, mV, for 0.5 V Output at 1 kHz	MM Phono Overload, mV	MM Phono Input Capacitance, pF	MC Phono S/N, —dB, "k" Wtd. re: 5 mV	Moving Coil Input?				
ACCUPHASE	C-280L C-270 C-200V C-202 C-17	MC	1-700 ±0.3 1-500 ±0.3 1-500 ±0.3 1-500 ±0.3 20-20 ±0.2	10 10 8 10 10	0.005 0.005 0.005 0.005 0.005	I/O I/O I/O I/O	126 126 126 200	2 2 3 2	0 0 4 0	No No No No	0.5 0.5 1	300 300	86 85 85	76 83 76	Yes No No No Yes	11,750. 8250.00 6000.00 4100.00 3400.00		
ADCOM	GTP-400 GTP-500II (RI) GFP-555II GFP-565		10-40 ±0.5 10-40 ±0.4 10-50 ±0.3 10-50 ±0.2	8 8 10 10	0.01 0.01 0.005 0.003		80 80 52 52	2 2 3 3	2 2 2 2	Yes No No No	3.3 3.3 0.55 0.55	118 120 120 100	100 100 85 90	80 82	No No No No	349.95 599.95 499.95 699.95	Tuner/preamp (see also "Tuners"). As above; optional remote sensors.	
A/D/S/	CC4(RI)		20-20 ±0.5	10	0.07	I	90	2	2	No	1.3	150	220	70	65	Yes	850.00	Tuner/preamp.
ANALOG RESEARCH	Terzetto Line Stage Terzetto Phono Stage	P	20-20 ±0.05	10	0.01	0 †		1	0	Sel.	Var.	Var.	Var.	85	73	Yes	1200.00 600.00	Unity gain line stage; external power supply required. †Optional balanced inputs. Line-level output; external power supply required.
ARAGON	24K 24K sp				0.06 0.06			2 2	0 0	No No				90 70	Yes No	1250.00 995.00	External power supply; selectable MC impedance. External power supply.	
ARISTON	Encore Preamplifier (RI)		20-20	7	0.03		200	2	0	No	2	200	75	70	Yes	599.00	Separate headphone amp.	
ATMA-SPHERE	MP-1	T	2-80 ±0.5	10		I/O	500	1	0	Sel.	1.25	300	20	74	70	Yes	4600.00	External power supply.
AUDIBLE ILLUSIONS	Modulus 2D Modulus 3 Saturn	T T H	10-100 ±1 10-100 ±1 10-100 ±1	80 80 100	0.02 0.02 0.02		50 50 50	1 2 2	0 2 2	Yes Yes Sel.	1.2V 1.2V 500	40 40 50	75 75 90	70 85	Yes Yes Yes	895.00 1495.00 3500.00	Dual mono; external power supply. As above.	
AUDIACCESS	PX-4/KP-1 (RI) PX-4FR/IRT (RI)		20-20 ±0.25 20-20 ±0.25	8 8	0.01 0.01	Opt. Opt.		1 1	0 0	No No							† †	Multi-zone, multi-source, multi-room switching system; includes keypad remote. †\$750.00 per zone. As above but includes infrared remote. †\$900.00 per zone.
AUDID DESIGN ASSOCIATES	DSP-8(RO) ADP-8 DCA-40P(RO) CPC-8(RO) DSP-48(RO) CR8-P(RO)		20-20 ±0.25 20-20 ±0.25 20-20 ±0.25 20-20 ±0.25 20-20 ±0.25 20-20 ±0.25	5 5 7 5	0.007 0.05 0.05 0.007 0.05 0.05		4 1 0	3 3 3	No No No No								1395.00 995.00 800.00 11,492. 2495.00 1150.00	Multi-room preamp. For multi-room System 56. 8 x 8 multi-room, multi-source switcher. Multi-room preamp. For multi-room System Omega; without front-panel controls, Model CR-P, \$950.00.
AUDIO EXKLUSIV	P 2				0.005				0		1.5			96	86	Yes	2695.00	External power supply; BNC connectors.
AUDIOLAB	8000C		20-20 ±0.5	7.8	0.01		100	2	2	No	2.0	175	Adj.	79	75	Yes	595.00	Class-A operation.
AUDIO RESEARCH	SP9MKII SP14 SP15	H H H	1-200 ±0.3 1-200 ±0.3 1-200 ±0.3	50 50 80	0.005 0.005 0.001		50 50 18	2 2 2	0 0 0	No No Sel.	0.25 0.25 0.088	200 200 350	100 100 150	92 72 90	72 Yes Yes	1795.00 2995.00 5995.00	Auto and manual muting. Bypass switch. External power supply.	
AUDIOSOURCE	Pre One		8-100 ±0.3	5	0.005		120	2	3	No	2.2	125	250	86	71	Yes	249.95	Dual output; bass EQ; tape-to-tape dub.
AUDIRE	Andante Diffet 3 Legato		5-100 ±0.2 5-100 +0.0.25 5-100 +0.0.25	12 15 10	0.005 0.005 0.005		100 100 100	2 2 2	2 0 0	† No No	1.00 1.00 1.00	175 250 150	220 100 180	90 86 75	Yes † No	1750.00 855.00 440.00	†Inverts polarity only in MC stage. Dual mono. †Optional, \$135.00.	
A.V.A.	FET 3 FET 3 Plus Super PAS 3 Transcendence FET Valve	T H	15-30 ±0.2 12-40 ±0.2 20-25 ±0.2 10-45 ±0.2 10-40 ±0.1	10 12 8 12 15	0.005 0.004 0.02 0.002 0.001		50 50 50 50	1 3 1 3	2 4 0 4	No No No No	0.7 0.7 0.6 0.7	150 200 200 350	10 10 20 10	75 78 72 80	No No No No	340.00 595.00 595.00 795.00		
BEDINI AMPLIFIERS	BC-800 BC-866		1-110 ±0.3 1-110 ±0.3		0.15 0.15	No No		2 1	2 2	No No		Sel. 100			No No	1750.00 800.00		
BELLES RESEARCH	55		20-20 ±0.1	9.0	0.05		53	1	0	No	1	100	100	86	80	Yes	649.00	External power supply.
DAVID BERNING CO.	TF-12(RI)	H	4-50 ±1	5	0.05		32	1	0	No	0.38	200		74	54	Yes	2950.00	
B & K	Pro-5 PRO-10 PRO-10MC MC-101		1-100 ±1 1-100 ±1 1-100 ±1 1-50 ±1	7 7 7 9	0.03 0.01 0.01 0.02	No No No Opt.	53 45 45 45	2 1 1 2	2 0 0 2	No No No No	0.56 0.5 0.5 0.8	100 100 100 150	75 84 75 82	84 86 86 70	No No Yes Yes	398.00 598.00 648.00 898.00	Direct bypass. As above. As above. As above; external power supply.	

ARAGON. When Price Is No Object



Some people buy the most expensive components to feel assured they're getting the best quality — others can discern the highest quality independent of price...

My memory of the transparency and musical instrument soundstage produced by the Cello Encore and Spectral DMA 200 is quite clear. I can say that the 24K and the 4004 have also reached the same level.

Law Kong Ink Audiophile Magazine, January 1989

...the Aragon preamp is now my choice for under £1500 (\$2,700).

Ken Kessler HiFi News & Record Reviews, March 1989

That's the kind of design it is: it sounds right from the very first note. More correctly, it doesn't really sound much at all.

Alvin Gold HiFi Answers, December 1988

So, you see, to purchase the highest quality amp and preamp combination you can spend well over \$10,000 or well under \$3,000. The choice is yours.

MONDIAL DESIGNS LIMITED

Two Elm Street, Ardsley, New York 10502 • (914) 693-8008

Enter No. 66 on Reader Service Card

For Those Who Love CD, And *Especially* For Those Who *Hate* It

Only computing power an order of magnitude beyond any CD player can recapture all the information digital has to offer.

With the power of 80 IBM PC's and ultrasophisticated programming, Theta delivers a signal perfect in phase and time.

Only digital done right sounds right.

What The Experts Say:

"...I found for the first time that the CD could equal or surpass the analogue record in revealing the details of the sound stage."

—Anthony H. Cordesman
Audio Magazine
September 1989

"...Theta DS Pro simply recovers more information, more music, from the digital medium than any other playback system."

"...transcends everything else that digital technology has yet offered."

—Peter Moncrieff
International Audio Review #55

"...the DS Pre sets an entirely new standard of performance."

"...a sense of clarity I had never before heard from anything other than master tapes."

"...the best sound ever from CD..."

—Lewis Lipnick
Stereophile Vol. 12 No. 3
March 1989

"It is simply astounding in all sonic aspects, especially in transparently revealing whole layers of musical information we had not suspected of existing on CDs."

—Peter Moncrieff
International Audio Review #53-54



Digital Done Right™

Theta Digital Corporation

6360 Van Nuys Blvd., Suite 5, Van Nuys, CA 91401 (714) 997-8908 FAX (818) 905-7301

Enter No. 12 on Reader Service Card

PREAMPLIFIERS

MANUFACTURER	Model (R) = Remote Included, (RR) = Remote Optional	Type: T = T, Hybrid = H, Mono = M, Digital = D, Moving Coil Stage Only = MC, Phono Stage Only = P	Frequency Response Hz to kHz, ±dB	Maximum Output V	THD, %	Balanced Inputs = 1, Balanced Outputs = 0	High-Level Sensitivity, mV	Number of Taps & Processor Loops	Number of Tone Controls	Does Unit Invert Polarity?	MM Phono Sensitivity, mV for 0.2 V output at 1 Hz	MM Phono Overload, mV	MM Phono Input Capacitance, pF	MC Phono S.N. = dB, *K = MM, **K = MM, re: 0.5 mV	Moving Coil Input?	Price, \$	Notes	
																		Type: T = T, Hybrid = H, Mono = M, Digital = D, Moving Coil Stage Only = MC, Phono Stage Only = P
BOULDER AMPLIFIERS	Ultimate		20-20 +0,-0.05	12	.0025	0	67	2	0	Sel.	2.5	530	85	85	74	Yes	4795.00	External power supply; separate phono unit has three-position low-cut selector. External power supply; line-level inputs only.
	Ultimate High Level Complete		20-20 +0,-0.05	12	.0025	0	67	2	0	Sel.							3095.00	
	Complete High Level Line		20-20 +0,-0.05	12	.0025	0	53	2	0	No	2.5	530	85	85		Opt.	2895.00	
			20-20 +0,-0.05	12	.0025	0	53	0	0	No							1995.00	
BRITISH FIDELITY	MXV		10-200 +0,-0.5	7	0.5		220	0	0	No						Yes		MOS-FET. As above.
	Preamp 3		10-100 +0,-0.5	5.5	0.5		220	1	0	No	3.5	180	150	75	65	Yes		
BRYSTON	.4B		20-20 ± +0.1	14	0.005	†		1	0	No							595.00	†With optional balanced outputs, \$100.00 additional. ††Inverts polarity in MM phono stage only. Without phono stage, \$1150.00. MM phono only, RIAA.
	.4 2B		20-20 ± 0.1	14	0.005	I/O		1	0	No							925.00	
	.5B		20-20 ± 0.1	14	0.005	†		1	0	††		Sel.	80		No	695.00		
	11B	MC P	20-20 ± 0.1	14	0.005	†		2	0	††					No	1250.00		
	12B		20-20 ± 0.1	14	0.005	†		2	0	††					No	1695.00		
TF1														Yes	500.00			
.6B														No	595.00			
CAE	MP-567	T	15-160 ± 0.1	100	0.035		150	1	0	Yes	5	1.1V	60	73			800.00	
CARVER	C-19	H	1-60 +0,-0.3	7	0.07			4	3	Yes	1.5	100	Sel.	86	82	Yes	1195.00	Spectral tilt EQ; tone controls have variable turnover. As above; includes Sonic Hologram Generator. Tone controls and Generator as above. Tuner/preamp (see also "Tuners"); live-channel surround sound; Dolby Pro Logic; hall and stadium effects; Sonic Hologram Generator.
	C-16		1-60 +0,-0.3	7	0.01			4	3	No	1.5	135	Sel.	100	89	Yes	729.95	
	C-11		1-60 +0,-0.3	7	0.05			3	2	No	1.5	100	Sel.	100	86	Yes	579.95	
	CT-17(RI)		1-60 +0,-0.3	7	0.01			4	3	No	1.5	100	150	100	86	Yes	799.95	
CARY AUDIO DESIGN	PD-1	T						0	0	No							895.00	Passive line stage.
	PD-2	T						0	0	No							1595.00	
	PD-3(RI)	T						0	0	No							2995.00	
CASCADE AUDIO SYSTEMS	SNP-2B	MC	2-120 ± 0.6		0.007					No							375.00	28-dB gain. Requires CPS-1R power supply, \$199.00. Passive or active line stage; 20-dB gain; requires power supply above for gain made.
	RPP-3A	H/P	10-20 ± 1		0.075					No	1.0	275	82	74	81	Yes	399.00	
	CLP-4A	T	10-20 ± 1	24	0.07		160	2	0	No							449.00	
CELLO	Encore Audio Suite					I/O		2	0							Yes	8000.00	External power supply; without phono stage, \$7500.00. Modular system (mainframe with external power supply and choice of input and output modules); specs on request.
CLASSÉ AUDIO	DR-5		20-20 ± 0.15	8	0.01	0	155	1	0	Sel.	1.15	200	100	80	80	Yes	1995.00	External power supply. As above.
	DR-6		20-20 ± 0.15	8	0.01	0	155	1	0	Sel.	1.15	200	100	80	80	Yes	2995.00	
	DR-7		5-20 ± 0.15	8	0.01	0	155	2	0	No	1.15	200	100	80	80	Yes	4995.00	
CLEARAUDI	Harmony Phono Pre-Amp	MC	0-100 +0,-0.3	8	0.01	I				No					80	Yes	2850.00	MC phono stage mounts directly on headshell, weighs 7 grams; separate gain-stage box has volume control.
CONRAD-JOHNSON	Premier Seven	T	2-100	20	0.25			2		Yes		150				Yes	7850.00	Dual mono. CD player/preamp (see also "CD Players").
	PV9	T	2-100	20	0.25			2		Yes		200				Yes	2950.00	
	PV8	T	2-100	20	0.25			2		Yes		200				Yes	1685.00	
	PV10	T	2-100	25	0.25			1		Yes		125				Yes	995.00	
	DF-1(RI)		5-100	10	0.1			1									1595.00	
CONVERGENT AUDIO TECHNOLOGY	SL1 Reference	T	0.1-600 +0,-0.3	50	.0005		25	1		No	0.12	250	180	90	70	Yes	4500.00	
COUNTERPOINT	SA-2	T,MC	0.5-350 ± 0.1	150	0.1					Yes					93	Yes	1145.00	External power supply. Auto mute. External transformer. External tube power supply. External power supply. Motor-driven potentiometers.
	SA-1000	H	2-30 ± 0.1	70	0.17		24	1		Yes	0.5	250			68	Yes	835.00	
	SA-3000	H	2-300 ± 0.1	80	0.01		24	2		Yes	0.5	350			71	Yes	1895.00	
	SA-5000	H	1-500 ± 0.1	100	0.01		24	2		Yes	0.5	500			75	Yes	2995.00	
	SA-9	T,P	1-180 ± 0.1	100	0.1					No		500	Adj.		77	Yes	4395.00	
SA-11(RI)	T	0.8-230 ± 0.1	42	0.007		90	2		Adj.							Yes	5795.00	
CROWN INTERNATIONAL	PSL-2		10-50 ± 0.25	2.5	0.009	No	250	2	2	No				50	81		695.00	Overload indicators; switchable EQ; rumble filter.
DB SYSTEMS	DB-1B/2A		20-20 ± 0.04	9	.0008		120	1	0	Var.	0.9	150	100	77		No	700.00	External power supply. Without oak cabinet, \$985.00. Adjustable gain.
	DBR-15B/2A		20-20 ± 0.04	10	.0008		120	1	6	Var.	0.9	150	100	77		No	1135.00	
	DB-1B-HL/2A		10-50 ± 0.1	9	.0008		120	1	0	Var.					No	580.00		
	DB-4B	MC	10-100 ± 0.1	2	.0008					No					80	Yes	205.00	

PREAMPLIFIERS

MANUFACTURER	Model (RI) = Remote Included, (RO) = Remote Optional	Type: 1=AB, 2=I Hybrid, H=Mono-M, Digital=D, Moving Coil Stage Only=MC, Phono Stage Only=P	Frequency Response, Hz to kHz, ±dB	Maximum Output, V	THD, %	PHONO STAGE										Price, \$	Notes	
						Balanced Inputs = 1, Balanced Outputs = 0	High-Level Sensitivity, mV	Number of Tape & Processor Loops	Does Unit Invert Polarity?	MM Phono Sensitivity, mV, for 0.5 g Output at 1 kHz	MM Phono Input Capacitance, pF	MM Phono Overload, mV	MC Phono S/N, -dB, "A" Wtd. re. 5 mV	Moving Coil Input?				
DBX	CX-3MkII(RI)		10-50	10	.0008	I	150	5	3	No	2.5	180	33	78	70	Yes	799.00	Dolby surround sound.
DENNESEN	Sirius II JC80	M			0.01		125	2	0	No	2	200		80		No	700.00	†Optional balanced outputs.
	JC90				0.005	†	100	2	0	Yes	2	500		100		Yes	4500.00	
						0.005		100	2	0	No	2	500		100		Yes	
DENON	DAP-5500	D	1-300 +0.2,-3	15	0.002	I/O	150	3	0								1500.00	One optical and two coaxial digital inputs; DAT monitor loop; four D/A converters. One optical and one coaxial digital input; two video inputs and one video output; monitor loop and converters as above. Two video inputs and one video output; mono, full-range, and subwoofer outputs.
	DAP-2500 (RI)	D	1-300 +0.2,-3	15	0.002	O	150	3	2		2.5	160		96	79	Yes	1000.00	
	PRA-1500 (RI)		1-300 +0.2,-3	10	0.003	O	150	2	2		2.5	160		96	79	Yes	500.00	
DISTECH	LS III		0-100	8	0.001			1	0	No							1800.00	Line level only. Dual mono.
	LS IV		0-100	10	.0005			1	0	No							3600.00	
DOLAN	PM-1		1-500	12	0.02	No	100	2	0	No	1	180	Var.	†	††	Yes	2395.00	†80 dB, unweighted. ††72 dB, unweighted.
EIDOLON RESEARCH	Julia	T	0.1-200 +0,-1.5	85	0.01	No	Sel.	2	0	Var.	1.45	500	Adj.	79	65	Yes	4200.00	Dual mono.
	Mentat	T	0.5-150 +0,-1.5	85	0.01	No	Sel.	2	0	Var.	1.45	500	Adj.	78	65	Yes	2400.00	External power supply.
	Salesia	T	0.5-150 +0,-1.5	70	0.01	No	Sel.	2	0	Yes	1.45	500	Adj.	78		No	1200.00	Passive and active RIAA.
ELECTRO-COMPANET	EC1			15	.0004		100	2	0	†	1.5	200	Adj.		84	Yes	2095.00	†Inverts polarity only in MC phono stage.
	EC1a	MC		15	.0004		100	2	0	No	1.5	200	Adj.		84	Yes	1795.00	Line level only.
	MC2 LD1			15	.0015		100	4	0							Yes	450.00	
ELECTRONIC VISIONARY SYSTEMS	MOD-1	T	10-200 +0,-1	70	0.1	No	50	1	0	Yes	0.5	1V	10	75			750.00	
	MOD-2	T/P	20-20 ±0.5	30	0.05	No				No	4	300	10	75			850.00	
	MOD-3	H/P	20-20 ±0.5	15	0.03	No				No	1	100	40	82	70	Yes	950.00	
	PB1PGT		0-1M							No							240.00	
ENCORE ELECTRONICS	PB2PG		0-1M					1		No							260.00	As above; five inputs.
	PB2PGT5		0-1M							No							430.00	
ENCORE ELECTRONICS	DL2010	H	11-75 +0,-1	18		No	158	2	0	No	5	79	Sel.			No	2150.00	No contacts in signal path; auto mute; operate/standby switch.
EXPOSURE	VII							1	0	No						Yes	975.00	Dual mono; external power supply required. As above.
	XI							1	0	No						Yes	1275.00	
EXPRESSIVE TECHNOLOGIES	SU-1		0.7-150 +0,-0.1	25		I/O				No				100	Yes	2500.00	28-dB fixed gain.	
FM ACOUSTICS	Resolution Series 244 Version "A"		2-100 ±3	20	0.03		100	1	0	No					74	Yes	7360.00	Class A.
	Resolution Series 244 Version "B"		2-100 ±3	20	0.025		100	1	0	Yes	1.58	300	Var.	76		No	6740.00	High-level only.
	Resolution Series 244 Version "C"		2-100 ±3	20	0.025		100	1	0	Yes							5360.00	
FORTE AUDIO	2		1-100 +0,-3	20	0.02		200	1	0	No		100	Sel.	90	85	Yes	990.00	Selectable gain; external power supply.
GOLDMUND	Mimesis 2 (RO)		0-850 ±3	40	0.01		100	2	0	Sel.						Yes	7690.00	Without Model PH01 phono module, \$5990.00; a.c. polarity switch; star ground configuration. Without phono stage, \$2990.00.
	Mimesis 7		0-650 ±3	35			100	2	0	Sel.							3490.00	
GORDON INSTRUMENTS	Gordon(RI)																	Custom-designed.
GRUNDIG	Fine Arts	T	2.2-100		0.01		200	1	0	No							3500.00	Triode design.
HAFLER	SE100		20-20 ±0.1	7	0.005		45	1	2	No		65	Adj.	87	80	Yes		Optional phono stage. Kit, \$200.00. Kit, \$425.00. J-FET; remote operation of Iris tuner and Iris CD player. J-FET; optional remote, \$250.00.
	DH100		20-20 ±0.25	8	0.005		50	1	2	No	1.2	180	Adj.	87	85	No	215.00	
	Series 2 DH110		20-20 +0,-0.1	12	0.001		200	3	2	No	1.25	300	Adj.	87	80	No	450.00	
	Iris(RI)		20-20 ±0.1	7	0.005		200	3	0	No	0.35	70	Adj.	87	80	Yes	800.00	
HARMAN KAROON CITATION	Iris NR(RO)		20-20 ±0.1	7	0.005		200	3	0	No	0.35	70	Adj.	87	80	Yes	650.00	Video switching; selectable turnover on tone controls.
	Twenty-one		0.25-250 +0,-3	10	0.001		65	2	2	No	1.1	160	125	83	78	Yes	629.00	
	Twenty-five (RI)		0.25-250 +0,-3	10	0.002		65	4	2	No	1.1	180	Sel.	83	78	Yes	899.00	
HEYBROOK	C-3		20-50		0.05			2	0	No				80		Yes	698.00	

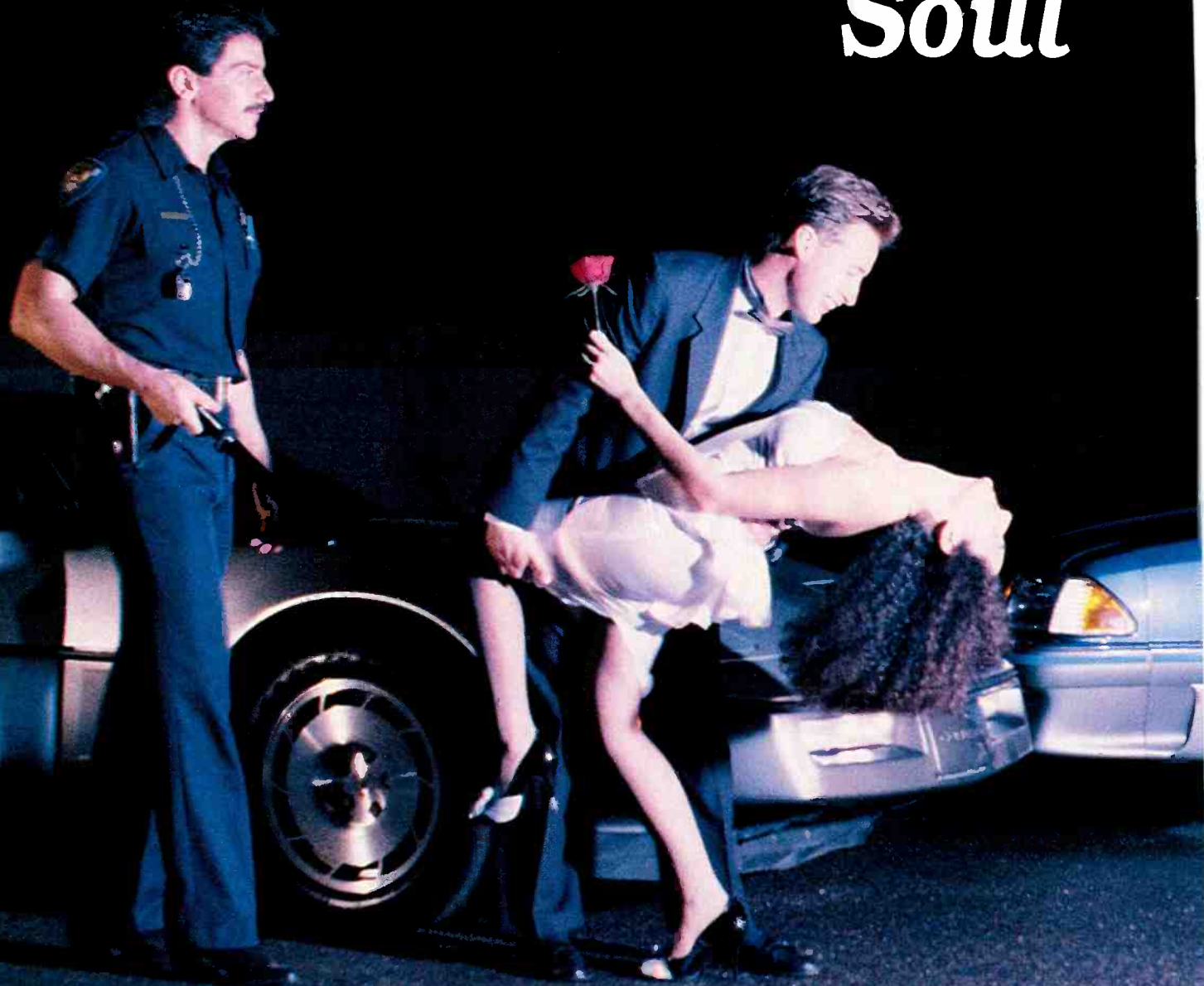


Affordable Excellence

Classé Audio Inc., 9414 Cote de Liesse Road, Montreal, Quebec, Canada H8T 1A1 Tel.: (514) 636-6384 Fax: (514) 636-1428

Enter No. 34 on Reader Service Card

The Art and Soul



Have you ever experienced sound from an automobile that evokes a feeling of sheer exhilaration . . .

Sound that could surpass the quality of any home stereo in existence . . .

Sound with the ability to stir the emotions . . . ?



American-Made
Audio Amplifiers,
Speakers & Accessories

For Those Who Won't
Settle For Less

of Autosound



Give a visit to your nearest ORION dealer
and discover the pure fun and passion of
driving . . .
because we, at ORION, know that the driv-
er is much more important than the vehicle,
itself.



(602) 730-8200

In Canada:
Linear Mktg (416) 828-1210

Enter No. 122 on Reader Service Card

PREAMPLIFIERS

MANUFACTURER	Model (R) = Remote Included, (RO) = Remote Optional	Type: T = T, H = H, MC = MC, Digital = D, Moving Coil Stage Only = P	Frequency Response, Hz to kHz, ±dB	Maximum Output, V	THD, %	Balanced Inputs = 1, Balanced Outputs = 0	High-Level Sensitivity, mV	Number of Tape & Processor Loops	Number of Tone Controls	Does Unit Invert Polarity?	MM Phono Sensitivity, mV, per 0.5 V Output at 1 kHz	MM Phono Divergence, mV	MM Phono Input Capacitance, pF	MC Phono S/N, -80; "R" = Wtd. re. 5 mV	Moving Coil Input?	Price, \$	Notes	
																		PHONO STAGE
INTEGRA AUDIO	Integra Reference TP1	T		50			0	No	2		120		No	7500.00	External power supply; dual mono.			
	Integra TP1	T		50			0	No	2		120		No	3000.00	External power supply.			
JAOIS	JP-30	T					2	0	No				No	5500.00	Two chassis.			
	JP-30MC	T					2	0	No				Yes	5995.00	As above.			
	JP-80	T					2	0	No				No	8995.00	As above.			
	JP-80MC	T					2	0	No				Yes	11,500.00	As above.			
	JP-200	T					2	0	No				Yes	18,000.00	Four chassis; dual mono; external power supply.			
DEFY DP-60	H					2	0	No				Yes	3500.00	Solid-state MC stage.				
JRM	Praamp		0-50 +0,-1	12	0.01		Sel.	2	Opt.	No	1.25		Sel.	88	78	Yes	450.00	Includes 10-watt/channel headphone amp; video inputs; infrasonic filter.
	PEM		0-50 +0,-1	12	0.01		Sel.	3	†	No	1.25		Sel.	88		No	1300.00	†Two 3-band pre-EQs; 6-band master EQ; 4-band monitor EQ. Cross-fade input select; master and cue busses.
KEBSCHULL	150	T	10-2M	32					0					60	Yes	3695.00		
KENWOOD	Basic-C2		1-350 +0,-3	1	0.001		150	2	2		2.5	200		94	Yes	329.00		
KINERGETICS RESEARCH	KPA-2		20-300 ±0.2	12	0.02	0	200	1	0	Sel.	0.3	20	Var.	77	73	Yes	1290.00	Without phono stage, \$895.00.
KLIMO	Argo	T/MC	10-450 +0,-3	10	0.2					Yes				75	Yes	1350.00	External power supply; adjustable input impedance.	
	Merlin	T	3-450 +0,-3	25	0.07			1	0	No	1.0	600	20	76	No	3500.00		
KLYNE AUDIO ARTS	SK-2A	MC	0.1-20	7	0.01	0	100	0	0	No	5.3	100	Sel.		70	Yes	750.00	
	SK-4A	MC	+0,-0.2	10	0.01	0	100	1	0	Sel.	5.3	100	Sel.		70	Yes	2695.00	
	SK-5A	MC	0.1-20	10	0.01	0	100	1	0	Sel.	5.3	100	Sel.		70	Yes	3250.00	
	SK-5AM	MC	+0,-0.2	10	0.01	0	100	1	0	Sel.	5.3	100	Sel.	76	No	2875.00		
	SK-5AL	MC	0.1-20	10	0.01	0	100	1	0	Sel.						2450.00	No phono amp.	
	System Six 6L	MC	+0,-0.2	10	0.005		100	2	0	No					70	Yes	1550.00	Modular system of models below.
	6LX	MC	1-200 +0,-0.2	10	0.005		100	2	0	No					70	Yes	1850.00	External power supply.
6P	MC	1-200 +0,-0.2	10	0.01		100	2	0	No	7.1	150	Sel.	85	70	Yes	595.00	Plug-in phono stage; adjustable gain.	
6PX	MC		10	0.01					No					70	Yes	895.00	Plug-in phono stage.	
6PZ	MC		10	0.01					No					76	Yes	950.00	As above.	
KRELL	KSP-7B		5-120 +0,-0.5	7.5	0.03	0	1	0	Sel.	8.4	200			75	68	Yes	2700.00	External power supply; d.c. coupled; passive and active phono EQ.
	KBL	P	5-50 +0,-0.5	32	0.01	I/O		2	0	Sel.					60	Yes	15.8	High level only; d.c. coupled.
	KPA	P	20-20 ±0.1	8	0.05					No	15.8	250			60	Yes		Passive EQ; RIAA adjustments; d.c. coupled.
KRS-Balanced	M	1-500	20	0.001	I/O	100	2	0	Sel.		800	100		90	Yes		D.C. coupled.	
LAZARUS	Cascade Basic	T	20-20 +0,-1	50	0.05		50	1	0	Yes	1.5	600	100			No	690.00	
	Cascade Classic	T	20-20 +1,-0	50	0.05		50	1	0	Yes	1.1	600	100			No	950.00	
	Cascade Deluxe	H	20-20 +1,-0	50	0.05		50	1	0	†		150	100		75	Yes	1200.00	†Inverts polarity for line only.
	Balanced Classic	H	20-20 ±0.5	10	0.02	0	50	1	0	Sel.	1.1	600	100			No	1695.00	External power supply.
	Balanced Deluxe	H	20-20 ±0.5	10	0.02	0	50	1	0	Sel.		150	100		75	Yes	1985.00	As above.
LEGACY	The Preamplifier		1-100 ±1	10	0.01		450	2	2	No	0.5	100	75	89	No	496.00		
MARK LEVINSON	No. 26		20-20 +0,-0.2	6	0.01	I/O		2	0	Sel.	Sel.	415	Sel.		Yes	4220.00	Price varies with input and power-supply options.	
LINN HI-FI	LK1(RO)					200	2	0	Yes	5					Yes	1095.00		
LUXMAN	TP117		4.5-350 +0,-3	8	0.006		150	1	4	No	2.5	150	200	86	No	1250.00	Multi-zone tuner/preamp; with video amps.	
	LE109	P	20-20 +0,-0.3		0.005					No	2.5	250	200	101	86	Yes	500.00	
LYDKRAFT	MP-1A	T	15-60 +0,-0.5	15	0.2	I/O	250	0	0									
MADISON FIELDING	CA700P(RO)		20-50	5	0.005		100	1	7	Yes						1200.00	Part of multi-room system.	
MAVRICK	Ultimate Reference Phono Processor	P	1-500 ±0.1	10						No		500		130	100	Yes	10,000.00	K-FET, valve amplifier; external power supply.
McINTOSH	C34V		20-20 +0,-0.5		0.01		250	5			2	100	65	87		2195.00		
	C35(RI)		20-20 +0,-0.5	8	0.007	0	250	5			2.5	90	65	87		1995.00		

The Spirit Captured



In the AR tradition, another milestone.

*AR's designers and engineers achieve the ideal:
European Elegance... Exquisite Sound... Affordable
Prices. The quintessence of both sight and sound.
Premiered in Europe - now available in America.*



TIMELESS INNOVATION

TELEDYNE ACOUSTIC RESEARCH

Enter No. 7 on Reader Service Card

High Definition[®] has never been more down to earth.

Every audiophile, every music lover wants to hear through the veil of his or her audio system, straight to the music.

The new SP14 and popular SP9 hybrid preamplifiers put that dream within everyone's reach, bringing together superlative sonics and affordability. But without sacrificing Audio Research's legendary quality of design, construction and service.

For sonics and control features nearly equal to the state of the art, choose the SP14—the preamplifier that will take you as far as your system is ever likely to go. It will bring the best out of new components, for years to come.

And while more modest in features and performance, the SP9 has been delighting thousands of

cost-conscious audiophiles and music lovers the world over for two years. It's a proven performer.

Both preamplifiers reflect the 20-year Audio Research tradition of distinguished engineering. Ultra-critical parts selection and unstinting handcrafted manufacture assure honest musical satisfaction today, and reliable performance for years to come. Like every Audio Research product, the SP14 and SP9 represent not just a purchase, but an investment.

Audition either model soon at your authorized Audio Research dealer.

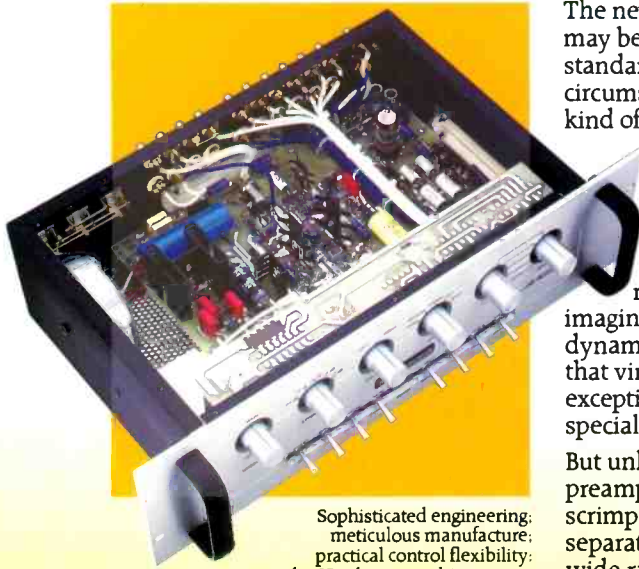
20
classic years

1970 - 1990



audio research[®]
HIGH DEFINITION[®]

Very likely, the audio value of the decade.



Sophisticated engineering; meticulous manufacture; practical control flexibility; the SP14 has everything a state-of-the-art preamp should have.

The new SP14 Hybrid Preamplifier may be the scion of the world-standard SP15. But under no circumstance does it stand in any kind of shadow. The SP14 is a stellar performer in its own right, in every significant respect.

The SP14's musicality comes surprisingly close to the state of the art, with soundstage of remarkable depth and breadth; imaging of uncanny solidity; palpable dynamic authority; timbral accuracy that virtually recreates live music; an exceptionally low noise floor; and a special ease with frequency extremes.

But unlike many high-performance preamplifiers, the SP14 doesn't scrimp on control features. It has separate Gain and Attenuation for wide-ranging-yet-subtle level management. Separate Input and Record Output selectors (with a

common menu) permit exceptional flexibility in playing and recording; owners can listen to one source while recording from another. The Bypass switch allows owners to remove the Balance and Mode controls from the signal path, for greater sonic purity. There are two separate sets of outputs, and three power outlets. And, of course, the SP14 features its own version of the "hybrid" technology that has made Audio Research electronics world-famous.

As with every Audio Research product, SP14 parts quality, construction and factory support are the finest in the audio industry, with a two-decade track record to prove it.

And all this comes at only half the cost of the celebrated SP15. With a price like that, no other preamp can touch the SP14 for value.



Anodized black front panel and knobs available at additional cost.



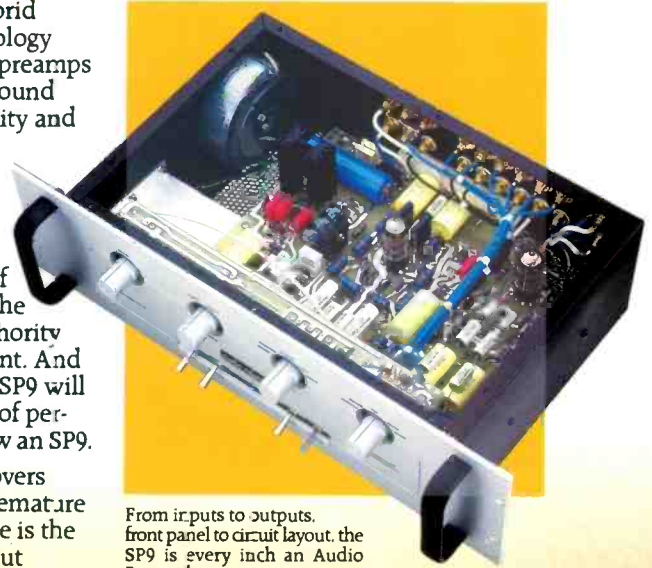
Never have so many enjoyed so much preamp for so little.

In a day and age when the price of audio eloquence keeps going up and up, Audio Research's SP9 Hybrid Preamplifier has been a breath of fresh air. Because of it, thousands of ordinary music lovers—not to mention many audio perfectionists—have discovered that it needn't cost an arm and a leg to achieve excellence in music reproduction. In fact, some owners think the SP9 is underpriced!

To be sure, the SP9 is a full-blooded member of the Audio Research family, with no shortcuts taken in design, construction or performance. As much as any other Audio Research product, the SP9 embodies an investment in lasting value.

SP9 owners get the same hybrid tube/solid state circuit technology that's made Audio Research preamps world famous. That means sound quality of convincing neutrality and musicality. The SP9's soundstage is broad and lucid, its imaging solid, its way with dynamics impressive, its musicality subtle but potent. Insert an SP9 into a system of even moderate quality, and the increased definition and authority become immediately apparent. And as a system is upgraded, the SP9 will keep giving it the extra edge of performance. It's hard to outgrow an SP9.

For audiophiles and music lovers tired of compromises and premature obsolescence, the clear choice is the SP9—the preamp for just about everyone!



From inputs to outputs, front panel to circuit layout, the SP9 is every inch an Audio Research preamp.



Anodized black front panel and knobs available at additional cost.



SP14 SPECIFICATIONS

FREQUENCY RESPONSE:

High level section: ± 5 dB, 5Hz to 50kHz, -3dB points below 1Hz and above 200kHz
Magnetic Phono: ± 3 dB of RIAA, 30Hz to 40kHz

DISTORTION:

Less than .01% at 2V RMS output.

GAIN:

Phono input to tape output: 46dB,
Phono input to main output: 66dB,
High level inputs to tape output: 0dB,
High level inputs to main output: 20dB

INPUTS (7):

Phono, C-D, Tuner, Video, Spare, Tape 1, Tape 2

OUTPUTS (4):

(2) Main, (2) Recorder

CONTROLS (6):

Gain, Attenuation, Balance, Mode, Record Out, Input

SWITCHES (8):

Power, Outlets, Bypass, Mute, Copy, Tape 1 to 2/2 to 1, Tape 2/1, Monitor

INPUT IMPEDANCE:

50K ohms Line Inputs; 47K Phono (Phono provisions for any value below 47K ohms or added input capacitance for matching certain magnetic cartridges.)

OUTPUT IMPEDANCE:

250 ohms main output, 1000 ohms recorder output. Recommended load 60K-100K ohms and 100pF. (20K ohms minimum and 1000pF maximum)

MAXIMUM INPUTS:

Magnetic phono, 200mV at 1kHz (1000mV RMS, 10kHz). High level inputs essentially overload-proof.

RATED OUTPUTS:

2V RMS 5Hz to 50kHz, all outputs; 60K ohm load (main output capability is 50V RMS output at 1/2% THD at 1kHz into a 100K ohm load with 5V RMS high level input)

POWER SUPPLIES:

Electronically-regulated low and high voltage supplies and electronic decoupling. Shielded toroid transformer. Line regulation better than .01%.

NOISE:

High Level: (1) 70uV RMS maximum residual unweighted wideband noise at main output with gain control minimum (98dB below 5V RMS output) (2) More than 100dB below 1V RMS input (less than 7uV equivalent input noise)
Phono: 0.12uV equivalent input noise, IHF weighted, shorted input (78dB below 1mV input)

TUBE COMPLEMENT:

1 - 6DJ8/ECC88 dual triodes (Hybrid FET/Tube audio circuit, solid-state power supply)

POWER REQUIREMENTS:

100-135VAC 60Hz (200-270VAC 50/60Hz) 60 Watts

DIMENSIONS:

19" (48 cm) W x 5 1/4" (13.4 cm) H (standard rack panel) x 10 1/4" (26 cm) D. Handles extend 1 5/8" (4.1 cm) forward of front panel. Rear chassis fittings extend 7/8" (2.3 cm)

WEIGHT:

12 lbs. (5.5 kg) Net; 21 lbs. (9.6 kg) Shipping

SP9 SPECIFICATIONS

FREQUENCY RESPONSE:

High level section: ± 5 dB, 5Hz to 50kHz, -3dB points below 1Hz and above 200kHz
Magnetic Phono: ± 3 dB of RIAA, 30Hz to 40kHz

DISTORTION:

Less than .01% at 2V RMS output. (typically less than .005% in midband)

GAIN:

Phono input to tape output: 46dB,
Phono input to main output: 66dB,
High level inputs to tape output: 0dB,
High level inputs to main output: 21dB

INPUT IMPEDANCE:

50K ohms Line Inputs; 47K Phono (Phono provisions for any value below 47K ohms or added input capacitance for matching certain magnetic cartridges.)

OUTPUT IMPEDANCE:

250 ohms main output, 850 ohms recorder output. Recommended load 60K ohms and 100pF. (20K ohms minimum and 1000pF maximum)

MAXIMUM INPUTS:

Magnetic phono, 200mV at 1kHz (1000mV RMS, 10kHz). High level inputs essentially overload-proof.

RATED OUTPUTS:

2V RMS 5Hz to 50kHz, all outputs; 60K ohm load (main output capability is 50V RMS output at 1/2% THD at 1kHz into a 100K ohm load with 5V RMS high level input)

POWER SUPPLIES:

Electronically-regulated low and high voltage supplies and electronic decoupling. Shielded toroid transformer. Line regulation better than .01%.

NOISE:

High Level: (1) 70uV RMS maximum residual unweighted wideband noise at main output with gain control minimum (98dB below 5V RMS output) (2) More than 100dB below 1V RMS input (less than 7uV equivalent input noise)

Phono: 0.12uV equivalent input noise, IHF weighted, shorted input (78dB below 1mV input)

TUBE COMPLEMENT:

2 - 6DJ8/ECC88 dual triodes (Hybrid FET/Tube audio circuit, solid-state power supply)

POWER REQUIREMENTS:

100-135VAC 60Hz (200-270VAC 50/60Hz) 50 Watts

DIMENSIONS:

19" (48 cm) W x 5 1/4" (13.4 cm) H (standard rack panel) x 10 1/4" (26 cm) D. Handles extend 1 5/8" (4.1 cm) forward of front panel. Rear chassis fittings extend 7/8" (2.3 cm)

WEIGHT:

13 lbs. (5.9 kg) Net; 22 lbs. (10 kg) Shipping

© 1989 Audio Research Corporation

Double sets of gold-plated output jacks make the SP14 ideal for "bi-wired" audio systems.



The SP9's gold-plated jacks connect "ground" before "hot" and disconnect "hot" before "ground" for maximum system protection.



Three-Year Limited Warranty

All Audio Research products are backed by a Three-Year Limited Warranty; vacuum tubes are warranted against defects for 90 days. For one year from date of purchase, Audio

Research pays round-trip freight charges on any equipment requiring warranty service at the factory. See your authorized Audio Research dealer for details.

audio research[®]
HIGH DEFINITION[®]

6801 Shingle Creek Parkway / Minneapolis, Minnesota 55430 / Phone: 612-566-7570 FAX: 612-566-3402

Enter No. 1 on Reader Service Card

PREAMPLIFIERS

MANUFACTURER	Model (R) - Remote Included, (RD) - Remote Optional	Type: T=Tube, H=Hybrid, MC=Moving Coil Stage Only=MC, Phono Stage Only=P	Frequency Response, Hz to kHz, ±dB	Maximum Output, V	THD, %	PHONO STAGE										Price, \$	Notes		
						Balanced Inputs=1, Balanced Outputs=0	High-Level Sensitivity, mV	Number of Tape & Processor Loops	Does Unit Invert Polarity?	MM Phono Sensitivity, mV, for 0.5 V Output at 1 kHz	MM Phono Overload, mV	MM Phono Input Capacitance, pF	MC Phono S.N., -dB, *A; *A: Wld. re. 5 mV	Moving Coil Input?					
PARASOUND	P-FET-900		8-100 +0,-3	10	0.005	150	2	2	No	2.5	220	175	85		No	395.00	FET; variable loudness control; C-MOS switching. Variable loudness control; C-MOS switching; high- and low-cut filters.		
	P-HP-750		5-65 +0,-3	8.5	0.006	150	2	2	No	2.5	200	175	83			235.00			
PIONEER	C-91		20-20	8	0.01		6	3	No	2.5			96	86	Yes	1300.00			
PLEXUS AUDIO SYSTEMS	Phonon Photon	MC	20-250 ±3 20-185 ±3	10 1.3	0.01 0.01	1.5V	1	0	No No		140	50	90 94		No Yes	795.00			
PRIMARE SYSTEMS	Series 928(RI)		10-1M +0,-3	20	0.001	0	100	1	0	No	Adj.	100	76	67	Yes	5500.00			
PROTON	AP-1000 1100		20-20 ±0.2 20-20 ±2	21 18	0.003 0.003	150 150	2 2	3 2	No No	2.5 2.5	250 290	Sel. Sel.	91 94	70 79	Yes Yes	399.00 259.00			
PS AUDIO	PS 4.6 PS 5.5		5-100 ±0.2 5-100 ±0.2	18 18	0.001 0.001	1V 1V	1 1	0 0	No No		150 150	150 150	80 80	70 70	Yes Yes	699.00 1195.00	External power supply. As above.		
PSE	Studio SL Studio SL-Line Fulcrum	H	5-100 +0,-0.05 5-100 +0,-0.05 5-100 +0,-0.05	12 12 12	0.005 0.005 0.005	0 0 I/O	250 250 250	1 1 1	1 1 1	Sel. Sel. Sel.		200 200 200	220 220 220	80 80 80	78 78 78	Yes Yes Yes	750.00 650.00 150.00	Two-bay modular (phono stage, \$400.00; balance, \$300.00; mike, \$800.00).	
QUAD	34 66 44		20-20 ±0.5 20-20 ±0.5 20-20 ±0.5	0.5 0.5 †	0.05 0.05 0.05	300 300 300	1 1 2	5 6 6	No No No	3 3 3	150 150 150	180 180 180	75 82 82	72 74 75	Yes Yes Yes	799.00 1499.00 999.00	†Selectable.		
QUICKSILVER AUDIO	Preamp Moving Coil Transformer	T MC	1-650 +0,-3 1-100	65 2.8	0.001		1	0	No No	5	750			Yes	1495.00 335.00	12.5-ohm output impedance. 23-dB fixed gain; for cartridges of 0.5 to 40 ohms.			
RADFORD	SC-25	T	20-100 +0,-3	25	0.1	100	1	0	No	1	100	100	85	65	Yes	1695.00	Separate gain and volume controls.		
REVOX	B252(RD)		20-20 +0,-0.2	15	0.01	No	160	2	2	No	Adj.	23	Adj.	75	75	Opt.	1750.00		
ROCKFORD FOSGATE	RF-200		20-20 ±0.4	9.3	0.005	60	2	2	No	0.6	75	150	83		No		Internal crossover.		
ROTEL	RC850 RC870BX	T T	20-20 ±0.2 20-20 ±0.2	10 12	0.004 0.004	150 150	2 2	2 0	No No	2.5 2.5	180 180		80 80	70 70	Yes Yes	249.00 399.00	CD direct input.		
JEFF ROWLAND DESIGN GROUP	Coherence One Series II Consonance (RD) Consummate (RI)		0.2-500 +0,-3	15	0.01	0	125	1	0	Sel.	5	170	Sel.	88	85	Yes	4600.00	External power supply.	
			0.2-500 +0,-3	15	0.015	0	125	1	0	Sel.	5	170	Sel.	85	84	Yes	2500.00	Microprocessor-controlled switching and volume.	
			0.2-500 +0,-3	15	0.008	I/O	125	1	0	Sel.						Yes	5500.00	As above; external power supply.	
SAE	P102 PT102(RI)		20-20 +0,-0.5 20-20 +0,-0.5	7.5 7.5	0.01 0.01	150 150	3 3	2 2	No No	1.3	120	200	82	75	Yes	449.00	Two pairs of main outputs; three programmable tone memories.		
SANSUI	Vintage C-2102 C-1000		0-300 +0,-3 10-100	15 6	0.003 0.03	150 150	3 3	† 4		2.5 2.5	300 120		88 75	70	Yes No	750.00 190.00	†Two-band parametric EQ.		
SESCOM	PO-11		20-20	2	0.01	200	0	0	No	1.7	100	250	69		No	57.20	Requires PO-1 power supply, \$71.40.		
SHERWOOD	AP-702D	H	5-100 +0.5,-3	10	0.005	I/O	150	3	2		1.25	330	250	80	75	Yes	329.95	Direct switch; selectable subwoofer crossover frequency.	
SHURE	M64A		40-15 ±2	6	1		0	0	No	9.4	100	160	65†		No	102.00	†Unweighted.		
SIMA	P-2001 MKII		30-20 ±0.3	11	0.05	200	2		No	1	110	100	80	66	Yes	695.00	Direct inputs.		
SONOGAPHE	SC-1		5-100	7.5	0.05		2		No		150				Yes	695.00			
SONTEC	PPP-102		1-400 ±1	15	0.003		0	0	No	Var.	150	Var.	88	68	Yes	825.00	Input stage gain-adjustable to match MM or MC cartridges.		
SONY ES	TA-E1000-ESD(RI)	D	3-100 +0,-3	1.5	0.004	150	†	††		2	150	200	84		No	1000.00	Digital preamp/surround processor (see also "Ambience & Surround Sound Processors"). †8 analog, 3 digital. †† Digital parametric EQ. Digital inputs and outputs; Dolby Pro Logic.		



If you've vowed not to compromise this time around, consider the rich rewards of owning Carver. Each component includes unique innovations designed to confront and solve real-world sonic problems.

Power unleashed: Simultaneous high current/high voltage output. The TFM-25 is capable of delivering more simultaneous current, power and voltage into a wider range of speaker loads than any other competitively priced design: **225 watts per channel into 8 ohms 20-20kHz with no more than 0.5% THD.** Its patented Magnetic Field Power Supply can draw up to 200% more line current, store more joules of energy in its unique distributed capacitance system, and then deliver up to 500% more current during musical peaks. With the right speakers, this kind of serious power can achieve a full restoration of the robust percussive attacks and lightning transients so

necessary to achieving musical realism from digital sources.

Accuracy and musicality through Transfer Function Modification. Over the past two decades, Bob Carver has worked on the problem of replicating one power amplifier's sonic signature in another dissimilar design. Through thousands of hours of painstaking tests and modifications, he has been able to closely match the TFM-25's transfer function with that of his highly acclaimed \$17,500.00 Silver Seven vacuum tube reference power amplifier. When you hear the warm, natural sound of the TFM-25, you'll know that Transfer Function Modification is an audible reality.

New flexibility in a classic preamplifier design. The Carver C-16 is at once a purist, "straight-wire-with-gain" design and a wonderful wealth of sonic options. Including individual left/right tone controls with variable

POWERFUL

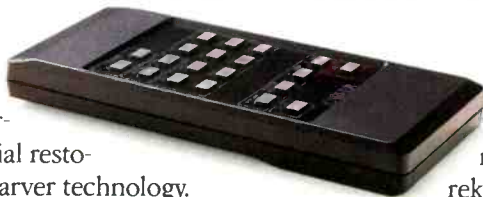
MUSICAL

ACCURATE

BE THE MASTER OF YOUR OWN SONIC DESTINY.

turnover, full-band Spectral Tilt, and of course Sonic Holography® with a new Blend control that further extends the remarkable spacial restoration abilities of this exclusive Carver technology.

ACCD turns "dirty" FM into fresh air. Unlike any competitive tuner model, the Carver TX-12 can actually transform a noisy, multipath distortion-ravaged FM signal into clean, hiss-free music with full stereo separation. The key is the TX-12's Asymmetrical Charge-Coupled FM Detection circuitry. A lengthy name for a wonderfully fast solution to expanding your listening possibilities. When you experience ACCD's effect, you may consider the TX-12's full remote control, 20 FM/AM presets with preview scan, stereo/mono switch and dual antenna inputs, mere icing on the cake.



Hear why we stack up ahead of the competition. The TFM-25, C-16 and TX-12 are just three of over a dozen new Carver designs. Each is designed to rekindle your sense of musical wonder. It all begins with a visit to your nearest Carver dealer.

To receive White Papers on Simultaneous High Current High Voltage Transfer Function Modification and Sonic Holography®, details of Spectral Tilt and the name of your nearest Carver Dealer, call 1-800-443-CAVR, 8-5 PM Pacific time.

CARVER

CARVER CORPORATION, LYNNWOOD, WASHINGTON, U.S.A.
Distributed in Canada by EVOLUTION AUDIO INC. 1-(416) 847-8888



Introducing the #1
selling speaker in France.
A full line of uncompromising
audio fidelity...

Le Spirit, Master I, Master III, &
Master IV Series

\$600 — \$20,000 /pair

FOR MORE INFORMATION CALL:

EuroSound Imports 212-768-8714



The technology.

MASTERS GENERATION II have been computer optimized to give the flattest linear phase possible in each model and, also, a flat volume response of the speaker to reproduce, in each room, concert ambience and characteristics.

Special care has been given to pulse response, even off axis to maintain 3 dimensional imaging.

This has been achieved by using a 100% carbone woven speaker with direct coupling (MM and M1) or slow rate crossover (M3 and M5) and accurate low resonance tweeters to control crossover phasing.

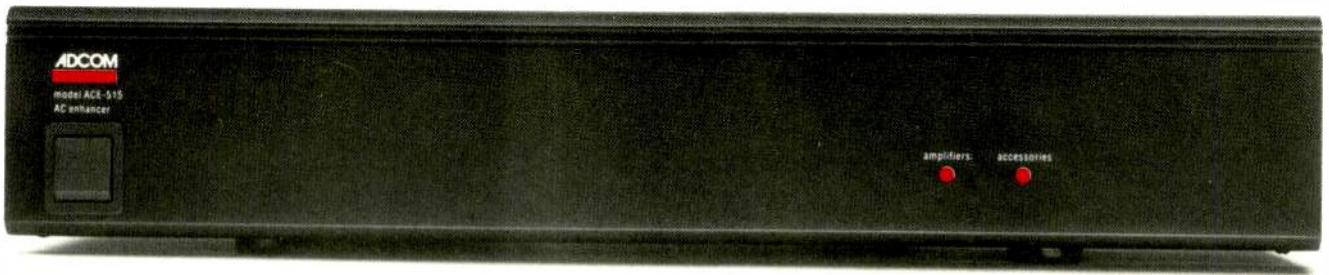
These speakers use bi wiring techniques and will permit a bi amplification process.

All units are mirrored speaker in order to keep optimum stereo imaging.

Enter No. 131 on Reader Service Card

“Line protection -
you can pay a
little for it now,
or you can pay a
lot for it later.”

—Ken Pohlman, *AUDIO*,
November 1987.



Regardless of how sophisticated your stereo and video system is, it may never achieve its full potential if plugged directly into an AC outlet. Raw and unprocessed AC power can severely diminish the clarity of audio signals and reduce the resolution of your video picture. Harmful high-voltage spikes and surges can also damage your valuable equipment.

The ADCOM ACE-515 AC Enhancer significantly improves the performance capabilities of your system by filtering and processing raw AC power, unveiling a pure, noise-free power source. And, it protects your components from harmful line voltage disturbances.

Listen To The Critics

“Electronic equipment (especially digital audio gear) is vulnerable to both annoying and catastrophic power-line problems. Your stereo gear should have line spike and surge protection, with hash filters thrown in too.”

—Ken Pohlman, *AUDIO*, November 1987.

“...the effective suppression of AC ‘RF hash’ by the ACE-515 improved clarity and lowered noise in all three CD players...the significant improvements in instrumental and vocal harmonic retrieval and hall ambience are superb...it simply appears to allow musical information to be passed through to the listener with less veil and electronic ‘haze.’”

—Lewis Lipnick, *Stereophile*, Vol. 11 No. 4, April 1988.

Recommended accessory in *Stereophile*, Vol. 12 No. 4, April 1989.

For a modest investment, the ADCOM ACE-515 enhances both audio and video clarity while protecting your equipment. Once again, ADCOM lives up to its reputation of offering superior performance at a reasonable cost. For complete technical data, please visit your Adcom dealer. You’ll discover the ACE-515 is more than an accessory.

It’s a necessity.

ADCOM[®]
details you can hear

PREAMPLIFIERS

MANUFACTURER	Model (RI) = Remote Included, (RO) = Remote Optional	Type: Tube-T Hybrid; H-Mono-M; Digital-D; Moving Coil Stage Only-MC; Phono Stage Only-P	Frequency Response, Hz to kHz, ±dB		THD, %	Maximum Output, V	Balanced Inputs = I, Balanced Outputs = O		High-Level Sensitivity, mV	Number of Tape & Processor Loops	Does Unit Invert Polarity?	MM Phono Sensitivity, mV, for 0.5 V Output at 1 kHz	MM Phono Overload, mV	MM Phono S.N. - db, "A" Wtd. re: 5 mV Moving Coil Input?	Price, \$	Notes		
			10-100	±0.5			Balanced	High-Level									MM Phono	MM Phono
SDUND-CRAFTSMEN	Pro-PT Two		10-100	±0.5	8	0.008									449.00	Tuner/preamp (see also "Tuners"); C-MDS switching; Preamp/EQ; bridging outputs. Bridging outputs. C-MDS switching. Tuner/preamp (see also "Tuners"); C-MDS switching; dynamic compansion.		
	DX4200		5-100	±0.25	10	0.01	150	2	2	No	2.5	200	200	80				
	DX4000		5-100	±0.25	10	0.01	90	4	10	No	Adj.	300	Adj.	97	90		Yes	749.00
	DX3000-17		10-100	±0.5	8	0.008	90	5	0	No	2.8	200	100	97				439.00
	Pro-PT 5R (RI)		10-100	±0.5	8	0.008	150	2	2	No	2.5	200	200	80			279.00	
			10-100	±0.5	8	0.008	150	2	2	No	2.5	200	200	80			599.00	
SDUND ENGINEERING	PFM-2 PFM-0	MC	1-50 +0,-0.5		17	0.01											1550.00	
			5-100 +0,-0.1		3	0.06											850.00	
SOUNDSTREAM	C-1(RI)		5-75		8.5	0.05											1495.00	
SDUNDWAVE FIDELITY	Symphony 1A		20-100	±3	9	0.01											795.00	
SPECTRAL AUDIO	DMC-10 Series Delta DMC-6 Series II		0-1M	±0.1	40	0.01	100	1		No	1.5	1.2V	Sel.	95	78	Yes	3495.00	
			0-1M	±0.1	40	0.01	100	1		No	1.5	1.2V	Sel.	95	76	Yes	2495.00	
SPECTRASCAN	LCA-10 MC		3-250	+0,-.3	15	0.05	100	2	0	No	1.0	150	Var.	85	78	Yes	1969.00	
STANTON	310B	P	20-20		15	0.05											280.00	
J. E. SUGDEN	C28 C128 SPX1A AV51C AV51P		20-20	+0,-0.7	15	0.002	215	3	0	No	2.0	200		72	65	Yes	650.00	
					13	0.003	Sel.	3	0	No	2.0	200		72	65	Yes	1690.00	
					15	0.001	Sel.	3	0	No	2.0	225		80	74	Yes	3250.00	
SUMD	Athena		1.5-500	+0,-1.5	20	0.001	No	300	2	0	No	0.37	160	100	85	80	Yes	729.00
SUPERPHDN	Revelation II G C.D. Maxx		2-175		5												799.00	
			2-200		3													399.00
TAND8ERG	TCA-3018A TCA-3038A		20-20	+0,-0.1	20	0.009	80	2	0	No	1	290	Sel.	78	74	Yes		
			20-20	+0,-0.5	6	0.04	70	2	3	No	0.5	70	100	78	75	70	Yes	
TECHNICS	SU-A200		0.05-180	+0,-.3	8	0.001	36	4	0		0.63	150		80	77	Yes	1199.00	
	SU-A6MK2		0.5-200	+0,-.3	8	0.002	36	3	4		0.63	150		80	77	Yes	799.00	
	SU-A40		0.8-150	+0,-0.1	8	0.009	75	3	2		1.25	150		79	74	Yes	329.00	
THETA DIGITAL	DS Pre	D	0-20	+0,-0.01	3.8	0.002											4000.00	
	DS Pre basic Analog Extension	D	0-20	+0,-0.01	3.8	0.004											2395.00	
			0-20	+0,-0.01	9	0.002	100	2	0	No							995.00	
THRESHOLD	FET ten/hi		1.5-125		20	0.01	200	2	0	No							2500.00	
	FET ten/pc	P	R1AA, ±0.25		20	0.01	200	2	0	No	5	100	Sel.	90	79	Yes	1650.00	
	FET nine		1.5-125		20	0.02	200	2	0	No	5	100	Sel.	85	74	Yes	1950.00	
VENDETTA RESEARCH	SCP 2A	MC	0.1-1M		3	0.01				Yes					90	Yes	2250.00	
VTL	Maximal De Luxe Super De Luxe Ultimate	T T/MC T															775.00	
																	1050.00	
																	2250.00	
	Manley Reference	T															3050.00	
																	5500.00	
WINGATE AUDIO	990(RI)		0.1-250	+0,-.3	20	0.05	100	2	0	No	1	400	100	100	80	Yes	1995.00	
	660		0.1-250	+0,-.3	20	0.05	100	2	0	No	1	400	100	100	80	Yes	1695.00	
YAMAHA	CX-10000 (RI)	D	15-100		3	0.003	150	2	†								7500.00	
	HX-10000	P	20-20	±0.2	5	0.001					2.5	120	Sel.	99	94	Yes	2500.00	
	CX-6000(RI)	D	20-20	+0,-0.2		0.002	150	1	3		0.83	180	Sel.	94	84	Yes	449.00	
	CX-2000(RI)	D	20-20	+0,-0.2		0.001	50	3	3	No	0.83	190	Sel.	95	91	Yes	1499.00	
	CX-1000(RI)	D	20-20	+0,-0.2		0.001	50	3	3	No	0.83	180	Sel.	95	91	Yes	1199.00	
	CX-800(RI)	D	20-20	+0,-0.2		0.001	50	3	3	Sel.	0.83	170	Sel.	95	90	Yes	699.00	
YBA	YBA1 Pre		5-400	±0.2	8	0.05	150	1	0	Sel.	2.0	2.2V	250	90	90	Yes	5500.00	
	YBA2 Pre		5-400	±0.2	8	0.05	150	1	0	No	2.0	2.2V	250	90	90	Yes	3000.00	
	YBA3 Pre		5-400	±0.2	8	0.05	150	1	0	No	2.0	280	250	83	84	Dpt.	1800.00	



NEW GRAPHITE™ SEPARATES.

DIVIDE AND CONQUER.

The new Phase Linear PLC2525 Separates System brings astounding applications flexibility to the road. Perfect sound. Precise stereo imaging. Plus the "Graphite Difference."

Two ferrofluid-filled polycarbonate 1/2" dome tweeters offer you three mounting options. You'll also find installation versatility with two U.S.-made 5 1/4" Graphite mid-woofers thin enough (1 13/16") for door, panel or deck placement. The compact crossovers feature internal, continuously variable tweeter-



level control and fuseless tweeter-protection circuitry.

With the "Graphite Difference" you'll enjoy a quicker, more accurate response than you could ever get from paper cones. There's less coloration and distortion — at all power levels. Just the true range of your music.

PLC2525 conquers the barriers to great sound. And that's a major musical victory for you.



GRAPHITE™

Making the best of sound technology.



©1989, Phase Linear,® a Division of International Jensen, Inc. Phase Linear® is a registered trademark of International Jensen, Inc.

Enter No. 74 on Reader Service Card

TUNERS

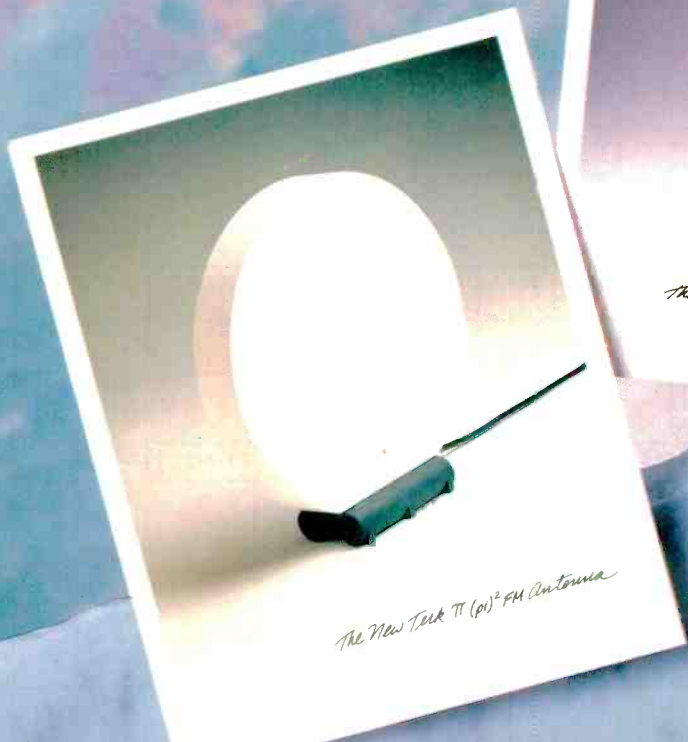
MANUFACTURER	Model (RO) = Remote Included, (R) = Remote Optional	FM Only = F	AM Stereo Capable?	Digitally Synthesized = D	HF (Usable) Sensitivity, dB _i	Signal Strength for 50 db Quieting, dB _i	Capture Ratio, dB, Mono/Stereo	AM Suppression, dB	Alternate Channel Selectivity, dB, Wide/Narrow	Total Number of Station Presets	Separation at 1 kHz, dB	THD at 1 kHz, % Mono/Stereo, 100% Modulation	THD at 6 kHz, % Mono/Stereo, 100% Modulation	Maximum S/N, - dB, Mono/Stereo	Weight, Lbs.	Price, \$
ACCPHASE	T-106 T-107	D F/D	No No	11/29 11/29	17/37 17/37	1.5/ 1.5/	80 80	70/100 70/100	12 12	50 50	0.04/0.08 0.04/0.08	0.04/0.08 0.04/0.08	83/79 90/85	28.6 21.6	2750.00 1800.00	
ADCOM	GFT-555II GTP-500II(RI) Tuner/Preamp GTP-400 Tuner/Preamp	D D D	No No No	11.2/ 12.2/ 12.5/	13.2/35.0 14/36 15/36.5	1.5 1.7 1.8	65 63 60	76 75 75	16 16 16	60 55 50	0.065/0.05 0.07/0.09 0.08/0.09	86/78 80/75 78/75	14 15 15	299.95 599.95 349.95		
AR	T-06 T-06R(RO)	D D	No No	11.2/ 11.2/	14.6/37.2 14.6/37.2	1.0 1.0	60 60	70 70	16 16	48 48	0.08/0.2 0.08/0.2	0.08/0.3	80/75 80/75	13.3 13.3	329.90 399.90	
ARAGON	4T2		No	10.8/	37.6	1.0	80	66	16	50	/0.09	/0.12	75	15	599.00	
ARCAM	Delta 80 Alpha 2		No No	14.2/ 14.2/		1.5 1.5	50 50	60 60	12 0	40 40	0.15/0.25 0.15/0.25		74/70 70/68	6.6 5.7	599.95 329.95	
ARISTON	Encore Tuner(RI)	F	No			1.3	67	60	8	45	0.1/0.15	0.15/0.2	80/75	6	379.00	
A + T	T-1000AC(RI)		No				62			70				15	1200.00	
AUDIO DESIGN ASSOCIATES	FM-600	F	No	8/14.5	13/34	1.4	55	80	6	47	0.15/0.2		74/69	12	2395.00	
AUDIO DYNAMICS	T-2000E(RO)	D	No	11.2/22	16.2/40	1.5	55	67	20	43	0.1/	0.2/0.3	75/70		349.00	
AUDIOLAB	8000T		No							39					699.00	
AUDIOSOURCE	TNR One	D	No	11.2/20.2	20.2/40.2	1.0	55	65	20	45	0.21/0.3		70/65	12 ³ / ₄	229.95	
A.V.A.	FET 3 FET 3 Plus Transcendence FET Valve	F/D F/D F/D F/D	No No No No	11.3/ 11.3/ 11.3/ 11.3/	17.2/37.2 17.2/37.2 17.2/37.2 17.2/37.2	1.5 1.5 1.5 1.5	60 60 60 60	80 80 80 80	5 5 5 5	45 48 52 55	0.1/0.17 0.09/0.12 0.07/0.1 0.05/0.08	72/68 75/71 79/74 83/78	10 10 11 16	525.00 625.00 825.00 1195.00		
CARVER	TX-12(RI) TX-11b TX-10 CT-17(RI) Tuner/Preamp	D D D D	No Yes No No	14.5/18.6 11.3/16.3 16.1/23.5 15.5/20.1		1.45 1.0 1.6 1.4	72 75 72 73	60 35/110 58 58	20 13 20 20	42 45 42 43	/0.02 /0.05 /0.2 /0.02	/76 /82 /74 /79	10 11 9 16	399.95 749.95 299.95 799.95		
CREEK	T40	F	No	10.0/17.0	9.0/32	0.4/3.0	50	30/100		35	0.2/0.3	0.3/0.4	80/70	4	475.00	
CYRUS	Cyrus(RI)	D	No	6/12	10/28	1.5	80	40		59	0.1/0.1	0.15/0.2	82/76	10	649.00	
DAY SEQUERRA	FM Broadcast Monitor FM Studio	F F											45 32	12,800. 3300.00		
DBX	TX-3MkII	D	No	9.4/	11.2/43.8	1.5	70	70	16	55	0.06/0.07	0.06/0.07	85/79	10 ¹ / ₂	599.00	
DENON	TU-800 TU-550 TU-460 TU-450	D D D D	No No No No	10.2/ 10.2/ 10.3/ 11.2/	15.3/37.2 15.3/37.7 15.3/38.5 15.9/38.5	1.2/ 1.2/ 1.5 1.5	70 50 50 50	50/80 50/80 50 60	30 20 30 16	60 45 45 40	0.02/0.04 0.08/0.15 0.08/0.15 0.08/0.15	96/88 84/78 82/78 80/76	8 ³ / ₄ 6 ³ / ₄ 6 ¹ / ₂ 6 ¹ / ₂	500.00 300.00 240.00 225.00		
DUAL	CT5040	D	No	11/17.2	16.5/36	2	55	65	40	45	0.05/0.15	0.05/0.15	70/	15	249.00	
GOLDMUND	Mimesis 4(RO)	F	No						6	60			75/70	22	4490.00	
GRUNDIG	T-9000 T-903	D D	No No	6.8/38.8 11.2/42.1	20/21 36.3/39.2	0.05/ 0.09		65/83 70	29 19		0.05/0.10 0.2/0.4		79/76 72/70		1199.95 449.95	
HAFLER	SE130 DH330 Iris(RO)	F/D F/D	No No	11.3/ 11.3/	15.3/36.5 15.3/36.5	1.5 1.5	60 60	5	45 45		0.1/0.18 0.1/0.18		72/68 72/68	9 9	425.00 450.00	

TUNERS TUNE MORE WITH THE TERK Pi²



T

TUNERS TUNE MORE...



The New Terk II (pi²) FM Antenna



The Terk Model 9300 FM Antenna



The Terk FM+ Antenna

RECEIVERS RECEIVE MORE

The breakthrough FM antenna designs from Terk Technologies reduce FM noise, improve signal strength, and increase the number and quality of FM stations that you receive.

Now Terk FM antennas feature even greater improvements. The new Reference Standard pi², featuring a Schotz low-noise amplifier, has an adjustable gain control and offers an unparalleled 33 dB of gain. pi² relies on the highly-acclaimed, patented Gamma Loop element for exceptional directional and omnidirectional reception, as well as superior multipath and noise rejection. Find out why Audic Magazine reviewer Len Feldman commented, "A truly amazing product."

Another outstanding innovation is the compact Terk FM+ antenna, based on the same Gamma Loop technology and offering the greatest signal improvements for the

least investment. You may also choose the Terk Classic Tower Model 9300 utilizing an adjustable gain that lets you correct for weak or strong stations.

Even today's high-performance receivers and tuners need extra help. Hear just how good your receiver or tuner can sound.

TERK

TERK Technologies New Rochelle, N.Y. 10801

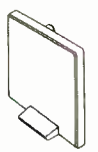
pi², FM+, and Gamma Loop are trademarks of Terk Technologies. U.S. Patent #4,801,944 and patents pending.

TUNERS

MANUFACTURER	Model (R) = Remote Included, (RO) = Remote Optional	FM Only = F, AM Stereo Capable?	IHF (Usable) Sensitivity, dB, Mono/Stereo	Signal Strength for 50-dB Quieting, dB, Mono/Stereo	Capture Ratio, dB, Mono/Stereo	AM Suppression, dB	Alternate Channel Selectivity, dB, Wide/Narrow	Total Number of Station Presets	Separation at 1 kHz, dB	THD at 1 kHz, % 100% Modulation	THD at 6 kHz, % 100% Modulation	Maximum S/N, -dB, Mono/Stereo	Weight, Lbs.	Price, \$	
															11.2/ 10.8/ 10.8/
HARMAN KARDON	TU909 TU911A TU920														
HARMAN KARDON CITATION	twenty-three	D	No	10.8/	/36.5	0.75/1.75	45	65/75	16	55	0.06/0.08	84/75	15	699.00	
JVC	FX555BK FX1100BK FX1010TN	D D D	No No No	10.8/ 10.3/ 10.3/	16.3/38.3 14.8/35.1 14.8/38.1	1.5 1.2/ 1.2/	60 65 65	60 25/75 25/75	40 40 40	40 60 60	0.09/0.12 0.009/ 0.009/	82/75 94/88 94/88	7.5 8.2 8.2	240.00 470.00 470.00	
KENWOOD	KT-990D KT-880D KT-88		No No No	10.8/ 10.8/ 10.8/	16.2/38.8 16.2/38.8 18.2/41.2	1.0/2.5 1.0/2.5 1.2	76 76 75	60/90 60/90 50	20 20 20	65 55 40	0.007/0.009 0.04/0.06 0.3/0.3	0.2/0.1 0.1/0.12 0.5/0.7	92/86 88/83 78/75	8 3/4 7 3/4 6 3/4	375.00 269.00 169.00
KINERGETICS RESEARCH	KBT-1	D	No	9.0/11.2	13.5/36.0	1.5/1.5	60	50/70	10	40	0.02/0.05	0.02/0.05	75/73	13 1/2	995.00
KLIMO	Ertanax (Tube Unit)										0.2/0.3		23	9500.00	
LUXMAN	T111 T117 TP117		No No No	10.8/ 8.8/ 10.8/	19/38 16/36 14.8/38	1.3 1.5/ 1.5	68 70 69	60 45/80 68	20 24 20	50 55 48	0.15/0.20 0.05/0.06 0.1/0.15	75/70 88/78 78/72	5.1 9.9 11.4	300.00 600.00 1250.00	
MADISON FIELDING	DT100II(RO)	F/D	No	10.2/11.2	13.2/34.0	1.5/1.5	60	50/83	8	60	0.10/0.20	0.10/0.22	75/73	10	1150.00
MAGNUM OYNALAB	FT-11 FT-101(RO) Etude(RO)	F F F	No No No	12.1/ 10.3/11.2 10.3/11.2	/35.3 13.2/34.0 13.2/34.0	1.5/1.5 1.5/1.5 1.5/1.5	70 70 70	50/ 55/75 70/80	3 0 0	50 60 60	0.13/0.30 0.10/0.18 0.10/0.18	70/ 75/ 80/	12 14 16	449.00 698.00 1200.00	
MARANTZ	ST54 ST35	D D	No No						24 24					420.00 300.00	
McINTOSH	MR7082			12.6/	17.6/37.2	1.5	60	55	7		0.08/0.08	0.08/0.08	80/75	15	1499.00
MERIDIAN	204(RO)	F	No		14.7/38.4	1.5	55	56	18	40	0.2/0.4		71/68	10 1/2	1090.00
NAD	4225 4300 1700(RI) Tuner Preamp	D D D	No No No	10.8/ 9.0/ 10.3/	14.4/37 12/34 13/35	1.5 1.5/2.5 1.5/2.5	65 70 65	65 80/100 80/90	14 16 14	45 50 50	0.09/0.09 0.07/0.07 0.08/0.08	0.2/0.30 0.15/0.35 0.20/0.30	80/75 85/80 80/75	3.2 10.4 14.5	249.00 499.00 799.00
NAIM AUDIO	NAT 01 NAT 02	F F	No No						0 0				24 12	2995.00 1675.00	
NAKAMICHI	ST-7 (w/Schotz NR)	D		10.0/17.0	14/28	1.9	60	60	16	55	0.06/0.08		80/76	10 3/8	795.00
NIKKO	G-400 T-400	D D	No No	9.2/ 9.2/	13.5/38.2 13.5/38.2	1.0/2.0 1.0/2.0	70 70	40/80 40/80	10 10	65 65	0.03/0.05 0.03/0.05		86/79 86/79	9 1/4 9 1/4	439.95 419.95
ONIX AUDIO	BWD1	F	No	7.5/	9.1/32.3	0.5/2.9	65	30/100		70	0.03/0.04	0.03/0.1	90/91	6	885.00
ONKYO	T-4000 Integra T-4500 Integra T-4087 Integra T-4700(RI) Integra T-9090MKII (RI) Grand Integra T-G10(RI)	D D D D D F F	No No No No No No No	11.2/17.2 10.3/17.2 10.3/17.2 10.3/17.2 10.3/17.2 10.3/17.2 10.3/17.2	16.1/36.1 16.1/36.1 16.0/36.0 16.0/36.0 15.8/37.2 15.8/37.2	1.5 1.3 1.0 1.0 1.0 1.0	65 65 80 40 60 60	55 40 20 40 95 95	20 40 20 40 20 20	40 40 45 40 55 55	0.1/0.2 0.1/0.2 0.03/0.07 0.03/0.07 0.009/0.02 0.009/0.02		73/66 78/73 85/77 85/77 95/85 95/85	5.7 8.8 9.5 9.5 18.7 19.6	200.00 320.00 420.00 450.00 750.00 850.00
PARASOUND	T/DQ260	D	No	10.8/	16.1/37.7	1.2	65	66	16	50	0.05/0.1	0.07/0.12	82/76	12	285.00
PHILIPS	FT-50(RO)	D	No	12.1/		1.3/	60	35/75	24	50	0.05/0.1		86/78	8	259.00

Place Tuners/Recrvis tab here

TUNERS TUNE MORE WITH THE TERK FM+



Adcom announces the cure for the common receiver.



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

Why Separates?

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

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

More Sound—Less Money

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

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

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

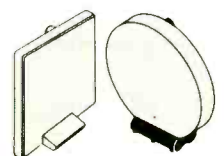
**Power output, watts/channel, continuous both channels driven into 8 ohms, 20 Hz - 20 kHz < 0.09% THD.*

ADCOM[®]
details you can hear

TUNERS

MANUFACTURER	Model (R) = Remote Included, (RO) = Remote Optional	FM Only = F	Digitally Synthesized = D	AM Stereo Capable?	IHF (Usable) Sensitivity, dBt, Mono/Stereo	Signal Strength for 50 dB Quieting, dBt	Capture Ratio, dB, Mono/Stereo	AM Suppression, dB	Alternate Channel Selectivity, dB, Wide/Narrow	Total Number of Station Presets	Separation at 1 kHz, dB	THD at 1 kHz, % 100% Modulation	THD at 6 kHz, % 100% Modulation	Maximum S/N, -dB, Mono/Stereo	Weight, Lbs.	Price, \$
PIONEER	F-656 F-445 F-91	D F D	No No No													
PROTON	AT-670(RI) 440 AT-300 AT-200	D D D D	No No No No													
PSE	Studio III	F	No		17/40	1	70			6	55	0.1/0.2		75/70	9	795.00
QED	T260	F	No		10/29	1.5	60	53	4	40	0.15/0.15			76/70	9	650.00
QUAD	FM4	F	No		10/29	1.5	60	53	7		0.15/0.15	0.15/0.15		76/70	6.6	695.00
REVOX	B260-S(RO) B160(RO)	F F	No No	10.8/ 10.8/	13.2/34.8 13.2/34.8					50/100 50/100	60/30 43/43	/0.07 /0.07		/80 /80	15 1/2 15 1/2	2500.00 990.00
ROTEL	RT83DA RT85DA RT87D RTC850(RI) Tuner/Preamp	D D D D	No No No No	10.8/ 10.8/ 10.8/ 10.8/	16/39.4 15.2/37.2 14.8/37.2 15.2/37.2	1.5 1.0 /1.0 1.0	55 57 58 57	60 70 60/80 70	0 16 16 16	40 45 48 45	0.08/ 0.07/0.25 0.05/0.1 0.07/0.25		80/73 80/75 80/75 80/75	6.8 8.5 9 12	199.00 299.00 399.00 499.00	
SAE	T102	D	No	10.3/17.0	14.0/34.0	1.5/	55	30/80	16	45	0.10/0.15	0.15/0.20		75/70	17	349.00
SANSUI	Vintage TU-X711 Vintage TU-X701 Vintage TU-X501 Vintage TU-X301i T-1000 T-900SW	D D D D D D	No No No No No No	10.8/ 10.8/ 10.8/ 10.8/ 10.8/ 10.8/	16.2/37 16.2/37 16.0/36.0 16.0/38.0 16.5/37 17.0/37	1.0/ 1.0/ 1.0/ 1.0 1.0 1.0	65 65 65 60 45 60	60/75 60/75 55/75 60 55	30 30 30 30 16 40	60 60 50 40 40	0.009/0.02 0.009/0.02 0.05/0.06 0.08/0.12 0.15/0.2 0.15/0.2		98/91 98/91 86/80 79/73 75/ 75/	11 1/4 11 1/4 7 3/4 6 1/4 6 5 1/2	625.00 550.00 350.00 250.00 145.00 175.00	
SHERWOOD	TD-7010R(RO) TD-1120	D D	No No	9.8/ 11.2/	17.2/36.1 19.2/39.2	1.5 2.0	55 50	70 60	30 24	50 45	0.15/0.25 0.2/0.4	0.15/0.25 0.2/0.4	80/75 75/68	7 5/8 6 5/8	199.95 149.95	
SONY ES	ST-S730ES	D	No	10.3/	16.8/37.9	1.0/	65	70/65	20	70	0.004/0.075			100/92	12 1/2	550.00
SOUNDCRAFTSMEN	Pro-Tuner Four Pro-PT Two Tuner/Preamp Pro-PT 5R(RI) Tuner/Preamp	D	No	9.5/ 10.3/ 10.3/	12/36 12/36 12/36	1.0 1.2 1.2	65 65 65	80 80 80	16 32 32	52 52 52	0.04/0.08 0.04/0.08 0.04/0.08		85/75 85/75 85/75	12 14 14	379.00 449.00 599.00	
SOUNDSTREAM	T-1(RO)	D	No	11.2/17.2	14.7/31.2	1.5	60	65	16	50	0.1/0.1	0.12/0.1		81/79	17	795.00
J. E. SUGDEN	DTFM	F	No			2.5/3.0	50	60/90	5	40				12	695.00	
SUMD	Aurora	D	No	11/17	16/34	1.0/1.0	60	75/100	8	50	0.04/0.05	0.05/0.08		85/82	10	729.00
TANDBERG	TPT-3001A TPT-3031A	F F/D	No No	9.3/32.1	14.7/37.3 17.3/37.3	0.4/3 0.9	70 70	/90 100	8 16	60 45	0.03/0.04 0.09/0.2	0.03/0.1	95/92 75/75	15.3 10.7		
TECHNICS	ST-G70 ST-G460	D D	No No	10.8/	18.1/38.1 18.1/38.1	1.0/ 1.0	55 55	30/55 65	39 39	60 50	0.015/0.02 0.05/0.1		/73 80/73	7.7 4.9	379.00 239.00	
YAMAHA	TX-2000(RI) TX-1000U(RI) TX-900U TX-530 TX-330 YST T-90M	D D D D D D	No No No No No No	9.3 9.3 9.3 9.3 9.3 9.3/	15.3/37.2 15.3/37.2 15.1/37.7 15.1/37.7 15.3/37.7 15.3/37.7	1.2 1.2 1.2 1.2 1.5	70 70 70 55 55 55	90 90 90 85 85 85	24 24 20 20 16 16	68 68 60 50 40 40	0.02/0.03 0.02/0.03 0.02/0.03 0.05/0.07 0.1/0.2 /0.2		98/90 98/90 96/90 82/76 82/76 82/76	13 1/2 13 1/2 7 1/4 6 1/8 4 1/8 5 1/2	749.00 549.00 399.00 329.00 249.00 250.00	

TERK ANTENNAS ARE AVAILABLE AT ALL BETTER AUDIO DEALERS.





DON'T BUY ONE OF THESE UNTIL YOU TAKE A HEARING TEST.

Warning: If you read this ad you'll wind up at your Sherwood dealer.

Why? Well, it won't be the fact that our current line of home components is the finest we've ever built. Or because our engineers didn't cut corners to assure excellent, long lasting performance. Or because you'll have enough jacks to handle an entire home entertainment center.

No, the reason you'll see your Sherwood dealer is to listen to these components for yourself. Because putting our sensibly priced components to the test is a heck of a lot more important than anything you'll find in an ad.

If you think they sound good now, wait until you hear them.

 **Sherwood**
LIVE PERFORMANCE SOUND™

RECEIVERS

MANUFACTURER	Model (RI) = Remote Included (RO) = Remote Optional	FM Only, F. Digitally Synthesized = D. AM Stereo Capable = A	AMPLIFIER SECTION												TUNER SECTION							
			Average Watts per Channel	THD, %	Headphone Jack? Jack with Level Control = LC	Rated Full-Power Bandwidth, Hz to kHz	MM Phone S.R. - dB, "X" Ind. re. 5 mV	MM Phone Overload, mV	Dynamic Headroom, dB	Video Inputs?	Surround/Depty/Ambience Circuits?	Total Number of Station Presets	Mono IFR (Usable) Sensitivity, dBμ	Signal Strength for Mono/Stereo	Capture Ratio, dB	Trip at 1 kHz, % Mono/Stereo, 100% Modulation	Alternate Channel Selectivity, dB	Maximum S.F., -dB, Mono/Stereo	Separation at 1 kHz, dB	Weight, Lbs.	Price, \$	
A/D/S/	R4(RI)		65/	0.07	Yes	20-20	70	150	1.5	Yes	No	30	11	27/40	2	0.1/0.15	65	70/65	47	23	1000.00	
AR	X-07		70/95	0.03/0.05	Yes	10-150		160	2.5	Yes	No	16	11.2		1.5		70	78/70	40	25.1	769.90	
	X-05		40/	0.04	Yes			180	2	Yes	No	16	11.2	17.2/37.2	1.5		65	72/70	40	18.1	499.90	
A + T	R2000AC(RI)		120/190	0.004	Yes					No	No								70	50	3200.00	
BANG & OLUFSEN	Beomaster 5500	D	50/	0.09	Yes	20-20	78	110	1.5	No	No	20	14	19/40	1.7	0.16/0.2	70	75/70	45	19.2	2150.00	
	Beomaster 4500	D	20/	0.09	Yes	20-20			1.6	No	No	20	14	19/40	1.7	0.3/0.3	70	75/70	40	15.4	1098.00	
	Beomaster 3300	D	25/	0.1	Yes	20-20	75	50	1.6	No	No	5	16	23/43	1.7	0.3/0.35	60	72/67	36	15.4	880.00	
CARRERA	CR-2300		25/30	0.5	LC	40-20	70	130	1.75	No	No			17.2	25.5/41.5	2.0	0.3/0.5	50	72/65	42	12½	149.95
	CR-2530	D	30/33	0.25	LC	20-20	75	150	2.0	No	No	16	12.5	17.2/38.7	1.75	0.2/0.4	58	72/68	42	13	199.95	
CARVER	HR-722(RI)	D	60/	0.05	Yes	20-20	85	100	3.3	No	No	20	10.3	15.3/37.1	1.5	0.09/0.2	52	78	46	35	549.95	
	HR-752(RI)	D	100/	0.05	Yes	20-20	85	100	4.7	No	Yes	20	10.3	15.3/37.1	1.5	0.09/0.2	52	78	46	35	649.95	
DENON	DRA-1025R(RI)	D	125/	0.015	Yes	5-40	92	150		Yes	No	16	10.3	14.8/37.3	1.3	0.06/0.09	75	86/82	55	26½	950.00	
	DRA-825R(RI)	D	90/	0.015	Yes	5-40	92	150		Yes	No	16	10.3	14.8/37.3	1.3	0.06/0.09	75	86/82	55	23	800.00	
	DRA-625R(RI)	D	65/	0.05	Yes	5-40	86	110		No	No	16	10.3	15.3/38.5	1.3	0.08/0.15	55	82/78	40	17¼	550.00	
	DRA-425R(RI)	D	50/	0.05	Yes	5-40	86	110		No	No	16	10.3	15.3/38.5	1.3	0.1/0.2	55	82/78	40	16½	450.00	
	DRA-325R(RI)	D	40/	0.05	Yes	10-40	86	150		No	No	16	10.3	15.3/38.5	1.3	0.08/0.15	55	82/78	40	12¼	350.00	
	DRA-25	D	30/	0.05	Yes	10-40	78	150		No	No	16	10.3	15.3/38.5	1.5	0.1/0.2	55	82/78	40	12	300.00	
DUAL	CR5900	D	40/60	0.02	Yes	10-60	70	150	1.5	Yes	No	16	11.0	14/30	1.5	0.05/1.0	80	75/70	40	16½	449.00	
	CR5950RC(RI)	D	70/85	0.02	Yes	10-70	75	150	1.5	Yes	No	16	10.5	13/30	1.0	0.05/1.0	80	77/72	40	22	749.00	
ELECTRO-COMPANET	AV-100(RI)		100/175	0.2	No					Yes												
FISHER	RS-Z1(RI)	D	150/150	0.007	Yes	20-20	82	160	2.0	No	No	24	10.3	16.1/40	1.3	0.05/0.1	80	85/80	50	46.2	1199.95	
	RS-627(RI)	D	100/	0.05	Yes	20-20	65	150	1.5	No	No	24	14.7	19.2/42.1	1.5	0.3/0.4	55	70/65	45	20	369.95	
	RS-615(RI)	D	60/	0.09	Yes	20-20	65	150	1.5	No	No	24	14.7	19.2/42.1	1.5	0.3/0.4	55	70/65	35	15	249.95	
	RS-605	D	40/	0.09	Yes	20-20	65	150	1.5	No	No	24	14.7	19.2/42.1	1.5	0.3/0.4	55	70/65	35	12.8	169.95	
HARMAN KARDON	hk330Vi	D	25/	0.09	Yes	20-20	78	100	1.4	No	No	18	11.2	/38.2	1.5	0.1/0.12	70	80/72	45	12½	299.00	
	hk440Vxi	D	30/	0.09	Yes	20-20	78	100	1.75	No	No	18	11.2	/37	1.0	0.07/0.12	70	82/74	50	13.9	399.00	
	hk550Vxi	D	45/	0.09	Yes	20-20	78	100	1.9	No	No	18	11.2	/37	1.0	0.07/0.12	70	82/74	50	15.4	499.00	
	hk880Vxi(RI)	D	60/	0.08	Yes	20-20	78	120	2.2	Yes	No	18	10.8	/36	1.0	0.07/0.12	70	82/74	50	22	799.00	
	hk990Vxi(RI)	D	90/	0.08	Yes	20-20	78	120	2.2	Yes	No	18	10.8	/36	1.0	0.07/0.12	70	82/74	50	28	1099.00	
JVC	RX3018K(RI)	D	40/	0.03	LC	40-20	78			No	Yes	40	10.8	16.3/38.3	1.5	0.15/0.2	60	80/73	40	12.1	270.00	
	RX4018K(RI)	D	50/	0.03	LC	20-20	78			No	Yes	40	10.8	16.3/38.3	1.5	0.15/0.2	60	80/73	40	12.6	380.00	
	RX5018K(RI)	D	65/	0.015	LC	20-20	78			No	Yes	40	10.8	16.3/38.3	1.5	0.15/0.2	60	80/73	40	15	430.00	
	RX701VBK(RI)	D	80/	0.007	LC	20-20	78			2	Yes	40	10.8	16.3/38.3	1.5	0.15/0.2	60	81/73	40	24.1	540.00	
	RX801VBK(RI)	D	100/	0.007	LC	20-20	78			2	Yes	40	10.8	16.3/38.3	1.5	0.15/0.2	60	81/73	40	24.3	630.00	
	RX901VBK(RI)	D	100/	0.007	LC	20-20	80			3	Yes	40	10.8	16.3/38.3	1.5	0.15/0.2	65	81/73	40		950.00	
	RX1010VTN(RI)	D	120/	0.007	LC	20-20	80			3	Yes	40	10.8	16.3/38.3	1.5	0.15/0.2	65	81/73	40		1500.00	
	KENWOOD	KR-V9010(RI)		130/	0.008	Yes		82			4	Yes	20	10.8	14.2/37.2	1.0	0.07/0.1	55	80/74	50	32¾	850.00
KR-V8010(RI)			100/	0.008	Yes		82			3	Yes	20	10.8	14.2/37.2	1.0	0.07/0.1	55	80/74	50	27½	650.00	
KR-V7010(RI)			80/	0.008	Yes		73			3	Yes	20	10.8	14.2/37.2	1.2	0.2/0.3	53	78/72	50	18	499.00	
KR-V6010(RI)			70/	0.09	Yes		70			2	Yes	20	11.2	18.2/41.2	1.2	0.2/0.3	53	78/72	40	16	399.00	
KR-A5010(RI)			60/	0.5	Yes		70			2	Yes	20	11.2	18.2/41.2	1.2	0.2/0.3	53	78/72	40	13	299.00	
KR-A4010			45/	0.5	Yes		70			2	Yes	20	11.2	18.2/41.2	1.2	0.2/0.3	53	78/72	40	11¾	249.00	
LUXMAN	R113	D	35/	0.08	Yes	20-20	88	150	1.5	No	No	20	10.8	14/38	1.5	0.1/0.18	60	80/74	45	13.4	480.00	
	R115	D	70/	0.03	Yes	20-20	88	150	3.0	Yes	No	20	10.3	13.2/36.6	1.5	0.08/0.11	50	80/75	50	25.5	850.00	
	R117	D	160/	0.03	Yes	20-20	88	150	4.4	Yes	No	20	10.3	13.2/36.6	1.5	0.08/0.11	50	80/75	50	35.2	1200.00	
MARANTZ	RS2252CB(RI)	D	25/	0.05		20-20	64					12	13.2		2						199.95	
	RS2253CB(RI)	D	50/	0.05		20-20	64					12	11.2		2						249.95	
	SR3600(RI)	D	120x2 or 45x4		Yes					Yes	Yes											849.00
	SR3500(RI)	D	110/		Yes					Yes	Yes											749.00
(Continued)	SR3300(RI)	D	60/		Yes					Yes	Yes	32										429.00
	SR560	D	45/	0.3	Yes	40-20				Yes	No	16										249.00
	TA100(RI)	D	100/		Yes					Yes	No	16										499.95

RECEIVERS RECEIVE MORE WITH THE TERK Pi²



The most affordable way to add 100,000 square feet without a building permit.



You're looking at the biggest home improvement you can make without lifting a hammer.

Yamaha's new DSP-100.

One of the few additions that can make a man's home actually sound like his castle.

Recreating sonic depth and realism, that up to now, could only be experienced by attending concerts or screenings in the world's finest music halls and movie theaters.

The very same acoustic sampling that made the legendary Yamaha DSP-3000 legendary.

An important point, especially when you consider you can bring



With Yamaha's 30-key wireless remote you've got the best listening environments the world has to offer, right in the palm of your hand.

home the new DSP-100 for less than half the price.

It features soundfields from 20 actual performing spaces — including famous concert halls, jazz clubs, movie theaters — there's even a setting for Dolby® Surround.

And like our top-of-the-line DSP-3000, the DSP-100 lets you adjust main and presence speaker levels with a single master volume control.

There's even a built-in test tone generator that helps you balance speaker levels manually or by remote control.

As well as superimposition — a remarkably useful feature that displays on your video screen all the settings and all the changes you make to each particular soundfield.

Stop by your local Yamaha home improvement center for a demonstration of the remarkable DSP-100 today.

And discover how to put on a 100,000 square foot room addition.

Without winding up in the poor house.

YAMAHA®



The DSP-100 features the acoustic blueprints of 20 of the world's finest clubs, concert halls and theaters. All of which you can add to your home for a song.



RX-1130 RECEIVER

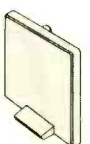
- 125 watts per channel into 8 ohms from 20-20,000 Hz at no more than 0.015% THD
- Low impedance drive capability provides 360 watts per channel into 2 ohms dynamic power
- Additional amplifier section for two rear channels with rear channel level control
- Five digital Surround Sound modes (Dolby,* Natural, Hall, Simulated Stereo, Live)
- Computer Servo Lock tuning
- MM/MC Phono Selector
- Banana plug compatible speaker connection terminals
- 24-segment signal quality meter
- Continuously variable loudness control
- Learning-capable multi-function remote control
- Eight audio inputs, three video inputs
- Four audio outputs, three video outputs
- S-VHS compatible
- Separate front and rear pre-main coupling terminals
- Eight-mode REC OUT selector
- Continuously variable delay time control
- CD Direct switch
- Motor-driven volume control with LED indicator
- Sleep timer
- Center defeat bass/mid-range/treble tone controls
- 16-station random access preset tuning with multi-status memory
- Absolute Linear Amplification (ALA) circuitry
- Preset indicators with preset number and station frequency
- Front panel headphone jack
- Tone bypass switch
- High-gain AM loop antenna
- Manual or auto IF Mode selector (wide or narrow)
- Auto search tuning
- Manual up/down tuning

If any of these features compromised its sound, this is the first thing we'd remove: **YAMAHA®**

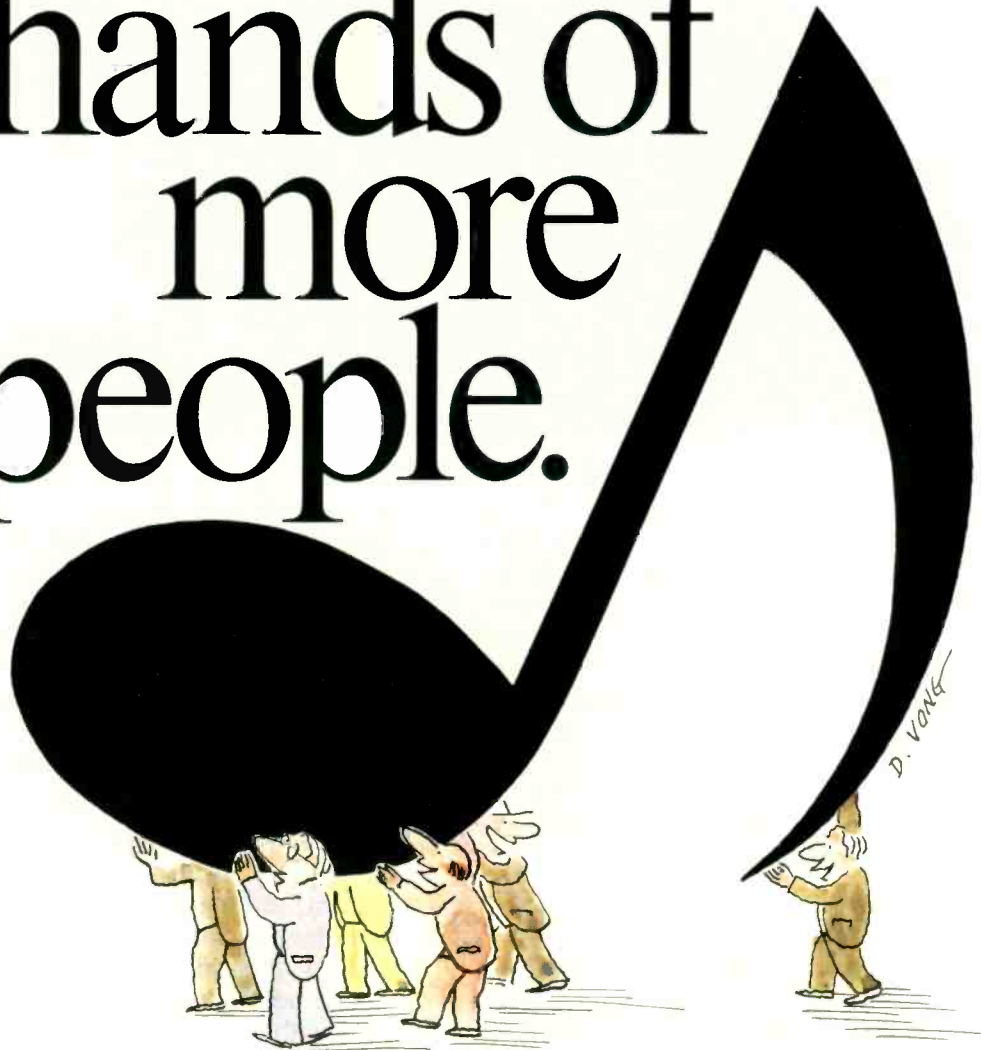
RECEIVERS

MANUFACTURER	Model (RI) = Remote Included, (RD) = Remote Optional	FM Only = F, Digitally Synthesized = D, AM Stereo Capable = A	AMPLIFIER SECTION										TUNER SECTION											
			Average Watts per Channel, 8 Ohms @ 1 Ohm	THD, %	Headphone Jack	Headphone Jack with Level Control = LC	Rated Full-Power Bandwidth, Hz to KHz	MM Phono S/N, dB, *A Wtd. re 5 mV	MM Phono Overload, mV	Dynamic Headroom, dB	Video Inputs?	Stereo Delay/Ambience Circuits?	Total Number of Station Presets	Mono IHF (Usable) Sensitivity, dB	Signal Strength for 50-dB Distortion, dB	Capture Ratio, dB	Trip at 1 Mhz, % Mono Stereo, 100% Modulation	Alternate Channel Sensitivity, dB	Maximum S/N - dB, Mono Stereo	Separation at 1 KHz, dB	Weight, Lbs.	Price, \$		
MARANTZ (Continued)	RS3559(RI)	D	125x2, 10x2, 20x1																					1000.00
	RS3557	D	100x2, 10x2, 50x2, 10x2																					700.00
	RS3555	D																						500.00
McINTOSH	MAC4300(RI)		100/100	0.02	Yes	20-20	77	90				6	12.6	17.2/31.2	1.5	0.08/0.08	55	75/70	50	34 1/2				1499.00
	MAC4280(RI)		75/100	0.03	Yes	20-20	87	80				5	10.8	15.3/26.8	1.5	0.1/0.1	60	80/75	45	25			1995.00	
	MAC4275		75/100	0.03	Yes	20-20	87	80				5	10.8	15.3/26.8	1.5	0.1/0.1	60	80/75	45	25			1795.00	
MITSUBISHI	M-AV1(RI)	D	125/	0.05	LC	20-20	72					16	10.8	16.2/37.2	1.0	0.06/0.2	60	80/75	50	27			1000.00	
	M-AV2(RI)	D	80/	0.05	LC	20-20	72					16	10.8	16.2/37.2	1.0	0.06/0.2	60	80/75	50	22			800.00	
	M-AV3(RI)	D	80/	0.05	LC	20-20	72					16	10.8	16.2/37.2	1.0	0.06/0.2	60	80/75	50	21			500.00	
NAD	7020e	D	20/	0.03	Yes	20-20	75	200	2.5	Yes	No	10	10.8	14.4/37	1.5	0.1/0.1	58	80/74	45	12			279.00	
	7225PE	D	25/	0.03	Yes	20-20	76	200	4.4	Yes	No	10	10.8	14.4/37	1.5	0.1/0.1	58	80/74	45	12.1			329.00	
	7240PE	D	40/	0.03	Yes	20-20	76	180	6.0	Yes	No	10	10.3	14.2/36	1.5	0.09/0.09	65	80/75	50	16.5			499.00	
	7100(RI)	D	50/	0.03	Yes	20-20	75	180	6.0	Yes	No	14	11	13.9/35.6	1.6	0.1/0.1	70	84/77	50	24.5			749.00	
	7400(RI)	D	100/	0.03	Yes	20-20	76	180	5.7	Yes	No	14	10.3	13.1/35	1.5	0.08/0.08	75	84/78	50	26			999.00	
	7600(RI)	D	150/	0.03	Yes	20-20	80	200	4.0	Yes	No	14	9	12/34	1.5	0.07/0.07	80	85/80	55	34			1599.00	
NAKAMICHI	TA-4A(RI)	D	100/	0.1	Yes	5-60	78	180		Yes	No	10	11.0	14.7/37.5	2.0	0.07/0.07	65	82/75	50	33			1295.00	
	TA-3A(RI)	D	75/	0.1	Yes	5-60	78	180		Yes	No	10	11.0	14.7/37.5	2.0	0.07/0.07	55	79/74	50	24 1/4			895.00	
	TA-2A(RI)	D	50/	0.1	Yes	5-50	78	180		No	No	10	12.0	15.7/38.5	2.0	0.1/0.1	55	79/74	50	19			595.00	
	TA-1A	D	35/	0.1	Yes	10-40	78	150		No	No	10	12.0	15.7/38.5	2.0	0.15/0.2	55	79/74	45	13 1/4			349.00	
NIKKO	R-400	D	40/50	0.01	Yes	10-100	87	100	2.43	Yes	No	10	11.2	17.2/37.2	2.0	0.15/0.3	76	80/73	46	32			349.95	
	R-550	D	55/62	0.01	Yes	10-100	88	100	1.45	Yes	No	10	11.2	17.2/37.2	2.0	0.15/0.25	76	80/73	51	32			499.95	
ONKYO	TX-800	D	40/45	0.03	Yes	40-20	85	120		No	No	20	12.4	18.2/38.2	1.5	0.15/0.3	50	70/65	40	12.6			240.00	
	TX-820(RI)	D	45/50	0.03	Yes	40-20	85	120		No	No	20	12.4	18.2/38.2	1.5	0.15/0.3	50	70/65	40	14.8			320.00	
	TX-840(RI)	D	70/90	0.08	Yes	20-20	85	120		Yes	Yes	20	11.2	17.2/37.2	1.5	0.15/0.3	50	73/67	45	18.1			380.00	
	TX-840M (w/Universal Remote)																						430.00	
	TX-860(RI)	D	80/	0.04	Yes	20-20	85	120		Yes	Yes	20	10.8	17.2/37.2	1.5	0.15/0.25	50	73/67	45	19.4			500.00	
	TX-860M (w/Universal Remote)																							550.00
	Integra TX-870(RI)	D	105/	0.025	Yes	20-20	93	150		Yes	Yes	20	10.8	17.2/37.2	1.5	0.1/0.2	65	73/67	45	29.1			680.00	
	Integra TX-870M (w/Universal Remote)																							740.00
	Integra TX-890(RI)	D	125/	0.02	Yes	20-20	93	150		Yes	Yes	20	10.8	17.2/37.2	1.3	0.1/0.18	65	76/70	45	32.6			820.00	
	Integra TX-890M (w/Universal Remote)																							880.00
TX-SV7M(RI)	D	100/	0.04	Yes	20-20	85	120		Yes	Yes	36	11.2	17.2/37.2	1.5	0.15/0.25	55	73/67	45	31.3			1050.00		
TX-SV90PRO (RI)	D	110/	0.04	Yes	20-20	80	120		Yes	Yes	30	11.2	17.2/37.2	1.5	0.1/0.2	65	76/70	45				1200.00		
PARASOUND	R/HD-600	D	60/80	0.09	Yes	20-20	78	220	1.5	Yes	Yes	16	10.8	15.3/37.7	1.2	0.5/0.1	66	78/72	50	25			440.00	
	R/HD-300	D	30/45	0.09	Yes	20-20	78	220	1.5	Yes	Yes	12	10.8	15.3/37.7	1.2	0.5/0.1	66	78/72	50	18			330.00	
PHILIPS	FR-980	D	125/200	0.01	Yes	20-20	80			Yes	Yes	19	13.5	16.4/37.3		0.1/0.2	65	75/70	50	35			1099.00	
	FR-880	O	75/125	0.01	Yes	20-20	80			Yes	Yes	19	13.5	16.4/37.3		0.1/0.2	65	75/70	50	25			649.00	
	FR-780	O	70/	0.05	Yes	20-20	75			Yes	No	19	13.5	16.4/37.3		0.2/0.4	65	75/70	50	21			549.00	
PIONEER	VSX-9500S		125/	0.005	Yes	20-20	82	150		Yes	Yes	30	10.8	15.3/37	1.0	0.08/0.15	65	80/75	50	30 1/4			1050.00	
	VSX-7500S		125/	0.005	Yes	20-20	82	150		Yes	Yes	30	10.8	15.3/37	1.0	0.08/0.15	65	80/75	50	28 1/2			900.00	
	VSX-5500(RI)		100/	0.005	Yes	20-20	82	130		Yes	Yes	30	10.8	15.3/37.1	1.0	0.08/0.15	65	80/76	48	22 1/8			710.00	
	VSX-5400		100/	0.005	Yes	20-20	82	130		Yes	Yes	30	10.8	15.3/37.1	1.0	0.08/0.15	65	80/76	48	22 1/8			650.00	
	VSX-4500S(RI)		100/	0.008	Yes	20-20	73	130		Yes	Yes	30	10.8	15.3/37	1.0	0.2/0.3	55	80/75	40	21			610.00	
	VSX-4400		100/	0.008	Yes	20-20	73	130		Yes	Yes	30	10.8	15.3/37	1.0	0.2/0.3	55	80/75	40	21			560.00	
	VSX-3300S(RI)		80/	0.05	Yes	20-20	73	130		Yes	Yes	24	10.8	15.3/37.1	1.2	0.2/0.3	55	80/76	35	18			445.00	
	VSX-3300		80/	0.05	Yes	20-20	73	130		Yes	Yes	24	10.8	15.3/37.1	1.2	0.2/0.3	55	80/76	35	18			395.00	
	SX-2300		60/	0.07	Yes	20-20	72	130		No	Yes	24	10.8	15.3/37.1	1.2	0.2/0.3	55	78/75	35	15 3/4			250.00	
	SX-1300		40/	0.07	Yes	20-20	72	130	2.1	No	No	24	10.8	15.3/37.1	1.2	0.2/0.3	55	78/75	35	13 1/8			210.00	
	PROTON	AV-646(RI)	D	60/	0.5	LC	10-50	85	150	6	Yes	No	27	10.3	15.3/34.8	1.0	0.2/0.3	50	83/74	45	29.8			900.00
D-940		D	40/	0.1	LC	10-60	92	250	6	Yes	No	16	10.3	15.3/33.2	1.5	0.1/		83/74	45	18.7			489.00	
AV-300		D	30/	0.5	LC	10-50	90	165	6	Yes	No	10	10.3	15.3/37.2	1.5	0.2/		83/74	45	15.4			459.00	
REVOX	B285(RD)	D	70/90	0.03		20-20	80	150	3	No	No	29	12.8	15.2/36.8	2	0.15/0.3		84/80	43	33 1/2			2995.00	

R RECEIVERS RECEIVE MORE WITH THE TERK FM+



Announcing a
new movement
to put more
power into the
hands of
more
people.



The A GTP-400 Tu The sound o



Adcom brings the superior performance of its separates (amplifiers, preamps and tuners) into a price range previously associated with ordinary receivers with the introduction of the new GTP-400 Tuner/Preamplifier. By combining the GTP-400 with one of Adcom's power amplifiers, you can now afford the clear sound, powerful dynamics and exceptional performance for which Adcom has been called "legendary" by the critics. The GTP-400 will put more power into your hands than you ever thought possible...and its sound is truly revolutionary.

Why Separates Instead of a Receiver

Because receivers have limited space, they cannot be equipped with the heavy duty, high-current, high-voltage power supplies available in

the best separate components. And if a receiver was so equipped, it would generate unacceptable levels of heat and hum, inevitably degrading all performance parameters.

Consequently, the overall performance of receivers is always compromised for the seeming advantage of all-in-one convenience and affordability.

The Tuner/Preamp Advantage

The GTP-400 Tuner/Preamplifier eliminates all such compromises. By dividing the tuner/preamplifier from the power amplifier, low-current, low-voltage elements are totally isolated from high-current, high-voltage elements ensuring sonic quality and superior performance.

And because the GTP-400 is designed to be used with any of Adcom's power amplifiers, you

adcom ner/Preamp: f a revolution.



have the advantage of choosing the right amount of power for your needs. If 60 watts per channel will drive your speakers to the level you want, consider our least expensive amplifier, the GFA-535. If you need more power, consider the 100 watt GFA-545 or Adcom's legendary 200 watt GFA-555. For the truly power hungry, the GTP-400 will drive two GFA-555's each bridged in mono, for an awesome 600 watts per channel.

Affordable High-Performance

Designers and engineers usually use Class "A" audio circuits in components where price is no object. Demanded by those who can distinguish outstanding sonic performance from merely average, Class "A" circuits are employed in the GTP-400's phono and high-level preamp stages. These circuits provide superior resolution and

dramatic musicality. It took Adcom's approach to high performance/high value to make Class "A" affordable.

More Sound for Less Money

Several of Adcom's components have been favorably compared to other components costing two and three times more. The GTP-400 promises to keep faith with this tradition of exceptional value by delivering superb performance at a reasonable price. *(over please)*

ADCOM[®]
fine stereo components

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

How the Adcom GTP-400 stacks up.



GTP-400/GFA-535 (60 watts/ch)*



GTP-400/GFA-545 (100 watts/ch)*



GTP-400/GFA-555 (200 watts/ch)*

The Preamplifier Section

Optimum signal-to-noise ratios at both the phono and high level inputs ensure superior performance from your treasured LP's as well as your new compact discs and a wide range of HiFi video sources.

Proprietary linear-gain amplifiers in the high level and phono stages operate in full Class "A" to provide low distortion, low noise and high speed. High accuracy in the RIAA equalization circuit provides superb sound from high output moving coil or moving magnet phono cartridges.

A separate recording selector allows listening to one source while recording another. Feedback tone controls and contouring circuits can fine tune your system to room acoustics or individual listening tastes.

The Tuner Section

Quartz-referenced and digitally synthesized, the tuner has an accuracy of 0.00025% providing a significant reduction in audible distortion.

Eight FM stations and eight AM stations can be programmed for instant retrieval at the touch of

Specifications

Preamplifier

Total harmonic distortion: <0.01%
 IM distortion: 0.005%
 Frequency response: 20 Hz - 20 kHz \pm 0.1 dB
 Maximum output level: > 8 volts
 Input sensitivity for .5V output:

Phono: 0.8 mV

High level: 78 mV

Signal-to-noise ratio:

For .5V output: Phono: 80 dB

For 2V output: High level: >95 dB

Tone controls:

Bass (40 Hz) \pm 9.0 dB

Treble (15 kHz) \pm 7.5 dB

Output impedance: 100 ohms

Voltage: 117V/60Hz (Available in 220V/50Hz on special order)

Dimensions: 17 \times 3 $\frac{1}{4}$ \times 12 $\frac{3}{4}$ "
 (432 \times 80 \times 325 mm)

Shipping weight: 15 lbs (6.8 kg)

FM Tuner

IHF sensitivity, mono: 11 dBf

Signal strength for -50 dB quieting,
 mono/stereo: 13.5/37 dBf

Capture ratio: 1.7 dB

Alternate channel selectivity: 75 dB

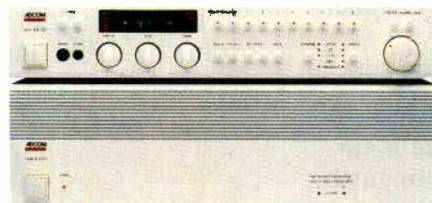
Separation at 1 kHz: 50 dB

THD/stereo at 1 kHz: 0.1%

Maximum signal-to-noise ratio,
 mono/stereo: 80/75 dB

Frequency response: 30 Hz - 15 kHz \pm 0.5 dB

Antenna impedance: 75 or 300 ohms



Adcom components also available with optional white front panel.

a button. Once a station is tuned in, it's locked in without drift. A touch of another button activates the scan mode, up or down.

When reception conditions are marginal, a switchable high-blend circuit reduces background noise and fading of FM stereo signals.

The Sound of a Revolution

The price of the GTP-400 with a GFA-535 power amplifier (illustrated above, left) is close to that of a good receiver. But that's as close as they get... because no receiver will deliver the wide dynamic range and lasting satisfaction of an Adcom music system.

So if you would like to be part of the new movement towards bringing more power into your home, ask your Adcom dealer to demonstrate the GTP-400 with any Adcom power amplifier. You'll hear what a revolution sounds like.

ADCOM[®]

fine stereo components

11 Elkins Road, East Brunswick, NJ 08816
 U.S.A. (201) 390-1130

Distributed in Canada by PRO ACOUSTICS INC.
 Pointe Claire, Quebec H9R 4X5

*Power output, watts/channel, continuous both channels driven into 8 ohms, 20 Hz - 20 kHz <0.09% THD. © 1988 ADCOM

Enter No. 12 on Reader Service Card

TURNTABLES

SPEED CODE A—33½ B—33½, 45 C—33½, 45, 78 D—Continuously Variable	TONEARM																			
	MANUFACTURER	Model (RD) = Remote Included, (RO) = Remote Optional	Speeds—See Code	Wow & Flutter, % @ 33½ rpm, DIN 45-507	Rumble, —dB, DIN 45-539-B	Drive System	Speed Inaccuracy, ±%	Speed Adjustment Range, ±%	Controls Outside Dustcover?	Multi-Play? Number of Discs	Type: Phono = P, Linear = L, Servo = S, Air-bearing = A	Pivot Stylus Distance, inches	Auto Cue C, Auto Return = R, Programmable Play = P	Recommended Tracking Force Range, Grams	Anti-Static Adjustment?	Cartridge Weight Range, Grams	Total Cable Capacitance, pF	Car. Mount Fixed F, Removable = R, P, Mount = P, Changeable = W, W = W	Dimensions, inches, including dustcover	Price, \$
ALPHASON	Sonala	B	0.03	76	Belt	0.1		Yes	No										18 x 18 x 16	1500.00
AR	ES-1 EB-101	B B	0.04 0.05	78 72	Belt Belt					P P			0.5-3 0.5-3	Yes Yes	3-9 3-9				18½ x 15¼ x 7 17½ x 14½ x 6½	725.00 500.00
ARISTON ACOUSTICS	"Q" Deck Icon Forte Superieur	B B B B	0.04 0.04 0.03 0.03	75 75 77 80	Belt Belt Belt Belt			No No Yes Yes	No No No No	P P P P				Yes Yes Yes Yes	4-9 4-9 4-9 4-9		F F F F	16.3 x 13.2 x 5.1 16.3 x 13.2 x 5.1 12.5 Dia. 17.9 x 14.1 x 6.7	325.00; w/Car., 365.00 450.00 w/o Car., 500.00; w/Arm, 625.00 1200.00	
BANG & OLUFSEN	Beogram RX-2 Beogram TX-2 Beogram 4500 Beogram 5500 Beogram 9000 Beogram 3300	B B B B B B	0.07 0.06 0.06 0.06 0.06 0.06	80 80 80 80 80 80	Belt Belt Belt Belt Belt Belt	0.2 0.2 0.2 0.2 0.2 0.2		No No Yes No No No	No No No No No No	P L/S L/S L/S L/S L/S	9¼ 4¼ 4¼ 4¼ 4¼ 4¼	C/R C/R C/R C/R C/R C/R	1.0-1.5 1.0-1.5 1.0-1.5 1.0-1.5 1.0-1.5 1.0-1.5	Yes No No No No No	1.6 1.6 1.6 1.6 1.6 1.6	240 240 240 240 240 240	F F F F F F	16½ x 2½ x 12½ 16½ x 3 x 12¼ 16½ x 3 x 12¼ 16½ x 3 x 12¼ 16½ x 3 x 12¼ 16½ x 3 x 12¼	299.00 399.00 499.00 499.00 450.00 450.00	
BASIS AUDIO	Debut Gold Standard Ovation	B B	0.02 0.02	90 90	Belt Belt	0.02 0.02			No No										23 x 16½ x 7¼ 23 x 16½ x 5½	6900.00 3750.00
BROADCAST ELECTRONICS	12C2 12C 16C	B C C	0.1 0.1 0.1	38 38 38	Rim Rim Rim	+1.0 +1.0 +1.0	0 0 0			P P P									15 x 15½ x 5 15 x 15½ x 5 20½ x 20¼ x 5	
CARRERA	CT-1155 LT-120	B B	0.07 0.05	65 69	Belt Belt	0.02 0.02	3	Yes Yes	No No	P L	8	R P	1.25-3 1.25-3	No	2.5-5			P F		99.95 169.95
DANHOLT	Boomerang	B			Belts														22 x 13 x 5	1895.00
DENON	DP-59L DP-47F DP-23F DP-7F	B B B B	0.006 0.01 0.02 0.018	82 78 75 75	Direct Direct Direct Direct	0.002 0.002 0.002 0.01	9.9	No Yes Yes Yes	No No No No	P/S P/S P/S P/S	9.6 8.7 8.7 8.7	C/R C/R C/R C/R	0-3 0-3 0-3 1.25	Yes Yes Yes Yes	3-14 3-12 4-9 6		W R R P	19¼ x 8¾ x 16½ 17 x 7 x 16½ 17 x 4½ x 14½ 14¾ x 3¾ x 14½	695.00 450.00 275.00 200.00	
DUAL	CS 7000 CS 5000 CS 505-3 CS 455S CS 450S CS 431S CS 410S	C C B B B B B	0.023 0.025 0.06 0.07 0.07 0.08 0.08	85 80 75 70 70 70 70	Belt Belt Belt Belt Belt Belt Belt		0 6	No No No No No No No	No No No No No No No	P P P P P P P		C C C C/R C C C	1-4 1-4 1-4 1-4 1-4 1-4 1-4	Yes Yes Yes Yes Yes Yes Yes	3-12 3-12 3-10 3-10 3-10 3-10 3-8	150 150 150 150 150 150 150	R R R R R R F		875.00 500.00 360.00 300.00 270.00 199.00 179.00	
EMT	938	C	0.075	70	Direct	0.01	10	Yes	No	P	9¾		2.0-9.0	Yes				R	19½ x 17½ x 7½	3810.00
ESOTERIC SOUND	Vintage	C	0.045	70	Belt		6	Yes	No	P	9¾	R	1.25-3.5	No	6			P	17 x 3½ x 14½	229.00
GOLDMUND	Studiotto MKII ST4 Studio Reference (RO)	B B B B	0.02 0.02 0.02 0.01		Direct Direct Direct Belt			Yes Yes Yes		L/S			1.0-3.0		4.4-25			R	18 x 18 x 8¾ 20 x 20 x 8¾ 20 x 20 x 8¾ 23 x 21 x 29	2195.00 5390.00 3590.00 24,900.
GRUNDIG	Transrotor Quintessence Transrotor Connoisseur		0.001 0.03	89 80	Belt Belt	0.001 0.01	2 2	Yes No	No No	P P									30,000. 2500.00	
HEYBROOK	TT-3	B	0.04	75	Belt			No	No										17½ x 14¼ x 6¼	898.00
JVC	ALA151BK ALF353BK ALFQ55BK	B B B	0.05 0.05 0.045		Belt Belt Direct			Yes Yes Yes		P P P		R C/R C/R	1.25 1.25 1.25	No No No				P P P	17¼ x 14¼ x 4¼ 17¼ x 14¼ x 4¼ 17¼ x 14¼ x 4¼	100.00 175.00 240.00
KENWOOD	KD-5010	B	0.05	75	Direct			Yes		P		C/R	1.5-3	Yes				R	17¾ x 14½ x 5½	249.00
LINN HI-FI	Linn Sondek LP12 Axis Basik	A B B	0.04 0.04 0.04	75 75 75	Belt Belt Belt			No No Yes	No No No	P P P	9		0.75-3.0	Yes	2-10	100	F F F	17½ x 14 x 5½ 17½ x 13¾ x 5½	1165.00 795.00 495.00	
MAPLENOLL	Cleo Cleo MK II	B B	0.003 0.003	80 80	Belt Belt	0.003 0.003		Yes Yes	1 1	L/A L/A		C (Opt.) C (Opt.)	1.0-2.5 1.0-2.5		2.5-18 2.5-18			R R	17¼ x 15½ x 5½ 17¼ x 15½ x 5½	695.00 995.00

TURNTABLES

MANUFACTURER	Model (RI) = Remote Included, (RO) = Remote Optional	B	Speeds—See Code	Wow & Flutter, DIN 45-537	Rumble, —dB, DIN 45-538-B	Drive System	Speed Inaccuracy, ±%	Speed Adjustment Range, ±%	Controls Outside Dustcover?	Multi-Play? Number of Discs	Tape Pivot: P = Linear = L, Zero S. Air-Bearing = A	Pivot-Stylus Distance, Inches	Auto Cue = C, Auto Return = R, Programmable Play = P	Recommended Tracking Force Range, Grams	Anti-Skating Adjustment?	Cartridge Weight Range, Grams	Total Capacitance, pF P-Mount = P, Champagne Wand = W	Dimensions, Inches, Including Dustcover	Price, \$
MAPLENOLL (Continued)	Athena	B	0.003	80	Belt	0.003		Yes	1	L/A		C (Opt.)	1.0-2.5			R	19 1/2 x 17 1/2 x 6 3/8	795.00	
	Athena MK II	B	0.003	80	Belt	0.003		Yes	1	L/A		C	1.0-2.5			R	19 1/2 x 17 1/2 x 6 3/8	995.00	
	Ariadne	B	0.003	80	Belt	0.003		Yes	1	L/A		C (Opt.)	1.0-2.5			R	17 1/2 x 15 1/2 x 5 1/2	1295.00	
	Artemis	B	0.003	80	Belt	0.003		Yes	1	L/A		C (Opt.)	1.0-2.5			R	25 x 17 x 6 3/8	1795.00	
MARANTZ	TT185	B			Belt				1	P						P		139.00	
	TT2462	B	0.07	70	Belt	0.5		Yes	1	P		C/R				P		89.95	
	TT275	B			Direct				1	P		R				P		199.00	
	TT285	B			Belt				1	L		C/R/P				P		279.00	
MEITNER AUDIO	AT-2	C			Belt		6	Yes	No	P			1-3	Yes	3-13		F	13 x 12 1/2 x 8	1850.00
MERRILL AUDIO	Heirloom	B	0.02	78	Belt	0.05												19 x 15 x 8	990.00
	Heirloom w/Remote Power Supply	B	0.02	78	Belt	0.05												19 x 15 x 8	1470.00
J. A. MICHELL	Synco	B	0.05	76	Belt	0.1	0	No	No									17 1/4 x 14 3/4 x 5 1/4	795.00
	Synco & Rega RB250	B	0.05	76	Belt	0.1	0	No	No	P	9 3/8		9-3.5	Yes	3-8		F	17 1/4 x 14 3/4 x 5 1/4	995.00
	GyroDec	B	0.04	81	Belt	0.05	0	No	No									21 1/4 x 16 3/4 x 7 1/2	1395.00
	GyroDec LE	B	0.05	81	Belt	0.05	0	No	No									21 1/4 x 16 3/4 x 7 1/2	1595.00
ONKYO	CP-1200A	B	0.045		Belt			Yes	No	P		R		Yes			R	16 1/2 x 14 3/4 x 5 3/8	130.00
	CP-1500F	B	0.023		Direct			Yes		P		C/R	1.7	Yes			R	260.00	
	Integra CP-1057F	B	0.023		Direct			Yes		P	8 7/8	C/R		Yes	4-9		R	17 3/8 x 16 1/4 x 6 3/8	360.00
OPUS 3	Continuo	B	0.03	77	Belt	0.1		Yes	No									18 x 18 x 16.6	650.00
ORACLE	Paris	B			Belt														550.00
	Alexandria	B			Belt														1195.00
	MKIV DS	A			Belt		5												895.00
	Alexandria MKIV SS	B			Belt		5												From 1895.00
	Delphi MKIV DS	A			Belt														1595.00
PIONEER	PL-600/KUC	B	0.06	68	Belt				No	P/S	8 3/4	R	2.0-3.0	Yes	4-8		R	16 5/8 x 4 5/8 x 14 3/8	140.00
	PL-L550	B	0.025	80	Direct			Yes	No	L	8 3/4	R					P	270.00	
	PL-910	B	0.06	70	Belt			Yes	No	L	3 3/4	R/P	1.0-1.5				F	400.00	
	PL-670	B	0.025	78	Direct			No	No	P/S	8 3/4	R		Yes			P	175.00	
	PL-90	B	0.018	85	Direct			No	No	P/S	11 1/8	R		Yes	2.4-12		R	950.00	
																			23 1/2 x 8 1/2 x 17 1/8
REGA RESEARCH	Planar 2	B			Belt			No	No	P	9 3/8		0.5-3.0	Yes	3-18	200	F	17 1/2 x 14 3/8 x 4 7/8	499.00
	Planar 3	B			Belt			No	No	P	9 3/8		0.5-3.0	Yes	3-18	200	F	17 1/2 x 14 3/8 x 4 7/8	599.00
	Planar 78	†			Belt			No	No	P	9 3/8		0.5-3.0	Yes	3-18	200	F	17 1/2 x 14 3/8 x 4 7/8	499.00; †78 rpm only
REVOLVER	Revolver w/Revolver Arm	B	0.08	65	Belt	0.02		No	No	P	9		0.75-3.0	Yes	3.0-10.0	45	F	16 1/2 x 14 1/2 x 4 1/4	From 545.00
	Revolver w/Revolver Super Arm	B	0.08	65	Belt	0.02		No	No	P	9		0.75-3.0	Yes	2.0-12	45	F	16 1/2 x 14 1/2 x 4 1/4	From 799.00
	Revolver Rebel w/Arm & Audio- Technica AT-95E Cart.	B	0.08	65	Belt	0.02		No	No	P	9		0.75-3.0	Yes	2.0-10.0	45	F	16 1/2 x 14 1/2 x 4 1/4	399.00
REVOX	B291(RO)	B	0.05	72	Direct	0.01	9.9	Yes	No	L/S	1 1/2	C/R	0.8-2.0		2.5-10	220	F/P	17 3/4 x 5 1/2 x 15 1/2	1500.00
ROKSAN	Xerxes	B	0.03	83	Belt		0.5	Yes	No									15 x 6 x 19	1995.00
SANSUI	P-2000	B	0.1		Direct		3	Yes	No	S		C/R/P	2.5	No	5		W	17 x 3 3/8 x 9	180.00
	P-900E	B	0.1		Direct			Yes	No	S		C/R/P	2.5	No	5		P	17 x 3 3/8 x 13	90.00
SCOTT	PS 60C	B	0.08		Belt					P		R					P		
	PS 70C	B	0.08		Belt					P		R							
SHADOW PRODUCTS	Shadow 312	B	0.04	78	Belt			No	No									19 1/2 x 14 1/2 x 6 3/8	From 995.00
SHERWOOD	PF-1170R (RO)	B	0.06	65	Direct			Yes	1	P	8 7/8	C/R	0-3	Yes	4-8	250	W	17 3/8 x 4 1/2 x 15	149.95
	PM-1270	B	0.06	65	Belt			Yes	1	P	8 7/8	R	0-3	Yes	4-7	250	W	17 3/8 x 6 x 15 1/8	139.95
SIMPLYPHYSICS	Dark Star Series II	B		80	Belt													22 x 21 x 8	1095.00; w/Stand, 1295.00
	Signature Series II	B		83	Belt					L/A	4	R	0.75-2.5				W	22 x 21 x 8	3495.00 w/Stand
	Dark Star Phono System	B		80	Belt					L/A	4		0.75-2.5				W	22 x 21 x 8	1995.00 w/Stand

WITH VECTEUR YOU HEAR THE MUSIC,

AND ONLY THE MUSIC...

INNOVATIVE

CV-50

Six solid core
conductors
bound in triples,
laid side by side,
utilizing
LC/OFHC
copper.



It was Vecteur that first brought solid core technology to the European speaker cable market. Responding to the demand for cleaner sound, Vecteur designers pushed the science. Their innovations led to the use of "long crystal" and "linear crystal" manufacturing. Now, the Vecteur products enhance any system's ability to deliver precision attack, dynamic range, transparency, timbre, and differentiation of instruments. Their solid core LC/CFHC copper brings clarity and definition throughout the audible range.

CV-90

Three solid core
conductors
screened
separately
in a star quad
pattern.



PRODUCTS



VECTEUR
PRODUCTS

Dept - A
10 Upton Drive
Wilmington, MA 01887

Tel: (508) 658-0700
Fax: (508) 558-0703
Telex: 237608 PLDX

Enter No. 95 on Reader Service Card

TURNTABLES

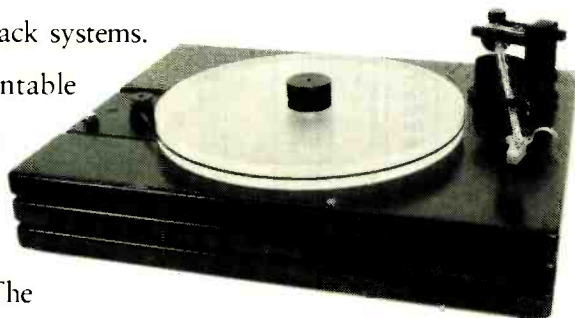
MANUFACTURER	SPEED CODE										TONEARM									
	Model (R) = Remote Included. (RO) = Remote Optional	Spacers—See Code	Wow & Flutter, % 33 1/3 rpm, DIN 45507	Rumble, - dB, DIN 45539-B	Drive System	Speed Inaccuracy, ±%	Controls Adjustment Range, ±%	Multi-Play? Number of Discs	Type: Preload = P, Linear = L, Servo = S, Air-bearing = A	Pivot-Stylus Distance, Inches	Auto Cue = C, Auto Return = R, Programmable Play = P	Recommended Tracking Force Range, Grams	Anti-Skating Adjustment?	Cartridge Weight Range, Grams	Total Cable Capacitance, pF	Cart. Mount: Fixed = F, Removable Shell = R, P-Mount = P, Detachable Wand = W	Dimensions, Inches, Including Dustcover	Price, \$		
SONOGRAPH	SG3A	B	0.1	65	Belt				P	9 1/4			Yes			F	18 x 14 x 7	795.00		
	SG3	B	0.1	65	Belt												18 x 14 x 7	595.00		
SONY	PS-FL71IB	B	0.03	75	Direct	0.03	Yes	No	L	3	C/R	1.5	No			P	17 x 15 1/8 x 3 3/4	350.00		
	PS-LX520B	B	0.035	75	Direct	0.03	Yes	No	L	3	C/R	1.5	No			P	17 x 14 3/8 x 3 3/4	270.00		
	PS-LX430	B	0.045	70	Belt		Yes	No	P	8 1/2	C/R	1.75	Yes			P	17 x 14 x 4 3/8	180.00		
SOTA	Deluxe Sapphire III	C	0.03	88.2	Belt	0.02	5	No	No								20 1/4 x 16 1/2 x 7 1/2	1295.00		
	Deluxe Vacuum Star III	C	0.03	88.2	Belt	0.02	5	No	No								20 1/4 x 16 1/2 x 7 1/2	1600.00		
	Cosmos	C	0.03	88.2	Belt	0.02	5	No	No								20 1/4 x 16 1/2 x 7 1/2	4000.00		
SPACE & TIME	Aura	B	0.04		Belt		4	Yes										4950.00		
SYSTEMDEK	II X	B	0.08	78	Belt	0.15	2	No	No	P/L/A			Yes			300	F	18 1/2 x 14 3/8 x 5 5/8	559.00	
	II X E	B	0.08	78	Belt	0.01	2	No	No	P/L/A			Yes			300	F	18 1/2 x 14 3/8 x 5 5/8	659.00	
	IV E	B	0.06	78	Belt	0.01	2	No	No	P/L/A			Yes			300	F	19 3/8 x 15 5/8 x 6	899.00	
TECHNICS	SP-10MK3	C	0.015	92	Direct	0.001	9.9	Yes	No									14 1/2 x 4 x 14 1/2	2699.00	
	SP-10MK2A	C	0.025	78	Direct	0.025		No	No									14 1/2 x 4 x 14 1/2	1399.00	
	SP-15	C	0.025	78	Direct		9.9	No	No									13 3/4 x 4 x 14 1/2	899.00	
	SP-25	B	0.025	78	Direct		6.0	No	No									13 3/4 x 3 1/4 x 14 1/2	569.00	
	SL-1200MK2	B	0.025	78	Direct		8.0	No	No									17 7/8 x 6 1/4 x 14 1/4	529.00	
	SL-MA1	B	0.025	81	Direct	0.002		Yes	No	P/S	9 1/8	C/R	0-2.5	Yes		3-9.5	R	17 7/8 x 6 1/4 x 16 1/8	489.00	
	SL-J33(RO)	B	0.025	78	Direct	0.002		Yes	No	L/S	4 1/8	C/R/P	1.25	No		6	P	12 3/8 x 3 1/2 x 12 3/8	249.00	
	SL-QD33(RO)	B	0.025	78	Direct			Yes	No	P	9 1/8	C/R	1.25	No		6	P	17 x 3 3/8 x 14 3/4	199.00	
	SL-DD33	B	0.025	78	Direct			Yes	No	P	9 1/8	C	1.25	No		6	P	17 x 4 x 14 3/4	169.00	
	SL-DD22	B	0.025	78	Direct			Yes	No	P	9 1/8	C/R	1.25	No		6	P	17 x 4 x 14 3/4	159.00	
	SL-L20K	B	0.045	70	Belt			Yes	No	L	4 1/8	C/R	1.25	No		6	P	17 x 3 3/4 x 13 3/4	189.00	
	SL-BD22K	B	0.045	70	Belt		6	Yes	No	P	9 1/8	C/R	1.25	No		6	P	17 x 3 3/8 x 14 3/4	139.00	
	SL-BD20A	B	0.045	70	Belt			Yes	No	P	9 1/8	R	1.25	No		6	P	17 x 3 3/8 x 14 3/4	119.00	
THORENS	TD 280 MK II	B	0.045	70	Belt	0.2		No	No	P	9 1/8	C	1-3	Yes	3-8	300	R	17 3/8 x 14 x 5 3/8	300.00	
	TD 316 MK II	B	0.04	70	Belt	0.2		No	No	P	9 1/8		1-3	Yes	3-8	150	R	17 3/8 x 13 3/4 x 6 3/4	400.00	
	TD 318 MK II	B	0.04	70	Belt	0.2		No	No	P	9 1/8	C	1-3	Yes	3-8	150	R	17 3/8 x 13 3/4 x 6 3/4	500.00	
	TD 320 MK II	B	0.35	72	Belt	0.2		No	No	P	9 1/8	C	1-3	Yes	3-8	100	R	17 3/8 x 13 3/4 x 6 3/4	675.00	
	TD 520 MK II	C	0.35	72	Belt	0.1	6	No	No	P	9 3/4	C	1-3	Yes	3-8	140	R	21 3/4 x 16 3/8 x 7	1200.00	
	TD 321	B	0.35	72	Belt	0.2		No	No									17 3/8 x 13 3/4 x 6 3/4	500.00	
	TD 521	C	0.35	72	Belt	0.1	6	No	No									21 3/4 x 16 3/8 x 7	1000.00	
TOWNSHEND AUDIO	Rock Reference	B	0.04	88	Belt	0.05		Yes											3600.00	
	Avalon	B	0.08	77	Belt	0.1		Yes											650.00	
VECTOR RESEARCH	VT-155	B	0.07	65	Belt	0.02	3	Yes	No	P	8	R	1.25-3	No	2.5-5		P		99.95	
	VT-185	B	0.05	68	Belt	0.02	3	Yes	No	P	8 5/8	R	1.25-3	Yes	2.5-5		R		185.95	
	VT-320	B	0.05	69	Belt	0.02		Yes	No	L		P	1.25-3				F		199.95	
VERSA DYNAMICS	1.0	B			Belt					L/A			1.0-4.0				F	15 3/4 x 20 3/4 x 9	5950.00	
	2.0	B			Belt					L/A			1.0-4.0				R	18 1/8 x 17 5/8 x 9 1/4	12,500.	
VOYD TURNTABLES	Voyd (Split Phase)	B	0.004	80	Belt	0.001		Yes										20 x 16 1/2 x 6 1/2	2200.00	
	Valdi	B	0.005	78	Belt	0.001		Yes										18 x 14 x 6	1400.00	
VPI	HW-19 Jr.	B	0.03	79	Belt	0.05		No	No									21 1/4 x 16 1/2 x 6	600.00	
	HW-19 MKIII	B	0.03	79	Belt	0.05		No	No									21 1/4 x 16 1/2 x 7	1140.00	
	T.N.T. Reference	D	0.02	81	Belt	0.01	10	No	No									25 x 19 x 8	3000.00	
WELL TEMPERED LAB	Well Tempered Classic	B			Belt			No	1	P	9		Yes				F	19 x 15 x 8	1795.00	
	Well Tempered Record Player	B			Belt			No	1	P	9		No				F		895.00	
	Well Tempered Signature	B			Belt			No	1	P	9		Yes				F		6500.00	
WIN RESEARCH	SEC-10	B	0.05	85	Direct	0.001	5	Yes	No									21 x 16 x 7 1/2	4000.00	
	SW-10	B	0.05	85	Direct	0.01	5	Yes	No									21 x 16 x 7 1/2	1495.00	
YAMAHA	TT500U	B	0.03	78	Direct			Yes	No	P	9 1/8	C/R	0-3	Yes	4-9		R	17 x 4 x 15	269.00	
	TT400U	B	0.045	70	Belt			Yes	No	P	9 1/8	C/R	0-3	Yes	4-9		R	17 x 4 x 15	199.00	
	TT300U	B	0.045	70	Belt			Yes	No	P	9 1/8	C/R	0-3	Yes	4-9		R	17 x 4 x 15	159.00	
	P-90M	B	0.05	70	Belt			No	No	P		R						17 x 4 x 15	170.00	
ZARATHUSTRA DESIGNS	Series 4	B	0.02	82	Belt	0.01		Yes										16 x 13 1/2 x 4 3/4	3000.00	
	Series 5	B	0.01	82	Belt		5	Yes										19 1/2 x 16 1/2 x 7 1/2	5000.00	

Well Tempered Labs

Meet the Whole Family

Stability. Sound Technology. The Well Tempered Lab has met the design challenges of analog playback systems through the realization of a simple concept—stability. Stability is the key to accurate performance in analog playback systems.

patented zero-clearance turntable
damped bearingless tonearm
of stability in the stylus-
in all three Well Tempered
combinations—The Classic, The



The Classic

Well Tempered Lab's bearing and viscous-damped record surface interface turntable and tonearm Record Player, and the Sig- and tuned, damped, iso-

nature. Damping technology in the “springless” bases

isolated motor assemblies in all three models carry the design intent of stability to an even higher ideal.

Breakthrough Design. Lasting Value. The Well Tempered Classic Arm and Table provided a new benchmark for analog playback accuracy nearly four years ago. *International Audio Review* considered it a technological breakthrough and claimed it approached or exceeded the performance of turntables costing ten times the price or more. The Well Tempered Classic Arm and Table has continued to win the accolades

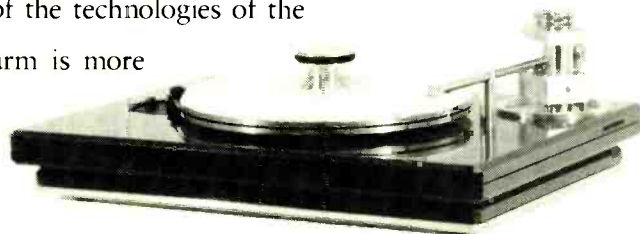
of the press and music lovers the world over. **Brilliantly Simple. Modestly Priced.** A simpler, lighter version of the Well Tempered Classic, the Record Player possesses the same stabilizing technologies and therefore achieves performance levels that far exceed expectations. A staunch performer with



The Record Player

moving-iron or moving-magnet cartridges, this under \$1000 tonearm and turntable combination also stabilizes the most sophisticated moving-coils. **No Compromises. A New Benchmark.** Advances in sound-damping materials and exotic machining have resulted in an ultimate Well Tempered Table and Arm—The Signature. The Signature employs all of the technologies of the

Classic, but provides even greater stability. The arm is more massive with refined control adjustments in damping, VTA and azimuth. A resonant-free base and platter incorporate high tech and new-to-the-market materials. The expression of Well Tempered



The Signature

Lab's basic design principals in the Signature Arm and Table have resulted in an analog playback system of unparalleled beauty and performance.

WELL TEMPERED LABS

*Design by Bill Firebaugh
Manufactured & Distributed by Transparent Audio Marketing
Rt. 202, Box 117, Hollis, ME 04042 (207) 929-4553*

Enter No. 96 on Reader Service Card

TO NEARMS

MANUFACTURER	Model	Type: Nr-bearing = A, Pivoted = P, Linear = L, Servo = S		Carriage Mount: Flyer = F, Nagavane = N, P, P Mount = P, Changeable Wand = W		Cueing?	Anti-Skating Adjustment?	Adjustable Vertical Tracking Angle?	Pivot-Stylus Distance, Inches	Overall Length, Inches	Maximum Tracking Error, Degrees Per Inch Range, Grams	Recommended Tracking Force Range, Grams	Carriage Weight Range, Grams	Total Cable Capacitance, pF	Mounting Hole Diameter, Inches	Price, \$	Notes
		A/L	W	Yes	Yes												
AIR TANGENT	Air Tangent	A/L	W	Yes		Yes					0.5-3.0	5-14				3600.00	Includes air pump; electronic cue; end-of-record lift.
ALPHASON	HR100MCS	P	F	Yes	Yes	Yes	8%	11 3/4			0-3	3-20	90	1 1/4		1000.00	
	HR100S	P	F	Yes	Yes	Yes	8%	11 3/4			0-3	3-20	90	1 1/4		950.00	
	Xenon MCS	P	F	Yes	Yes	Yes	9	11 3/4			0-3	3-20	90	1 1/4		650.00	
	Xenon	P	F	Yes	Yes	Yes	9	11 3/4			0-3	3-20	90	1 1/4		600.00	
	Delta	P	F	Yes	Yes	Yes	9	11 3/4			3	3-20	90	1 1/4		450.00	
Opal	P	F	Yes	Yes	Yes	9	11 3/4			3	3-20	90	1 1/4		375.00		
AUDIOQUEST	AQ PT-5	P	F	Yes	Yes	Yes	9	12			0-3	3-12	71	1 1/4		350.00	Optional viscous damping. As above.
	AQ PT-5+	P	F	Yes	Yes	Yes	9	12			0-3	3-12	95	1 1/4		425.00	
AUDIO-TECHNICA	ATP-12T	P	R	No	No	†	10 1/8	14 1/8	1.55	1-3		3-23	300	7/8		275.00	†Built-in VTF gauge.
BROADCAST ELECTRONICS	S320	P	R	No	No	Yes	7 1/8	12 1/2	1	1.0				7/8		175.00	For 16-inch platters.
	S260	P	R	No	No	Yes	11 1/8	15 3/4	1	1.0				7/8		195.00	
DENNESEN	ABLT-1	A	W	Yes		Yes	Adj.	12	0	Adj.		Any	100			2000.00	
EMINENT TECHNOLOGY	Two	A	W	Yes		Yes	7%	10 3/4	0	0-5		0-16	22			950.00	Includes air pump; calibrated VTA adjustment; decoupled counterweight.
GOLDMUND	T5	L/S	R	Yes		Yes					1-3	4-20				2195.00	Fully automatic; computer-controlled.
	T3F(RO)	L/S	R	Yes		Yes					1-3	4-25				4750.00	
GRAHAM ENGINEERING	1 Tonearm System	P	W	Yes	Yes	Yes	9 1/4	11 5/8	0.2	0-3.5		4-20	85	1 1/2		1776.00	SME-compatible mount; fluid-damped unipivot.
HELIUS DESIGNS	Scorpio III	P	F	Yes	Yes	No	0.9	11.1	1.25	1-1.8	5-12	90	1			350.00	
	Aureus	P	F	Yes	Yes	No	0.9	11.1	1.0	0.75-2.5	5-15	70	1			600.00	
	Orion	P	F	Yes	Yes	No	1.1	12.4	0.75	0.5-3.0	4-25	62	†			1300.00	†Rectangular.
	Cyalene	P	F	Yes	Yes	No	1.1	12.4	0.75	0.5-2.8	5-20					2000.00	
HEYBROOK	Heybrook Arm	P	F	Yes	Yes	Yes		11 5/8		0-3						549.00	Magnesium armtube.
LINN HI-FI	Ekos	P	F	Yes	Yes	No	9	11 1/4		0.75-3.00	2-10		1/4			1995.00	
	Ittok	P	F	Yes	Yes	No	9	11 1/4		0.75-3.00	2-10					1095.00	
	Basik Plus	P	F	Yes	Yes	No	9	11 1/4		0.75-3.00	2-10		1/4			295.00	
	Akito	P	F	Yes	Yes	No	9	11 1/4		0.75-3.00	2-10		1/4			395.00	
LIRPA LABS	Lirpa IV-XXXI	A/L	No	12	13	50	Yes	No	Yes	No	Yes	No	Yes			613.15	Includes sump pump; variable viscous damping.
MANTICORE	Musician II	P	F	Yes	Yes	Yes	9 1/2	11 1/4								600.00	
	Musician S	P	F	Yes	Yes	Yes	9 1/2	11 1/4								1000.00	
MAYWARE	Formula V	P	F/R	Yes	Yes	Yes	9	11 1/2	0	0.75-3		3-11	100	3/4			Variable viscous damping; variable effective mass.
MEITNER AUDIO	TA-2	P	W	Yes	Yes					1-3		3-13				300.00	Unipivot design.
MORCH	UP-4	P	W	Yes	Yes	Yes	9 1/8	11 3/4		0.75-3		3-15	128	7/8		†	†With copper wire, \$560.00; with silver wire, \$650.00. Choice of four armtubes; unipivot; viscous damping. Armtube choice and damping as above; dual bearings.
	DP-6	P	W	Yes	Yes	Yes	9 1/8	11 3/4		0.75-3		3-15	128	7/8		960.00	
NAIM AUDIO	ARO	P	F	No	Yes	Yes	9	11 1/2				5.5-12		3/4		1395.00	Unipivot design.
ORACLE	Alpha	P	F	Yes	Yes	Yes	9	11 1/2		0-2.5	4-9					275.00	
	Beta	P	F	Yes	Yes	Yes	9	11 1/2		0-2.5	4-9					350.00	
	Oracle/SME 345	P	R	Yes	Yes	Yes	9 1/8	12	0.01	0-2.5	5-10		140			From 1395.00	
PREMIER	FT-3K	P	F	Yes	Yes	Yes	9 1/2	12	0.2	0-3		4-14		3/4		395.00	Azimuth adjustable; damped tube; RCA connectors on interface box. As above; VTA lift base.
	FT-4	P	F	Yes	Yes	Yes	9 1/2	12	0.2	0-3		4-14		3/4		550.00	
	MMT	P	R	Yes	Yes	Yes	9 1/2	12	0.2	0-3		4-14	86	3/4		290.00	Azimuth adjustable.
REGA RESEARCH	RB300	P	F	Yes	Yes	Yes	9 3/8	11 5/8	1.5	0.5-3.0		3-18	200	1		299.00	Cast armtube; dynamically balanced; 9-gram effective mass.
REVOLVER	Revolver	P	F	Yes	Yes	Yes	9	11.2		0.75-3.00	2.0-10.0	45	1.2			200.00	
	Revolver Super	P	F	Yes	Yes	Yes	9	11.2		0.75-3.5	1.0-12.0	45	1.2			450.00	
ROKSAN	Artemiz	P	F	Yes	Yes	Yes	9.4									1375.00	
JEFF ROWLAND DESIGN GROUP	Complement	P	F	Yes	Yes	Yes	9.65	12.6	1.5	0-3.5		6-35		1.5		2400.00	
SIMPLYPHYSICS	Aviator	A/L	W	Yes		Yes	4	4 3/4	0	0.75-2.5		4-14		1/4		695.00	Includes air tank and pump; optional auto lift, \$95.00.
SME	Series IV	P	F	Yes	Yes	Yes	9 1/8	11 5/8	0.2	0-3		4-18	140	1 1/8 x 2 3/4		1500.00	Damped magnesium casting; ABEC-3 bearings; adjustable static tracking; optional fluid damping.

TO NEARMS

MANUFACTURER	Model	Type: Air-Bearing = A, Pivoted = P, Linear = L, Servo = S		Cartridge Mount: Fixed = F, Removable Shell = R, P. Mount = P, Changeable Wire = W		Cueing?	Anti-Skating Adjustment?	Adjustable Vertical Tracking Angle?	Pivot-Stylus Distance, Inches	Overall Length, Inches	Maximum Tracking Error, Degrees per Inch Range, Grams	Recommended Tracking Force Range, Grams	Cartridge Weight Range, Grams	Total Cable Capacitance, pF	Mounting Hole Diameter, Inches	Price, \$	Notes
SME (Continued)	Series V	P	F	Yes	Yes	Yes	9 1/8	11 3/8	0.2	0-3	4-18	140	1 1/8 x 2 3/4	2250.00			Casting as above; ABEC-7 bearings; adjustable dynamic and static tracking; fluid damping; VTA lift. Removable headshell; gold-plated phono plugs.
	309	P	F	Yes	Yes	Yes	9 1/8	11 3/8	0.5	0-3	4-18	140	1 1/8 x 2 3/4	950.00			
SOUTHER	Tri-Quartz Improved (TQ-I)	L	W	Yes		Yes	2	10	0	0.5-3.0	1-20		(2) 1/4	1295.00			Tangential tracking.
SYRINX	PU 3 German	P	W	Yes	Yes	Yes								1395.00			Internally fixed headshell wire.
SYSTEMDEK	T A1	P	F	Yes	Yes	Yes	8 1/2	10 1/2		1.0-3.0		300	1 1/4	200.00			
TECHNICS	EPA-250	P	R/W	Yes	Yes	Yes	10	12 1/2	2	0-2	3-12.5	41.2	2 1/2	799.00			
TOWNSHEND AUDIO	Excalibur	P	F	Yes	Yes	Yes	8 1/4	12	1.75	0.75-10.0	4-22	250	1	1200.00			
WELL TEMPERED LAB	Well Tempered Arm 1	P	F	No	Yes	Yes	9	11 3/8					1/2	825.00			Variable viscous damping.
	Well Tempered Arm 2	P	F	No	No	Yes	9	11 3/8					3/8	525.00			As above.
	Well Tempered Arm 3	P	F	Yes	Yes	Yes	9	11 3/8					3 1/2				As above.
WHEATON MUSIC	Triplanar II Improved	P	F	Yes	Yes	Yes	9 3/4	11 3/4	0.03	1-3	4-22			1795.00			Azimuth adjustable.
WIN RESEARCH	Pentograph	P	F	Yes	Yes	Yes	12	14	0	1-5	0-12	42		1850.00			Tangential tracking.
ZETA	Std. VdH	P	F	Yes	Yes	Yes	9	11 1/2		0.75-4	4-12	90	1 1/4	925.00			
		P	F	Yes	Yes	Yes	9	11 1/2		0.75-4	4-12	90	1 1/4	1180.00			

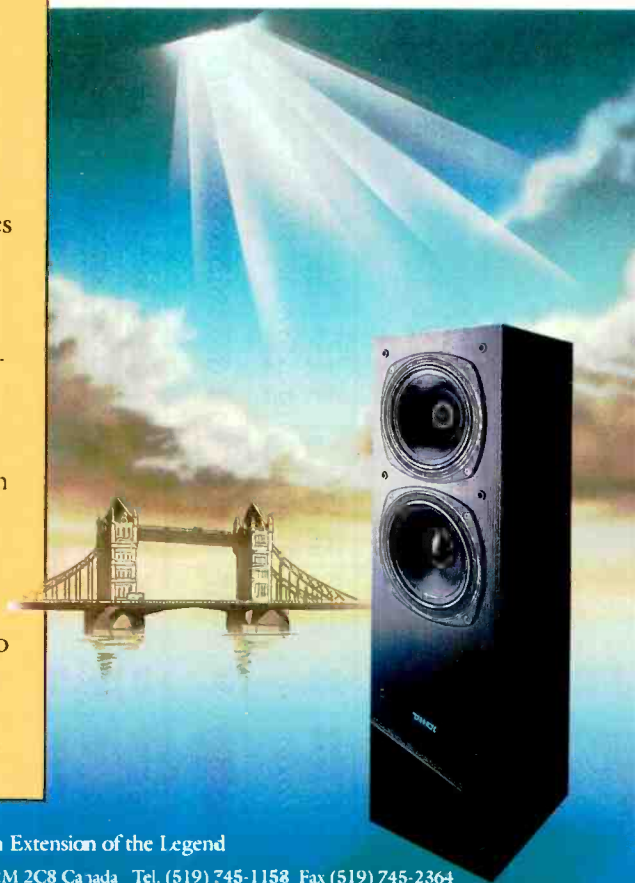
Musical Truth

Some people settle for speakers which distort the truth a little, adding their own interpretation to the music.

Others insist on the most natural reproduction that art and technology can provide. For these refined tastes there is Tannoy Series 90.

The effortless accuracy and dynamics of Series 90 bear witness to Tannoy's 62-year heritage of engineering the industry's finest professional monitors. Tannoy monitors mastered the challenges of digital in the recording studio long before the advent of the Compact Disc. Having developed single-point-source driver technology to solve the problem of phase shift in studio playback, Tannoy has applied the single-point-source system here to create a stereo image so accurately natural it brings the concert experience home at last.

Find out why Tannoy is the only loudspeaker ever to be honoured with the recording industry's prestigious TEC award for outstanding achievement. It's a testament of Tannoy's dedication to the musical truth.



TANNOY Series 90 An Extension of the Legend

Tannoy North America Inc. 300 Gage Avenue Unit 1, Kitchener, Ont. N2M 2C8 Canada Tel. (519) 745-1158 Fax (519) 745-2364

PHONO CARTRIDGES

MANUFACTURER	Model	Frequency Response, Hz to kHz, ±dB	Stylus Type	C—Conical S—Spherical E—Elliptical M—MicroLine, MicroRidge, or similar V—Van den Hul X—Hyper-Elliptical, Stereohedron, Fine Line, Line Contact, Long Line, Line Trace, or similar	Phenolic Moving Iron = MI, Induced Magnet = IM, Moving Magnet = MM			Individual Response Curve Supplied?	Channel Separation, 1 kHz, dB	Channel Separation, 10 kHz, dB	Output, mV, 1 kHz, 5 cm/sec. rms Lateral Velocity Range, Grams	Recommended Tracking Force	Stylus Type—See Code	Stylus Radius (Radii), Mills	Dynamic Compliance, Vertical/Lateral	Stylus Replacement: User = U, Factory = F	Mounting: (Integral Stylus = I, P-Mount = P, Standard = S)	Weight, Grams	Price, \$	Replacement Stylus Price, \$
					No	Yes	20													
ADCOM	HC-E II	20-20 +2.5,-1	MC	No	22	22	2.3	1.6-2.0		E	0.3 x 0.7		F	S	4.7	160.00	88.00			
	HP-E II	20-20 +2.5,-1	MC	No	22	22	2.3	1.25		E	0.3 x 0.7		F	P	4.7	160.00	88.00			
	HC-vdH II	20-20 +2.5,-1	MC	No	22	22	2.3	1.6-2.0		V	0.2 x 2.8		F	S	4.7	250.00	138.00			
	XC-LT II	20-20 ±1	MC	No	25	25	2.3	1.6-2.0		X	0.15 x 1.5		F	S	4.7	290.00	160.00			
	XC-MR II	20-20 ±1	MC	No	25	25	2.3	1.6-2.0		M	0.15 x 3.0		F	S	4.7	360.00	198.00			
	SXC-vdH	20-20 +3,-1	MC	No	25	25	2.3	1.8		V	0.15 x 3.3		F	S	4.7	500.00	275.00			
AKG	P-4	20-20	MI	No	20	15	1	1-2	470	E	0.3 x 0.7	15/15	U	S	5.5	60.00	25.00			
	P-4DP	20-20	MI	No	20	15	1	1-2	470	E	0.3 x 0.7	20/20	U	P	6	65.00	25.00			
	P-5ED	20-20	MI	No	25	15	1.65	1.25-2	470	E	0.3 x 0.7	30/30	U	S	4.8	80.00	40.00			
	P-8ES	10-28	MI	Yes	30	25	0.95	1.2-1.6	470	V			U	S	4.8	450.00	270.00			
	Super Nova	20-20	MI	Yes	25	15	1.65	1.25-2	470	E	0.3 x 0.7	20/20	U	S	4.8	125.00	60.00			
	P-10 Studio	20-20	MI	No	25	15	1.3	1.5-4	470	E	0.3 x 0.7	20/20	U	S	4.8	130.00	60.00			
	P-15S	10-25	MI	Yes	30	22	0.95	1.2-1.6	470	E	0.3 x 0.7	25/25	U	S	4.8	175.00	82.50			
	P-25S	10-28	MI	Yes	30	25	0.95	1.2-1.6	470	X	0.2 x 0.7	2/28	U	S	4.8	250.00	150.00			
	P100LE		MI		30	25		1.35		V			U	F	3.5	1000.00				
	P100LE VDH		MI		30	25		1.35		V			F	S		1000.00				
	ARCAM	C77Mg	20-20 ±3	MM	No	20	15	4	1.6-2.2	200-400	S	0.6	20/20	U	S	6.2	79.95	24.95		
E77Mg		20-20 ±2.5	MM	No	20	15	4	1.6-2.0	200-400	E	0.3 x 0.7	20/20	U	S	6.2	119.95	59.95			
P77Mg		20-20 ±2.5	MM	No	20	15	4	1.6-2.2	200-400	E	0.3 x 2.0	20/20	U	S	6.2	149.95	89.95			
ARGENT	Diamond	10-50	MC	Yes	30	25	0.2	1.8-2.2	100	X	0.3 x 0.6	8/8	F	S	8	1200.00	600.00			
	MC-110	10-50	MC	Yes	30	25	0.2	1.8-2.2	100	X	0.3 x 0.6	8/8	F	S	8	300.00	120.00			
	MC-300	10-40	MC	Yes	25	20	0.1	1.8-2.2	100	X	0.3 x 0.6	8/8	F	S	8	150.00	60.00			
	MC-310	10-40	MC	Yes	25	20	0.1	1.8-2.2	100	X	0.3 x 0.7	8/8	F	S	7	100.00	40.00			
	MC-500H	10-40	MC	Yes	25	20	1.9	1.8-2.2	100	X	0.3 x 0.6	8/8	F	S	7	200.00	100.00			
	MC-500HS	10-50	MC	Yes	25	20	1.9	1.8-2.2	100	X	0.3 x 0.6	8/8	F	S	7	260.00	130.00			
	MC-500HR	10-50	MC	Yes	25	20	1.9	1.8-2.2	100	X	0.3 x 0.6	8/8	F	S	7	300.00	150.00			
AUDIOQUEST	AQ M-1	15-30	IM	No	25	20	3.0	1.5		E	0.3 x 0.7		U	S		95.00	40.00			
	AQ MC-3	15-35	MC	No	25	20	2.5	2.0		E	0.3 x 0.7		U	S		150.00	90.00			
	AQ MC-4	10-40	MC	No	25	20	2.5	1.8		E	0.3 x 0.7		F	S	4.5	250.00	160.00			
	AQ MC-5	10-40	MC	No	30	25	1.4	1.8		X	0.3 x 1.6		F	S	4.5	325.00	195.00			
	AQ 4041-MH	10-50	MC	Yes	30	25	1.4	1.9		X	0.3 x 1.6		F	S	8.1	550.00	360.00			
	AQ 4041-L	10-50	MC	Yes	30	25	0.5	1.9		X	0.3 x 1.6		F	S	8.1	550.00	360.00			
	AQ B-200MH	10-50	MC	Yes	30	25	1.4	1.9		X	0.3 x 1.6		F	S	9.2	850.00	560.00			
	AQ B-200L	10-50	MC	Yes	30	25	0.5	1.9		X	0.3 x 1.6		F	S	9.2	850.00	560.00			
	AQ 7000	10-50	MC	No	30	25	0.3	1.9		X	0.3 x 1.6		F	S	9.5	1295.00	895.00			
	AUDIO-TECHNICA	AT201P	20-22 ±1	MM	No	26	16	5.0	1.0-1.5	100-200	C	0.6		U	P/S		55.00	25.00		
		AT201EP	20-25 ±1	MM	No	26	17	5.0	1.0-1.5	100-200	E	0.4 x 0.7		U	P/S		65.00	30.00		
AT211EP		15-25 ±1	MM	No	29	18	5.0	1.0-1.5	100-200	E	0.4 x 0.7		U	P/S		75.00	35.00			
AT216EP		15-27 ±1	MM	No	29	20	5.0	1.0-1.5	100-200	E	0.3 x 0.7		U	P/S		100.00	50.00			
AT221EP		10-28 ±1	MM	No	31	20	5.0	1.0-1.5	100-200	E	0.2 x 0.7		U	P/S		135.00	70.00			
AT231LP		10-30 ±1	MM	No	31	21	5.0	1.0-1.5	100-200	X			U	P/S		145.00	65.00			
AT132EP		10-30 ±1	MM	No	30	20	5.0	1.0-1.5	100-200	E	0.2 x 0.7		U	P		150.00	65.00			
AT152MLP		5-35 ±1	MM	No	31	21	5.0	1.0-1.5	100-200	M			U	P		250.00	120.00			
ATP-1		20-20 ±1.5	MM	No	21	16	5.0	3-5	100-200	C	0.6		U	S	7.2	45.00	25.00			
AT70		20-20 ±1.5	MM	No	20	15	3.5	1.5-2.5	100-200	C	0.6		U	S		45.00	25.00			
AT71E		20-22 ±1.5	MM	No	22	17	3.5	1-2	100-200	E	0.4 x 0.7		U	S		55.00	35.00			
AT105		20-20 ±1	MM	No	26	16	5.0	1.5-2.5	100-200	C	0.6		U	S	7.0	55.00	30.00			
AT110E		20-22 ±1	MM	No	26	17	5.0	1.0-2.0	100-200	E	0.4 x 0.7		U	S	7.0	70.00	35.00			
AT120 E/T		15-25 ±1	MM	No	29	20	5.0	1.0-1.8	100-200	E	0.3 x 0.7		U	S	6.4	95.00	50.00			
AT125 LC/T		10-28 ±1	MM	No	29	20	5.0	1.0-1.8	100-200	X			U	S	6.4	150.00	65.00			
AT130 E/T		10-30 ±1	MM	No	30	20	5.0	0.8-1.8	100-200	E	0.2 x 0.7		U	S	6.4	135.00	55.00			
AT140ML		5-32 ±1	MM	No	30	20	5.0	0.8-1.6	100-200	M			U	S	6.5	195.00	85.00			
ATML170		5-40 ±1	MM	Yes	31	21	5.0	0.3-1.25	100-200	M			U	S	7.0	345.00	165.00			
ATP-2		15-22 ±1.5	MM	No	23	17	5.3	3-5	200	E	0.4 x 0.7		U	S	7.2	60.00	35.00			
ATP-2XN (w/2 Stylus)	15-22 ±1.5	MM	No	23	17	5.3	3-5	200	E	0.4 x 0.7		U	S	7.2	90.00					
ATP-3	15-25 ±1.5	MM	No	23	17	5.3	2-3	200	E	0.3 x 0.7		U	S	7.2	80.00	50.00				
A.V.A.	Longhorn Z	10-60 ±1.5	IM	No	35	30	5.6	1.5-2.0		E	0.3 x 0.6		U/F	S	8	99.00	45.00			
BANG & OLUFSEN	MMC 1	20-20 ±1	MI	Yes	30	22	2.12	1	200-400	X	0.1 x 0.1		No	I	1.6	490.00				
	MMC 2	20-20 ±1.5	MI	Yes	25	20	2.12	1	200-400	X	0.12 x 0.12		No	I	1.6	325.00				
	MMC 3	20-20 ±2	MI	Yes	25	20	2.12	1.2	200-400	E	0.15 x 0.15		No	I	1.6	215.00				
	MMC 4	20-20 ±2.5	MI	Yes	22	17	2.12	1.2	200-400	E	0.2 x 0.2		No	I	1.6	125.00				
	MMC 5	20-20 ±3	MI	Yes	20	15	2.12	1.5	200-400	E	0.25 x 0.25		No	I	1.6	70.00				
BENZ-MICRO	MC-100	15-25 ±0.5	MC	Yes			0.4	1.6-2.0		M			F	S	7.5	800.00	400.00			
	MC-1 Super	15-25 ±0.5	MC	Yes			0.9	1.6-2.0		M			F	S	7.5	1000.00	500.00			
	MC-2	15-25 ±0.5	MC	Yes			2.0	1.6-2.0		M			F	S	7.5	1200.00	600.00			
	MC-3	10-50 ±0.5	MC	Yes			0.35	1.85		M			F	S	7.2	1500.00	750.00			
CHADWICK MODIFICATIONS	F-3 Super	18-21	IM	No	28	24	3.8	2		E	0.3 x 0.6	23/23	F	S	5	95.00	60.00			
	X-5 Super	15-45	MC	No	30	30	2	2		M		14/14	F	S	4.8	300.00	165.00			
CLEARAUDIO	Gamma STD	10-50	MC	Yes	28	28	0.6	1.8-2.2		X	0.2 x 1.6	15/15	F	S	4.5	495.00	250.00			
	Delta STD	10-60	MC	Yes	30	30	0.6	1.8-2.2		X	0.2 x 1.6	15/15	F	S	4.5	695.00	350.00			
	Veritas STD	10-60	MC	Yes	35	35	0.6	1.8-2.2		X	0.2 x 1.6	15/15	F	S	4.5	895.00	450.00			
	Gamma-S	10-50	MC	Yes	28	28	0.6	1.8-2.2		X	0.2 x 1.6	15/15	F	S	10.3	750.00	400.00			
	Delta-S	10-60	MC	Yes	30	30	0.6	1.8-2.2		X	0.2 x 1.6	15/15	F	S	10.3	995.00	500.00			
	Veritas-S	10-60	MC	Yes	35	35	0.6	1.8-2.2		X	0.2 x 1.6	15/15	F	S	13.5	1295.00	650.00			
	Signature	10-70	MC	Yes	40	40	0.6	1.8-2.2		X	0.2 x 1.6	15/15	F	S	9	1495.				

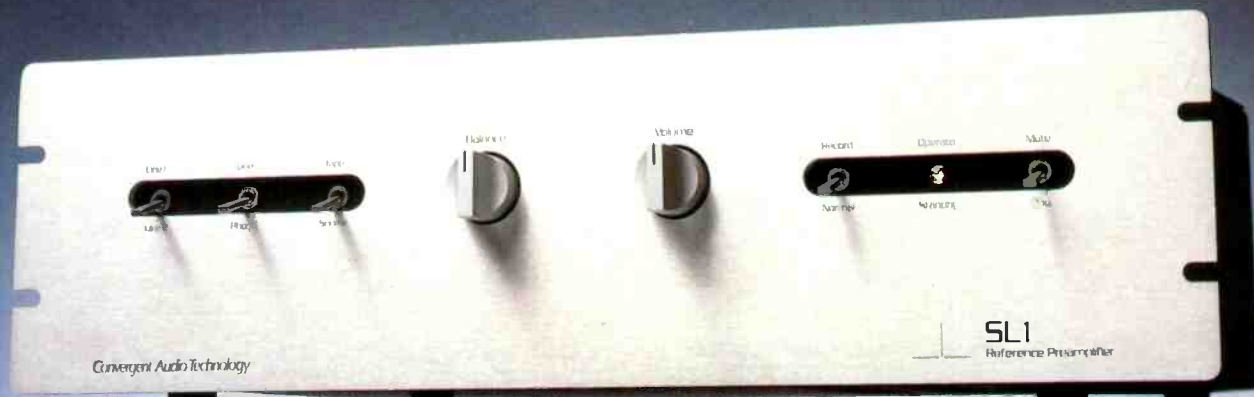
For Purists Only.

The new SL1 Reference is the first production preamplifier built for the audio purist.

Combining innovative and sophisticated pure vacuum tube audio circuitry with the finest component parts available, we have spared no effort or expense to make the SL-1 Reference the first of a new breed.

The resulting sound is natural, effortless and clear...shockingly so to those who think they already own the best.

Listen.



Place TT/Tonearms
Ctridges tab here

Convergent Audio Technology
"Technology Serving Music"

24 Falcon Drive • West Henrietta, NY 14586

716-359-2700

NONSPEAKER™



First and ONLY speaker to SEAMLESSLY blend ultra high resolution ribbons with dynamic subwoofers • Winner of the coveted CES Design & Engineering Award • The definitive expression of musicality, technology and value... \$2,000, \$3000, \$4800 and \$11,000 (per pair).

Experience the difference for yourself... exclusively from the industry's only 'edge of the art' speaker builder phone for the TRUTH:

mavrick

619/480-4804

629 SOUTH RANCHO SANTA FE ROAD, RANCHO SANTA FE, CA 92069

DEALER INQUIRES INVITED

...it sounds great, too!

ONYX

Turntable System

An elegant solution featuring high-tech materials for sonic purity and dynamic realism. Designed and engineered by Rod Herman, of SOTA fame, to be "the best value in turntables available today."

- Lead packed plinth framed in rosewood.
- One inch thick machined acrylic platter.
- Any tonearm fits.
- Sapphire bearing plate.
- Magnetically shielded synchronous motor.
- Zorbex™ damping for vibration absorption.
- Delta Tower isolation stand included!

Suggested retail for ONYX turntable system \$995

DEALER INQUIRES INVITED

Made in the U.S.A. by

ARCICI, INC.

(212) 724-6021
Box 1502, Ansonia Station, New York, NY 10023

Place T/Tonearms
Cartridges tab here



PHONO CARTRIDGES

MANUFACTURER	Model	Frequency Response, Hz to kHz, ±dB	Stylus Type	Pinpoint, Magnol, Iron, MI, Induced Magnet, MM, Moving Coil = MC, Moving Magnet = MM	Individual Response Curve Supplier?	Channel Separation, 1 kHz, dB	Channel Separation, 10 kHz, dB	Output, mV, 1 kHz, 5 cm Sec. ms Lateral Velocity	Recommended Tracking Force Range, Grams	Recommended Load Capacitance, pF	Stylus Type—See Code	Stylus Radius (Radius), Mils	Dynamic Compliance, µm/mN, Vertical/Lateral	Stylus Replacement, User = U, Factory = F	Mounting: Integral Shell = I, P-Mount = P, Standard = S	Weight, Grams	Price, \$	Replacement Stylus Price, \$
CLEARAUDID (Continued)	Prädikat Accurate Insider	10-75	MC	Yes	40	40	0.6	1.8-2.2		X	0.2 x 1.6	15/15	F	S	5.5	1650.00	850.00	
		10-110	MC	Yes	40	40	0.7	1.8-2.2		X	0.2 x 1.6	15/15	F	S	10	2485.00	1250.00	
		10-110	MC	Yes	45	45	0.7	1.8-2.2		X	0.2 x 1.6	15/15	F	S	11.5	5350.00	2700.00	
DECCA	Gold	10-40 ± 2	MM	No	30	25	3.5	1.5-2.0	220	V	0.2 x 0.7	4/8	F	S	6	800.00	450.00	
DENON	DL-1000	20-110	MC		30		0.12	0.7-0.9					F	S	6	859.00	516.00	
	DL-305	20-75	MC		28		0.2	1.0-1.4					F	S	5.8	559.00	336.00	
	DL-304	20-75	MC		28		0.18	1.0-1.4					F	S	5.8	395.00	237.00	
	DL-302	20-70	MC		28		0.25	1.2-1.6					F	S	6	260.00	155.00	
	DL-301	20-60	MC		28		0.3	1.2-1.6					F	S	4.7	160.00	96.00	
	DL-160	20-50	MC		28		1.6	1.5-2.1					F	S	4.8	115.00	69.00	
	DL-110	20-46	MC		25		1.6	1.5-2.1					F	S	4.8	85.00	51.00	
EMT	XSD-15FL	20-30	MC	Yes	25		1.05	2.0-3.0	800	X		15/15	F	I	21	675.00	260.00	
EPOCH	HZ9S	10-30	MM	Yes	35	22	4.0	0.75-1.5	275	X	0.3 x 2.8	25/	U	S	4	250.00	90.00	
	LZ9E	10-50	MM	Yes	35	22	0.2	0.75-1.5		X	0.3 x 2.8	25/	U	S	3.8	250.00	90.00	
	LZ8S	10-40	MM	No	35	22	0.2	0.75-1.5		X	0.3 x 2.8	20/	U	S	3.8	190.00	75.00	
	HZ8S	10-30	MM	No	35	22	4.0	0.75-1.5	275	X	0.3 x 2.8	20/	U	S	4	190.00	75.00	
	HZ7S	10-25	MM	No	32	20	4.0	0.75-1.5	275	X	0.3 x 2.8	17/	U	S	4	120.00	50.00	
HZ6E	10-22	MM	No	32	15	4.0	0.75-1.5	275	E	0.2 x 0.7	15/	U	S	4	95.00	40.00		
GARROTT BROTHERS	K1	20-20 ± 2	IM	No	30	25	4.8	1.75			E		U		6	195.00	140.00	
	K2	20-20 ± 2	IM	No	30	25	4.8	1.75			E		U		6	195.00	140.00	
	K3	20-20 ± 2	IM	No	30	25	4.8	1.75			E		U		6	195.00	140.00	
	P66	20-20 ± 2	IM	No	30	25	4.8	1.75			E		U		6	250.00	170.00	
	P77	20-20 ± 2	IM	No	30	25	4.8	1.75			E		U		6	295.00	220.00	
	P86	20-25 ± 2	MC	No	35	30	0.4	2			M		U		7	2000.00		
	P87	20-25 ± 2	MC	No	35	30	0.4	2			M		U		7	2500.00		
	P88	20-25 ± 2	MC	No	35	30	0.4	2			M		U		7	3000.00		
GOLDMUND	Goldmund Gold		MC MC					2-2.2 2-2.2		X X				S S	4.4 6.4	1095.00 1795.00	657.00 1077.00	
GOLDRING/ IMPORT AUDIO	Elan	20-18 ± 3	MM	No	20		5.5	1.25-1.75		E	0.3 x 0.7	16/16	U	S		50.00	30.00	
	Epic II	20-20 ± 2	MM	No	25		5.5	1.5-2.5	200	C	2.5	24/24	U	S	6.5	80.00	45.00	
	G-1010	20-20 ± 2	MM	No	25		6.5	1.5-2.5					U	S	6.3	110.00	60.00	
	G-1010 78rpm	20-20 ± 2	MM	No	25		6.5	1.5-2.5	200	V	VDH II	16/24	U	S	6.3	110.00	60.00	
	G-1020	20-22 ± 3	MM	No	25		6.5	1.5-2.5	200	V	VDH I	16/24	U	S	6.3	150.00	80.00	
	G-1040	20-22 ± 3	MM	No	25		6.5	1.5-2.5	200	V	VDH I	16/24	U	S	6.3	220.00	120.00	
	Eroica	20-22 ± 3	MC	Yes	25		2.5	1.5-2.0	100-500	V	VDH II	18/18	F	S	5.5	260.00	175.00	
	Eroica L	20-22 ± 3	MC	Yes	25		0.25	1.5-2.0	200-1000	V	VDH II	18/18	F	S	5.5	260.00	175.00	
	Electro II	20-22 ± 3	MC	Yes	25		2.5	1.6-2.2	100-500	V	VDH I	18/18	F	S	9	440.00	295.00	
	Electro IIA	20-22 ± 3	MC	Yes	25		0.25	1.6-2.2	100-500	V	VDH I	18/18	F	S	9	440.00	295.00	
	Gerard Louis	20-22 ± 3	MC	Yes	25		0.25	1.6-2.2	100-500	V	VDH I	18/18	F	S	9	1000.00	600.00	
GOLDRING/ MAY AUDIO MARKETING	Excel	20-30 ± 2	MC	Yes	25		0.5	1.5-2	100-500	V	VDH I	16/16	F	S	8.5	1200.00	800.00	
	Gerard Louis	20-22 ± 3	MC	Yes	25		0.5	1.6-2.2	100-500	V	VDH I	18/18	F	S	9	1000.00	600.00	
	Electro II H	20-22 ± 3	MC	Yes	25		2.5	1.6-2.2	100-500	V	VDH I	18/18	F	S	9	440.00	295.00	
	Electro II LZ	20-22 ± 3	MC	Yes	25		0.25	1.6-2.2	100-500	V	VDH I	18/18	F	S	9	440.00	295.00	
	Eroica Low Out	20-22 ± 3	MC	Yes	25		0.25	1.5-2	200-1000	V	VDH II	18/18	F	S	5.5	260.00	175.00	
	Eroica H	20-22 ± 3	MC	Yes	25		2.5	1.5-2.0	100-500	V	VDH II	18/18	F	S	5.5	260.00	175.00	
	G1042	20-22 ± 3	MM	No	25			1.5-2.5	200	V	VDH I	16/24	U	S	6.3	220.00	120.00	
	1022	20-20 ± 3	MM	No	25			1.5-2.5	200	V	VDH II	16/24	U	S	6.3	150.00	80.00	
	G1012	20-20 ± 2	MM	No	25		6.5	1.5-2.5	200	C	2.5	21/24	U	S	6.3	110.00	60.00	
	Epic II	20-18 ± 3	MM	No	20		5.5	1.25-1.75	400	S	0.3 x 0.7	16/16	U	S	6.5	80.00	45.00	
	Elan	20-20 ± 3	MM	No	20		5.5	1.5-3.0	200-400	S			U	S	4.2	50.00	30.00	
	G950E	20-18 ± 3	MM	No	20		6	1-3	47-100	E	0.3 x 0.7		U	S				
	G850E	20-18 ± 3	MM	No	20		8	2-3	150-400	E	0.3 x 0.7		U	S				
	G820DS	20-18 ± 3	MM	No	20		5	1.5-5	150-400	E	0.6	20/20	U	S	7			
	EAC DJ-E	20-18 ± 3	MM	No	20		5.5	2	150-400	E	0.3 x 0.7	16/16	U	S	7			
Epic DJ	20-18 ± 3	MM	No	20		5.5	1.5-5	150-400	S	0.6	16/16	U	S	7				
GRACE	F9 Ruby	10-50 ± 2	MM	No	30	25	2.6	1.3-1.7	400	E		20/20	U	S	6	395.00	250.00	
	F9E Classic	10-47 ± 2	MM	No	30	25	3.75	1.4-1.8	200	E		20/20	U	S	6	250.00	125.00	
GRADD	Z2 +	10-60	MI	No	25	1.4	1.5			E			U	P/S	5.5	265.00	110.00	
	Z1 +	10-60	MI	No	25	1.4	1.5			E			U	P/S	5.5	180.00	75.00	
	Z +	10-55	MI	No	25	4.0	1-2			E			U	P/S	5.5	130.00	55.00	
	ZF1 +	10-55	MI	No	25	4.0	1-2			E			U	P/S	5.5	110.00	45.00	
	ZF2 +	10-55	MI	No	25	4.0	1-2			E			U	P/S	5.5	86.00	36.00	
	ZF3E +	10-55	MI	No	25	4.0	1-2			E			U	P/S	5.5	69.00	33.00	
	ZCE + 1	10-50	MI	No	20	4.0	1-2			E			U	P/S	5.5	55.00	30.00	
	ZTE + 1	10-50	MI	No	20	4.0	1-2			E			U	P/S	5.5	25.00	17.00	
	ZCE +	10-50	MI	No	20	4.0	2-3			E			U	S	5.5	45.00	28.00	
	ZTE +	10-50	MI	No	20	4.0	2-3			E			U	S	5.5	30.00	21.00	
	JOSEPH GRADO SIGNATURE	XTZ		Flux Bridge	No	35	20	2.2	1.5			0.15 x 0.9		U	S	5	750.00	375.00
TLZ			Flux Bridge	No	35	20	2.2	1.5			0.15 x 0.9		U	S	5	500.00	250.00	
MCZ			Flux Bridge	No	35	20	2.2	1.5			0.2 x 0.2		U	S	5	300.00	150.00	
8MZ			Flux Bridge	No	35	20	5	1.5			0.2 x 0.2		U	S	5	200.00	100.00	

JUST HANGIN' OUT WITH MY SHERWOOD.

I turn it on and we're off.
I turn it up and the world goes away.
Pure power. Pure emotion. Pure
music, captured live. And the price didn't
kill me, either.

Now the whole place is jumpin', all
two of us. And that's enough for a party.

My Sherwood. It makes no place
special a great place to be.



 **Sherwood**
LIVE PERFORMANCE SOUND™

ZAPCHORD

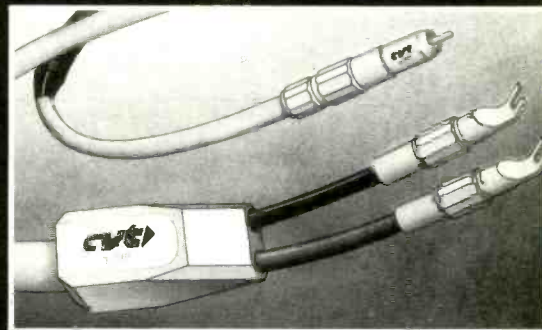
From **MIT**

The Fruit Doesn't Fall Far From The Tree

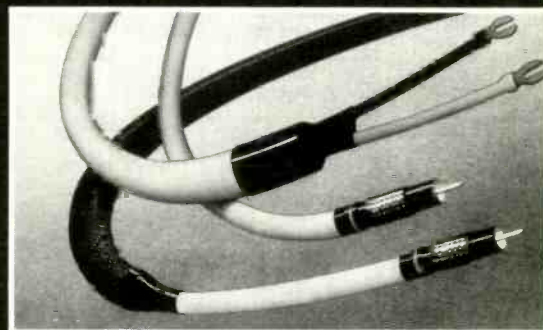
After nearly a decade of groundbreaking research and development, Music Interface Technologies now has neutral, noise-free audio cable that is easy for the picking.

Within reach of any audio budget, MIT's new ZAPchord Speaker Cable and Interconnect "ZAP" the noise and leave the music with special "ZAPline" networks and patented termination techniques. Because ZAPchord cables remove the noise, audio components sound more powerful, dynamic, defined, and detailed than ever before.

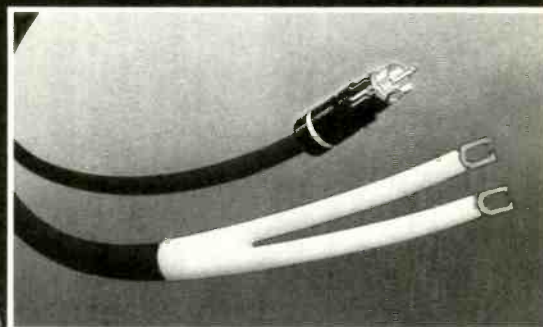
Unlock the vibrancy of the music on your favorite records, tapes, and CDs with ZAPchord from Music Interface Technologies.



Constant Velocity Transmission™ Series • Selected from the top of the tree, CVT™ is MIT's "cost-no-object" and newest technology. The CVT Coupler™ in every cable is calibrated to eliminate delay distortion and phase noise.



MIT and Shotgun Series • Fluked from the upper branches, these established MIT cable products are the audio industry's standard for neutrality, clarity, and precise focus because of their minimal delay distortion and phase noise.



PC Squared • Ripe and ready to improve your system. MIT's new mid-priced line uses UNIFIELD™ and VARI-LAY™ construction, our patented computer modeled techniques that insure tonal neutrality and phase correctness.

HOME AUDITION PLAN
Visit Your Authorized MIT Dealer

Music Interface Technologies **MIT**

Distributed by Transparent Audio Marketing · Rt 202, Box 117 · Hollis, ME 04042 · (207) 929-4553
Enter No. 71 on Reader Service Card

PHONO CARTRIDGES

MANUFACTURER	Model	Frequency Response, Hz to kHz, ±dB	Stylus Type	Principle: Moving Coil = MC; Induced Magnet = IM; Moving Coil + MC		Channel Separation, 1 kHz, dB	Output, mV, 1 kHz, 5 cm/sec, rms; Lateral Velocity Range, Grams	Recommended Tracking Force	Syllus Type—See Code	Syllus Radius (Radius), Mills	Dynamic Compliance, Vertical/Lateral	Stylus Replacement: User = U, Factory = F	Mounting: Integral Shell = I, P-mount = P, Standard = S	Weight, Grams	Price, \$	Replacement Stylus Price, \$	
				Individual Response	Channel Separation, 10 kHz, dB												
STYLUS TYPE C—Conical S—Spherical E—Elliptical M—MicroLine MicroRidge, or similar V—Van den Hul X—Hyper-Elliptical, Stereoedron, Fine Line, Line Contact, Long Line, Line Trace, or similar																	
KISEKI	Lapis Lazuli	20-50	MC			0.4			X					11	560.00	3100.00	
	Agaat Ruby	20-50	MC	Yes	30	25	0.4	2.0	X	0.14 x 0.6	8/8	F	S	11	1250.00	850.00	
	Purple Heart Sapphire Blue Gold	20-50	MC	Yes	30	25	0.4	2.0	X	0.14 x 0.6	8/8	F	S	7.5	975.00	680.00	
KOETSU	EMC-Black Goldline	15-45 ±2	MC		25			1.6-1.95	X			U	S		795.00	575.00	
	EMC-Rosewood	10-50 ±2	MC		30			1.6-2.0	X			U	S		1250.00	700.00	
	EMC-Rosewood Sig.	10-50 ±2	MC		35			1.5-2.0	X			U	S		1950.00	1200.00	
KRELL	KC-100		MC	No	25	25	0.25	1.75-2.00	X			F	S	13	800.00		
	KC-200		MC	No	25	25	0.25	1.75-2.00	X			F	S	13	1100.00		
LINN HI-FI	Basik III		MM	No				1.8	S			U	S	5	75.00	45.00	
	K5		MM	No				1.7	E	0.2 x 0.8		U	S	5.5	150.00	90.00	
	K9		MM	No				1.7	E	0.2 x 0.8		U	S	5.5	275.00	165.00	
	K18		MM	No				1.7	E	0.2 x 0.8		U	S	6.0	450.00	270.00	
	Asaka		MC	No				1.7	E	0.2 x 0.8		F	S	6.0	795.00	530.00	
	Karma Troika		MC	No				1.7	E	0.2 x 0.8		F	S	6.0	1225.00	816.67	
MADRIGAL	Carnegie II		MC	Yes	35	25	0.35	1.6-2.0	M	0.4 x 8	15/15	F	S	9	850.00	750.00	
JOHN MAROVSKIS	JMAS MIT-1	10-10 ±1.0	MC	No	25	20	0.25	2.25-2.5	500	V	0.2 x Line	/16	F	S	5.5	550.00	275.00
MAYWARE	MC-7V-III	10-50 ±1	MC	Yes	30		0.25	1.75	X	0.2 x 0.8		F	S	4.8			
	MC-7V-III	10-50 ±1	MC	Yes	30		2.5	1.75	X	0.2 x 0.8		F	S	4.8			
MONSTER CABLE	Alpha Genesis 1000 Mk. II	20-20 ±1	MC		30		0.2	1.5-2.0						4.2	800.00		
	Alpha Genesis 500	20-20 ±1	MC		30		0.2	1.5-2.0						4.2	500.00		
	Sigma Genesis 2000	20-20 ±1	IM		30		0.2	1.5-2.5	M	0.3 x 6.0	12/15			4.2	1250.00		
MUSIC HALL	AT-F5 Bullet	15-50	MC	No	27		0.3	1.25-1.75	E					5.0	325.00	225.00	
	(Modified AT-95E)	20-20	MI	No	20		3.5	1.5-2.5	100-200	E	0.4 x 0.7	9/10	F	S	5.7	125.00	85.00
MUSIC & SOUND	Econocoll	20-40 ±2	MC	No	25	20	2.0	1.5-1.8	E	0.3 x 0.7	8.5/	F	S	4.5	199.00	130.00	
ORTOFON	MC3000MII	5-55 +3,-1	MC	No	25		0.15	1.7-2.2	X		13/13	F	S		1500.00	800.00	
	MC1000	10-50 +3,-1	MC	No	25		0.15	1.7-2.2	X		13/13	F	S		1000.00	500.00	
	MC30 Super II	20-40 +4,-1	MC	No	25		0.25	1.6-2.0	X		16/16	F	S	10	600.00	300.00	
	MC20 Super	10-50 +3,-1	MC	No	25		0.25	1.5-1.9	X		17/17	F	S	9	300.00	175.00	
	MC10 Super	10-30 +5,-1	MC	No	25		0.3	1.3-1.8	E		14/14	F	S	9	100.00	75.00	
	HMC30	20-40 +4,-1	MC	No	27		0.5	1.8-2.2	X		14/14	F	S	10	500.00	250.00	
	HMC20	20-30 +4,-1	MC	No	26		0.5	1.8-2.2	X		14/14	F	S	10	400.00	200.00	
	HMC10	20-25 +4,-1	MC	No	24		0.5	1.8-2.2	E		14/14	F	S	10	350.00	175.00	
	MC3 Turbo	20-40 +3,-1	MC	No			3.3	1.8-2.2	X		13/13	F	S	5	200.00	100.00	
	MC1 Turbo	20-30 +3,-1	MC	No			3.3	1.8-2.2	X		13/13	F	S	5	150.00	75.00	
	X5 MC	15-35 +4,-1	MC	No			2.2	1.7-2.2	X		12/12	F	S	5	300.00	150.00	
	X3 MC	20-40 +3,-1	MC	No			2.2	1.7-2.2	X		13/13	F	P/S	5	200.00	87.50	
	X1 MC	20-30 +3,-1	MC	No			2.2	1.7-2.2	X		13/13	F	P/S	5	100.00	50.00	
	540	18-27 +3,-1	MM	No	25		3	1.25-1.5	X		30/30	U	P/S	5	300.00	150.00	
	530	20-25 +3,-1	MM	No	25		3	1.25-1.5	X		30/30	U	P/S	5	225.00	120.00	
	520	20-23 +3,-1	MM	No	25		3	1.25-1.5	E		25/25	U	P/S	5	150.00	75.00	
	510	20-20	MM	No	25		3	1.25-1.5	E		25/25	U	P/S	5	75.00	40.00	
	QM40	20-29 +3,-1	MM	No	25		3.5	1.0-1.5	300		45/45	U	S	5	300.00	150.00	
	QM30 Super	20-20 +2,-0	MM	No	25		4	1.0-1.5	300	X	0.40 x 0.8	40/35	U	P/S	5	225.00	90.00
	QM20 Super	20-20 +2,-1	MM	No	25		4	1.0-1.5	300	E	0.18 x 0.8	35/30	U	P/S	5	150.00	60.00
	QM10 Super	20-20 +3,-1	MM	No	22		4	1.25-1.75	300	E	0.18 x 0.8	30/25	U	P/S	5	75.00	30.00
QM5E	20-20 +3,-1.5	MM	No	22		4	1.25-1.75	300	E		25/25	U	P/S	5	50.00	20.00	
QM3E	20-20 +3,-2	MM	No	20		4	1.25-1.75	300	E		25/25	U	P/S	5	35.00	12.00	
TM20UD	20-20 +3,-1	MM	No	25		3.5	1.0-1.5	400	X		35/35	U	P/S	6	129.00	75.00	
TM14U	20-20	MM	No	20		4.5	1.0-1.5	400	E		30/30	U	P/S	6	89.00	30.00	
TM7	20-20	MM	No	20		5	1.0-1.5	400	E		30/30	U	P/S	6	60.00	25.00	
PICKERING	XLZ/7500S	10-50	MM	No	35		0.33	0.75-1.5	X	0.3 x 2.8	30/	U	S	5	275.00	90.00	
	XSV/5000	10-50	MM	No	35		3.8	0.75-1.5	275	X	0.3 x 2.8		U	S	5.6	275.00	80.00
	XSV/4000	10-36	MM	No	35		3.8	0.75-1.5	275	X	0.3 x 2.8	30/	U	S	5.6	200.00	56.00
	XSV/3000	10-30	MM	No	35		3.8	0.75-1.5	275	X	0.3 x 2.8	30/	U	S	5.6	130.00	49.95
	TLZ/7500S	10-50	MM	No	35		0.33	0.75-1.5	275	X	0.3 x 2.8		U	P/S	5.9	275.00	90.00
	XSP/4004	10-36	MM	No	35		3.8	0.75-1.5	275	X	0.3 x 2.8	30/30	U	P/S	5.9	200.00	56.00
	XSP/3003	10-30	MM	No	35		5.0	0.75-1.5	275	X	0.3 x 2.8	30/30	U	P/S	5.9	130.00	49.95
	TL-4 Super	10-25	IM	No	35		4.4	0.75-1.5	275	X	0.3 x 2.8	15/15	U	P/S	5.9	170.00	45.00
	TL-3S	10-25	IM	No	35		4.4	0.75-1.5	275	X	0.3 x 2.8		U	P/S	5.9	140.00	40.00
	TL-2S	10-22	IM	No	35		4.4	0.75-1.5	275	X	0.3 x 2.8		U	P/S	5.9	110.00	36.00
	TL-2E	10-22	IM	No	35		4.4	0.75-1.5	275	E	0.3 x 0.7		U	P/S	5.9	95.00	29.50
	TL-1	10-20	IM	No	32		4.4	0.75-1.5	275	E	0.3 x 0.7		U	P/S	6	85.00	24.50
	TL-Type 2	10-20	MM	No	28		3.0	1-1.5	275	E	0.3 x 0.7		U	P/S	6	60.00	22.50
	TLE	10-20	MM	No	28		4.4	1-1.5	275	E	0.3 x 0.7		U	P/S	6	55.00	20.00
	XV-15/625E	10-25	IM	No	35		4.4	0.75-1.5	275	E	0.3 x 0.7		U	S	6.3	110.00	30.00
	XV-15/400E	10-25	IM	No	35		4.4	1-2	275	E	0.4 x 0.7		U	S	6.3	95.00	28.50
	V-15 Series IIe	10-18	IM	No	22		3.5	1-2	275	E	0.3 x 0.7		U	P/S	8.5	50.00	16.50
	TL-6250J	20-20	IM	No	30		4.4	3.5-4	275	E	0.4 x 0.7		U	P/S	8.5	82.00	30.00

(Continued)

“...one of the most convenient-to-use preamps around... it is a fundamentally musical performer at an affordable price.”

John Atkinson/Stereophile, Vol. 12, No. 6, June 1989



The IRIS System. Hafler's continuing commitment to uncompromised musical sound reproduction and exceptional value.

The IRIS Preamp circuitry replicates the smooth sound of vacuum tubes while maintaining the very low noise and high dynamics of transistors.

The IRIS Remote is intentionally easy to use.

The rotary knobs control volume and balance with an accuracy, convenience and feel that is unique to Hafler.



The IRIS FM Tuner is a perfect complement to the Hafler system. It combines precise quartz controlled tuning with infrared remote control and a clearly legible display. That makes finding and enjoying your favorite stations a pleasure.

The IRIS CD Player, due this fall, completes an intensive engineering effort to create a new level of superior performance at an "affordable price."

For the dealer nearest you call 1-800-366-1619.

Hafler
A DIVISION OF ROCKFORD CORPORATION

"The Affordable High-End"



PHONO CARTRIDGES

MANUFACTURER	Model	Frequency Response, Hz to kHz, ± dB	Principle: Moving Iron - MI Moving Magnet - MM Moving Coil - MC	Individual Response Curve Supplied?	Channel Separation, 1 kHz, dB	Output, mV, 1 kHz, 5 cm/sec. rms	Recommended Lateral Velocity Range, Grams	Recommended Tracking Force	Stylus Type—See Code	Stylus Radius (Radius), Mils	Dynamic Compliance Vertical/Lateral, μm/mN	Stylus Replacement: User = U, Factory = F	Mounting: Integral Stylus = I, P-Mount = P, Standard = S	Weight, Grams	Price, \$	Replacement Stylus Price, \$
PICKERING (Continued)	XV-15/150DJ	10-20	IM	No	28	8.0	2-4	275	S	0.7		U	S	6.3	79.00	16.50
	XV-15/150DJP (w/2 Styli)	10-20	IM	No	28	8.0	2-4	275	S	0.7		U	S	6.3	99.00	12.85
	V-15/DJ	20-20	IM	No	30	4.4	2-5	275	S	0.7		U	S	5.5	43.00	34.75
	V15-DJ-DP	20-20	IM	No	30	4.4	2-5	275	S	0.7		U	S	5.5	86.00	34.75
	XV-15 625DJ	20-20	IM	No	30	4.4	1-4	275	E	0.3 x 0.7		U	S	5.5	82.00	30.00
	XV-15/200E	10-20	IM	No	35	4.4	0.75-1.5	275	E	0.2 x 0.7		U	S	6.3	170.00	35.00
	XV-15 757S	15-25	IM	No	35	4.4	0.75-1.5	275	X	0.3 x 2.8		U	S	6.3	140.00	43.75
	XV-15/625E	10-25	IM	No	35	4.4	0.75-1.5	275	E	0.3 x 0.7		U	S	6.3	110.00	30.00
	XV-15/400E	10-25	IM	No	35	4.4	1-2	275	E	0.4 x 0.7		U	S	6.3	95.00	28.50
	V15 Series IIs	10-25	MM	No	25	3.5	0.75-1.5	275	X	0.3 x 2.8		U	S	5.5	88.00	37.50
	V15 Series II-EE	10-20	MM	No	25	3.5	0.75-1.5	275	E	0.3 x 0.7		U	S	5.5	55.00	21.50
	V-15 Series II-E	10-18	MM	No	22	3.5	1-2	275	E	0.3 x 0.7		U	S	5.5	50.00	16.50
	PIONEER	PC-295T													80.00	35.00
PC-290T														70.00	30.00	
PC-250T														50.00	20.00	
PC-5MC														54.00	32.00	
RATA	RP20	20-20 ± 3	MM	No	25	4.5	1.5-1.75	150	E		16/16	U	S	7.1	60.00	50.00
	RP40	20-20 ± 3	MM	No	26	4.5	1.5-1.75	150	S		16/16	U	S	7.1	125.00	100.00
	RP70 VdH	20-20 ± 3	MM	No	28	4.5	1.5-1.75	150	V		16/16	U	S	7.1	350.00	275.00
	RP500	20-22 ± 3	MC	No	25	0.25	1.5-1.75	100	V		16/16	F	S	9	700.00	350.00
	RP501	20-22 ± 3	MC	No	25	2.5	1.5-1.75	100	V		16/16	F	S	9	700.00	350.00
REGA RESEARCH	Bias Elys		MM	No	30	6.5	1.75		E			F	S	4	99.00	60.00
			MM	No	30	6.5	1.75		E			F	S	4.5	199.00	120.00
ROKSAN	Shiraz	20-30 ± 0.5	MC	Yes		0.21	2-2.2		V			F	S		1450.00	
JEFF ROWLAND DESIGN GROUP	Complement	10-45 ± 1.5	MC	No	27	0.2	2.3-2.7		X		6/6	S	S	15.7	2500.00	
	LH Complement	10-45 ± 1.5	MC	No	27	0.2	2.1-2.5		X		6/6	S	S	14.7	1200.00	
SHINON	Black Magnet	10-35	MM	No	30	2.8	1.2-1.5		E		19/19	F	F	6.8	199.00	99.50
	Black Magnet Super	10-35	MM	No	30	2.8	1.2-1.5		M		19/19	F	F	6.8	319.00	159.50
	Titan	10-40	MC	No		0.4	1.2-1.5		E			F	F		239.00	119.50
	MV2.5 Improved	10-45	MC	No		2.5	1.75-2.25		X			F	F		419.00	209.50
	Saphire Improved	10-45	MC	No		0.3	1.75-2.25		X			F	F		499.00	249.50
	Red Boron Improved	10-45	MC	No		1.0	1.75-2.25		M			F	F		899.00	449.50

PICKERING 	<p>ORTOFON X5-MC <i>Std. Mount High Output M.C. 20-45k Hz response. FG II stylus tip. Highly detailed, transparent sound.</i></p>	<p>ORTOFON 540 <i>Std. Mount Moving Magnet 20-29k Hz response. FG II stylus tip. Silky smooth sound with good channel separation.</i></p>	<p>SHURE V15 V-MR <i>Std. Mount Moving Magnet 20-28k Hz response. Micro-Ridge stylus tip. Budget reference cartridge with excellent trackability.</i></p>	<p>AUDIO TECH. AT-ML170 <i>Std. Mount Moving Magnet 5-40k Hz response. Microline stylus tip. Low distortion with reduced record & stylus wear.</i></p>	Dynavec
	<p>VIRTUOSO DTI <i>Std. Mount High Output M.C. 15-35k Hz response. VdH I stylus tip. Stereophile rated class A.</i></p>	<p>AUDIO TECH. AT-OC9 <i>Std. Mount M.C. (.3 Mv) Stereophile rated class B AT-F5 & AT-OC7 also available.</i></p>	<p>GRADO SIGNATURE SERIES <i>Std. Mount Moving Iron. New transmission line technology from this world renowned craftsman.</i></p>	<p>NAGAOKA RECORD CLAMP FREE with any purchase of \$50. or more.* <i>*while supplies last</i></p>	

We are the original mail order phono cartridge and stylus replacement specialists. Since 1972 Lyle Cartridges has helped audiophiles locate replacement styli for their cartridges at reasonable prices and with excellent service. Our goal is to help those who still prefer to play analog recordings.

We still carry 78 rpm replacement styli for collectors.
 SEND SELF ADDRESSED STAMPED ENVELOPE FOR OUR FREE CATALOG.

LYLE CARTRIDGES
 Dept. A1, Box 158
 Valley Stream, N.Y. 11582



CALL TOLL-FREE FOR FREE PRICE QUOTES AND VISA/MC ORDERS
 N.Y. STATE (516) 599-1112
(800) 221-0906

Elegant new styling.

Balanced (600 Ω XLR)
or unbalanced (50 k Ω RCA)
input selection.

True dc capability.

Refined front-end circuit
decoupling.

Increased bias levels
through enhanced optical biasing
and improved heat sink coup-
ling.

Custom manufactured,
extremely high-current output
terminal assemblies (directly
accept WeberWire).

The e series progresses from
50 Watts/channel STASIS
pure class A, through 1 horsepower
monoblock STASIS class A/AB.

To see and hear these new
amplifier benchmarks from
Nelson Pass and René Besné,
visit your nearest Authorized
Threshold Dealer.

For more information, write:
Threshold Corporation,
12919 Earhart Ave., Auburn,
California 95603; or call
1 (800) 888 8055.

**Threshold
presents
the
e series**

**SA/3.9e
SA/4e
SA/6e
SA/10e
SA/12e**

**S/350e
S/450e
S/550e
S/1600e**

Threshold

Threshold
components are
exclusively
distributed by

INCONCERT

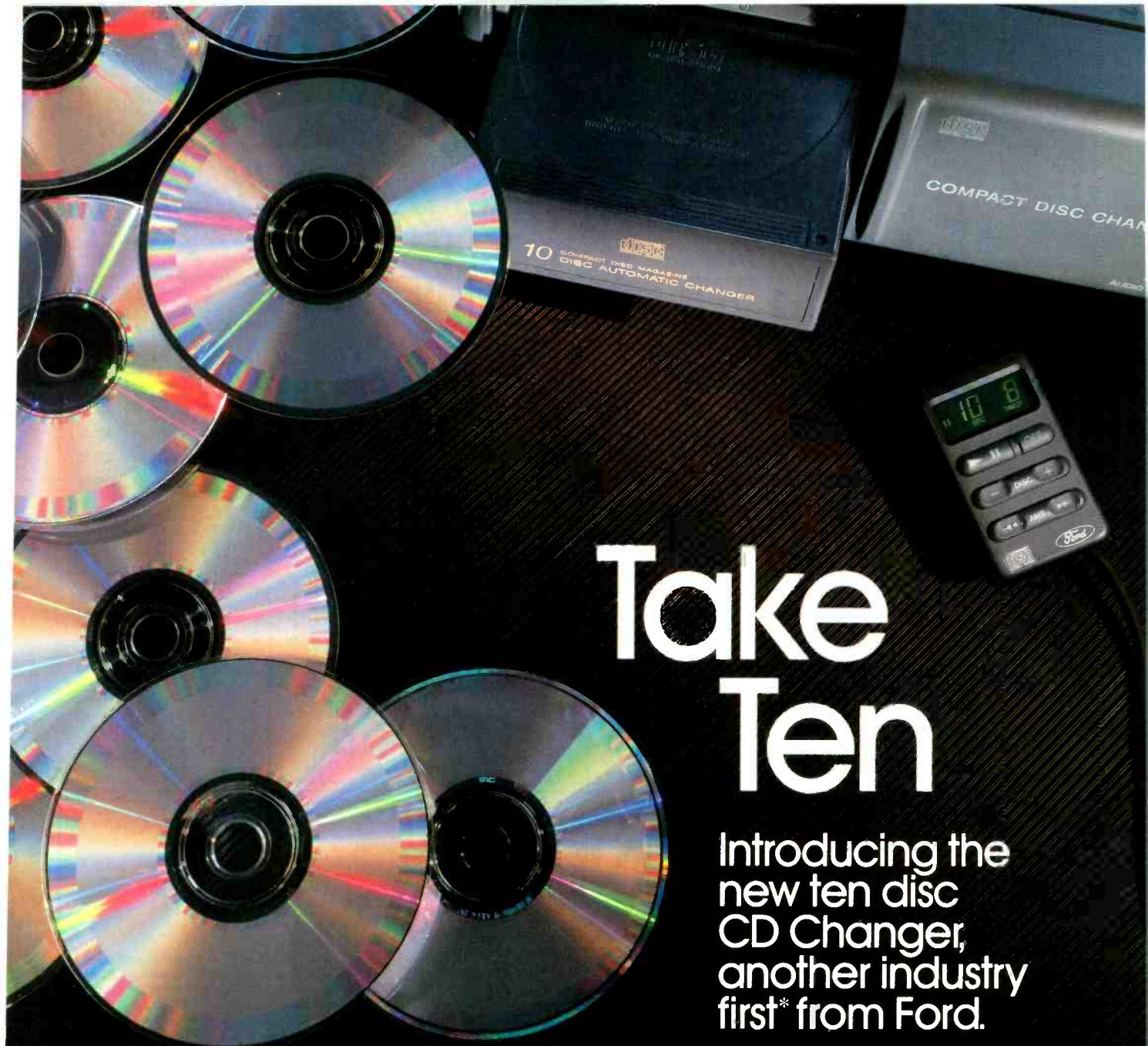
division of
Threshold
Corporation



model SA/12e
STASIS
pure class A
power amplifier

PHONO CARTRIDGES

MANUFACTURER	Model	Frequency Response, Hz to kHz, ± dB	Principle: Moving Iron—MI, Induced Magnet—IM, Moving Coil—MC, Moving Magnet—MM		Individual Response Curve Suppliers?		Channel Separation, 1 kHz, dB		Output, mV, 1 kHz, 5 cm Sec, rms Lateral Velocity		Recommended Tracking Force	Stylus Type—See Code	Stylus Radius (Radius), Mils	Dynamic Compliance, µm/mm, Vertical/Lateral	Stylus Replacement: User = U, Factory = F	Mounting: Integral Shell = I, P-Mount = P, Standard = S	Weight, Grams	Price, \$	Replacement Price, \$		
			Yes	No	27	20	3.2	1.2	250	M											
SHURE	Ultra 500	10-35 ± 0.5	MM	No	27	20	3.2	1.2	250	M											
	VST V	10-35	MM	No	25	15	3.2	1.0-1.5	250	M											
	VST III	20-20	MM	No	25	13	3.0	1.0-1.5	250	X											
	VST III-P	20-20	MM	No	25	13	3.0	1.25	250	X											
	V15 Type V-MR	20-28 ± 0.75	MM	Yes	25	18	3.2	1.0-1.25	250	M											
	V15 Type V-B	20-28 ± 0.75	MM	Yes	25	18	3.2	1.0-1.25	250	X											
	V15 Type V-P	20-28 ± 0.75	MM	Yes	25	18	3.2	1.25	250	X											
	M111HE	20-20	MM	No	25	4.0	1.25	250	X												
	M110HE	20-20	MM	No	25	4.0	1.25	250	X												
	M105E	20-20	MM	No	25	4.7	1.25	250													
	M104E	20-20	MM	No	20	5.0	1.25	250	E												
	M99E	20-20	MM	No	20	5.0	1.25	250	E												
	M92E	20-18	MM	No	20	5.0	1.25	250	E												
	M55E	20-20	MM	No	20	6.2	0.75-2	450	E												
	M44E	20-20	MM	No	20	9.5	1.75-4.0	450	E												
	M44C	20-20	MM	No	20	9.5	3.0-5.0	450	S												
	M44G	20-20	MM	No	20	6.2	0.75-1.5	450	S												
	M44-7	20-20	MM	No	20	9.5	1.5-3	450	S												
	ME97HE	20-20	MM	No	25	4.0	0.75-1.5	250	X												
	ME95ED	20-20	MM	No	25	4.7	0.75-1.5	250													
	ME75ED	20-20	MM	No	25	6.0	0.75-1.5	250	E												
	ME75EJ	20-20	MM	No	20	6.0	1.5-3.0	250	E												
	ME70B	20-20	MM	No	20	6.0	1.5-3.0	250	S												
ME96P	20-20	MM	No	20	5.0	1.25	250	S													
ME94P	20-20	MM	No	20	5.0	1.25	250	E													
ME75P	20-20	MM	No	20	5.0	1.25	250	E													
SC35C	20-20	MM	No	20	5.0	4-5	450	S													
SC39B	20-20	MM	No	20	4.0	1.5-3.0	250	S													
SC39EJ	20-20	MM	No	20	4.0	1.5-3	250	E													
SIGNET	OC9	15-50	MC	Yes	29	20	0.4	1.25-1.75	100	E											
	MK12DE	15-30	MC	No	28	18	2.0	1.2-1.8		E											
	MK35E	20-28	MC	No	28	18	1.5	1.2-1.8		E											
	AM50	5-37	MM	Yes	33	25	5	0.8-1.6		M											
	AM40	5-35	MM	Yes	33	23	5	0.8-1.6		X											
	AM30	5-30	MM	Yes	30	20	5	0.8-1.6		E											
	AM20	10-30	MM	No	27	17	5	0.9-1.9		E											
	AM10	15-25	MM	No	31	21	3	1.3-2.3		E											
	107	10-30	MM	No	31	21	3	1.6		X											
	105	15-27	MM	No	29	18	5	1.6		E											
	103	15-25	MM	No	25	17	5	1.6		E											
	101	20-20	MM	No	24	15	5	1.6		C											
	100	20-22	MM	No	22	15	4.2	1.5-2.5		E											
	SONUS	CG-12	10-30	MI	No	30	25	4	1-1.5	340	X										
CS-22		10-38	MI	No	30	25	5	1-1.5	340	X											
CS-23		20-22	MI	No	30	25	5	1-1.5	340	E											
CB-23		20-22	MI	No	30	25	5	1.5-2.0	340	E											
SR-202		10-20	MI	No	30	25	5	1.5-2.5	340	E											
SPM-4		20-20	MI	No	30	25	4	1.25	340	E											
SPM-3		20-20	MI	No	30	25	4	1.25	340	E											
SPM-2		20-20	MI	No	30	25	4	1.25	340	E											
SPM-1	20-20	MI	No	30	25	4	1.25	340	E												
SPECTRAL AUDIO	MCR-1 Signature	10-20 ± 0.5	MC		40	35	0.2	1.8		X					F	S	8.9	1190.00			
	MCR-1 Select	10-20 ± 0.5	MC		40	35	0.2	1.8		X					F	S	9.5	990.00			
STANTON	981LZ MKIIS	10-50	MM	Yes	35	25	0.3	0.75-1.5		X											
	981HZ MKIIS	10-50	MM	Yes	35	25	3.5	0.75-1.5	275	X											
	881 MKIIS	10-25	MM	Yes	35	35	3.5	0.75-1.5	275	X											
	681EEE MKIIS	10-22	IM	Yes	35	35	3.5	0.75-1.5	275	X											
	L847S	10-36	MM	No	35	25	2.5	0.75-1.5	275	X											
	L747S	10-30	MM	No	35	3.0	0.75-1.5	275	X												
	L737S	10-25	MM	No	35	4.4	0.75-1.5	275	X												
	L737E	10-22	MM	No	35	4.4	0.75-1.5	275	E												
	L727E	10-20	MM	No	32	19	4.4	0.75-1.5	275	E											
	L725E	10-22	MM	No	28	3.0	0.75-1.5	275	E												
	L720EE	10-20	MM	No	28	3.2	0.75-1.5	275	E												
	L680EL	20-18	IM	No	28	4.5	4-5	275	E					13.5/							
	680EL	20-18	IM	No	30	4.5	2-5	275	E					13.5/							
	681SE	10-10	IM	Yes	35	4.5	2-4	275	E					12.5/							
	680AL	20-18	IM	No	30	4.5	2-5	275	S					13/13							
	500AL	20-17	MM	No	28	4.0	2-5	275	S					10/							
	500AL-MP	20-17	MM	No	28	4.0	2-5	275	S					10/							
	L500AL	20-17	MM	No	28	4.0	3.5-4	275	S												
	500AL-DP	20-17	MM	No	28	4.0	3.5-4	275	S												
	(w/2 Styl)l																				
	680EE(S)	20-20	MM	No	35	3.5	1-2	275	X					18/18							
	680EE	20-20	IM	No	35	3.5	0.75-1.5	275	E					18/18							
	680EL-MP	20-18	IM	No	30	4.5	2-5	275	E					13.5/							
	500EE MKII	10-22	MM	No	35	4.5	0.75-1.5	275	E					16/							
	500E MKII	10-22	MM	No	35	0.8	0.75-1.5	275	E					14/							
	STC-740	10-20	MM	No	32	4.4	0.75-1.5	275	E												
	STC-730	10-22	MM	No	28	3.0	0.75-1.5	275	E												
	STC-710	10-20	MM	No	28	3.0	0.75-1.5	275	E												
	890AL	20-20	MM	No	30	3.0	2-7	275	S</												



Take Ten

Introducing the
new ten disc
CD Changer,
another industry
first* from Ford.

Now you can enjoy hours of continuous music without having to load, unload, or store your compact discs while you drive.

This new state-of-the-art system uses interchangeable ten disc magazines in a changer unit that is stored safe and secure in the trunk of your car. And a full-function remote control allows the selection of any track on any disc

at the touch of a button.

The new ten disc CD Changer is compatible with any Ford, Mercury or Lincoln equipped with the optional Ford High Level Audio or Ford JBL Audio system. See your local Ford or Lincoln-Mercury dealer for details.

The new ten disc CD Changer from Ford. We're sure you'll rate it a "perfect 10."

*First optional dealer-installed CD Changer available from a U.S. automobile manufacturer.



AUDIO SYSTEMS
The Sound of Quality

Enter No. 46 on Reader Service Card

PHONO CARTRIDGES

STYLUS TYPE C—Conical S—Spherical E—Elliptical M—MicroLine, MicroRidge, or similar V—Van den Hul X—Hyper-Elliptical, Stereohedron, Fine Line, Line Contact, Long Line, Line Trace, or similar	Model	Frequency Response, Hz to kHz, ±dB	Principle: Moving Coil = MC, Inducer Magnet = IM, Moving Magnet = MM	Individual Response Curve supplied?	Channel Separation, 1 kHz, dB	Channel Separation, 10 kHz, dB	Duress, mV, 1 kHz, 5 cm/Sec. rms Lateral Velocity	Recommended Tracking Force Range, Grams	Recommended Load Capacitance, pF	Stylus Type—See Code	Stylus Radius (Radius), Mils	Dynamic Compliance, $\mu\text{m/mN}$, Vertical/Lateral	Stylus Replacement: User = U, Factory = F Mounting: Integral Shell = I, P-Mount = P, Standard = S	Weight, Grams	Price, \$	Replacement Stylus Price, \$	
SUMIKO	Blue Point	15-35	MC	No	32	32	3.0	1.25-1.7		E	0.3 x 0.7	15/15	F	P/S	5.9	125.00	
	Oyster	30-20	MM	No	25	25	4.0	1.5-2.5		S	0.6	12/12	U	S	5.3	30.00	
	Black Pearl	18-27	MM	No	28	28	5.0	1.5-2.0		S	0.5	15/15	U	S	6.0	50.00	
	Pearl	12-30	MM	No	30	30	5.0	1.5-2.0		E	0.2 x 0.8	15/15	U	S	6.0	75.00	
TALISMAN	AT	20-40	MC	Yes	25	22	0.20	1.5-2.1		E	0.3 x 0.7	15/15	F	S	6.3	225.00	135.00
	BvdH	10-50	MC	Yes	30	30	0.26	1.5-2.1		V	0.1 x 3.0	15/15	F	S	6.3	325.00	195.00
	SvdH	10-60	MC	Yes	30	30	0.26	1.8-2.2		V	0.1 x 3.0	18/18	F	S	6.3	395.00	235.00
	Aichemist IAT	20-40	MC	Yes	25	22	1.8	1.5-2.1		E	0.3 x 0.7	15/15	F	S	6.7	300.00	180.00
	Aichemist IIIS	10-60	MC	Yes	30	30	1.8	1.8-2.2		V	0.1 x 3.0	18/18	F	S	6.7	495.00	300.00
	vdH	15-32	MC	Yes	35	30	1.8	1.8-2.2		V	0.1 x 3.0	15/15	F	S	6.7	475.00	285.00
	Aichemist IIB	+2, -0.5	MC	Yes	35	30	1.8	1.8-2.2		V	0.1 x 3.0	15/15	F	S	7.5	850.00	510.00
vdH	15-32	MC	Yes	35	30	1.8	1.8-2.2		V	0.1 x 3.0	15/15	F	S	7.5	1200.00	720.00	
Virtuoso Boron	+2, -0.5	MC	Yes	35	30	1.8	1.8-2.2		V	0.1 x 3.0	15/15	F	S	7.5	850.00	510.00	
Virtuoso DTI	15-32	MC	Yes	35	30	1.8	1.8-2.2		V	0.1 x 3.0	15/15	F	S	7.5	1200.00	720.00	
		+2, -0.5	MC	Yes	35	30	1.8	1.8-2.2		V	0.1 x 3.0	15/15	F	S	7.5	1200.00	720.00
TECHNICS	EPC-P550	20-35 ± 3	MM	No	25	25	2.5	1.25		E	0.3 x 0.7	U	P	6	139.00		
	EPC-P540	20-35 ± 3	MM	No	25	25	2.5	1.25		E	0.3 x 0.7	U	P	6	109.00		
	EPC-P530	20-35 ± 3	MM	No	25	25	2.5	1.25		E	0.3 x 0.7	U	P	6	79.00		
VAN DEN HUL	MC-10	20-20 ± 0.75	MC	Yes	40	30	0.5	1.3-1.5		V		F	S	7.3	775.00	388.00	
	MC-One	20-20 ± 0.75	MC	Yes	40	30	0.7	1.3-1.5		V		F	S	7.3	1075.00	538.00	
	MC-Two	20-20 ± 0.75	MC	Yes	40	30	2	1.1-1.4		V		F	S	7.3	1475.00	738.00	
	Grasshopper		MC	Yes	50	40	0.5	1.3-1.5		V		F	S		2700.00	538.00	
	MM-1		MM	No	26	20	5	1.0-1.25		V		F	S		350.00	175.00	
WIN RESEARCH	FET-10 & Source Module	0-50 ± 1	FET	Yes	35	28	1V	1.25		X		20/20	F	S	6	2250.00	350.00
YAMAHA	MC-100	20-20	MC	No	28		0.2	1.2-1.6		E	0.3 x 1.6	12/14	F	S	9.5	300.00	
	MC-501	20-20	MC	No	28		0.35	1.2-1.8		E	0.3 x 1.6	11/13	F	S	3.4	150.00	
	MC-10	20-20	MC	No	27		0.3	1.4-2.0		E	0.3 x 0.8	8/10	F	S	5.4	120.00	
	MC-21	20-20	MC	No	28		2.0	1.4-2.0		E	0.3 x 0.8	8/10	F	S	2.8	70.00	



Authorized Canton Dealers

AZ Phoenix: Audio Video Specialists, Bruce Wardin & Associates • **Tempe:** Precision Audio Specialists
CA Corona del Mar: Pacific Coast Audio Video • Glendale: Crystal Sonics, Marconi Radio • **La Crescenta:** Chatham-Becker Corp. • **Long Beach:** Audio Concepts • **Los Angeles:** Henry Radio, Paris Audio, Audio Command Systems, Supervision, Robert's Home Audio & Video, Western & Olympic A/V Center • **Mission Viejo:** Video Laser • **Newhall:** Chatham-Becker Corp. • **Oakland:** Pro Audio Electronics • **Palm Desert:** Desert Stereo • **San Francisco:** Custom Car Alarms, Harmony A/V of Fillmore, House of Music, Peter's Auto Radio • **San Gabriel:** Audio Concepts • **San Jose:** Paradise Sound • **San Leandro:** Mad Audio Systems • **San Mateo:** Mateo High Fidelity • **Santa Ana:** Solid State TV-Audio • **Santa Monica:** R Squared Installers • **South Lake Tahoe:** Accurate TV • **Torrance:** Dimensions in Stereo • **Woodland Hills:** Paris Audio
CO Aspen: Aspen Audio • **Boulder:** Listen Up • **Colorado Springs:** Listen Up • **Denver:** Listen Up
CT Greenwich: F. Steyer Design • **Hartford:** The Stereo Shop • **Old Greenwich:** C.A.R.S.
DC Washington: Myer-Emco, Provideo, Inc.
DE Dover: Sound Studio • **Newark:** Sound Studio • **Wilmington:** Sound Studio
FL Boca Raton: Sound Plus Wood • **Brandon:** The Car Stereo Shoppe • **Coral Gables:** Sound Performance • **Daytona Beach:** Audio Video Analyst • **Dunedin:** All States Radio • **Hollywood:** Audio 2000 • **Ft. Lauderdale:** Sound Design & Engineering • **Ft. Myers:** Car Tunes • **Jacksonville:** Behrens Audio Lab, Cruising Tunes • **Miami:** Las Fabricas • **Naples:** Stereo Garage • **New Port Richey:** Stereo Specialties • **Palm Harbor:** Auto Audio • **Tampa:** Monte's Rolling Sound • **Tequesta:** TV/Audio Ctr • **Winter Haven:** Audio Equalizers
HI Honolulu: Custom Car Stereo, Hakko Camera & Electronics
IA: Cedar Rapids: H-S Industries

IL Aurora: United Audio Centers • **Chicago:** United Audio Centers, Hi Fi Hutch • **Northbrook:** United Audio Centers • **Naperville:** Hi Fi Hutch • **Niles:** United Audio Centers • **Northlake:** Guy's Auto Sound • **Schaumburg:** Hi Fi Hutch, United Audio Centers • **Vernon Hills:** United Audio Centers • **Villa Park:** Hi Fi Hutch • **Downer Grove:** Safear Autosound Engineering • **Wilmette:** Village TV A/V
IN Carmel: Tom Doherty's Custom Audio • **Ft. Wayne:** Classic Stereo • **Michigan City:** Audio Connection
KS Overland Park: Brands Mart • **Wichita:** Custom Sound
MA Cambridge: Audio Video Environments, New England Audio/Media Systems • **Medford:** Boston Media Design
MI Mount Pleasant: Dr. Goodears Audio Palor
MD Gaithersburg: Myer-Emco, East Coast Auto Sound-Owings Mills: Lighting Experience • **Rockville:** Myer-Emco Provideo-Salisbury: Sound Studio
MN Brooklyn Center: Audio King • **Burnsวิลล์:** Audio King • **Edina:** Audio King • **Mankato:** Audio King • **Minneapolis:** Audio King, Audio Systems & Design, Audio Video Environments, Blumberg Communications, • **Minnetonka:** Audio King • **Rochester:** Audio King • **St. Cloud:** Audio King • **St. Paul:** Audio King • **St. Louis Park:** Audio by Design
MO Kansas City: Brands Mart Midwest • **St. Louis:** T. Melodious
NC Charlotte: Stereo Showcase • **Winston-Salem:** Audio Video Concepts/Ed Kelly's, Inc.
NE Lincoln: Sound Environment • **Omaha:** Sound Environment
NJ Cliffside Park: Entertainment Environments • **Deptford:** Hi-Fi Connection • **Livingston:** Electromedia Design, Inc. • **Marlton:** Hi-Fi Connection • **Millburn:** Professional Audio Consultants • **Northfield:** Sound, Inc. • **Oceanside:** Ocean Cellular • **Paramus:** Stereo Video Warehouse • **Springfield:** Kartunes Mobile Electronics •

Wayside: Studio Standards Inc. • **West Caldwell:** Comtel, Samm Sound • **West Long Branch:** Woodbridge Stereo Center • **Woodbridge:** Woodbridge Stereo Center
NV Las Vegas: Elite Systems
NY Brooklyn: Rabson's Stereo Warehouse • **Coram:** West Images • **Garden City:** Rabson's • **Hauppauge:** Audio Interiors • **Huntington:** AB Car Stereo, Total Media Systems • **Manhasset:** Autopesec • **New York:** Cosmophon Sound, Harmony House, Mobile Audio Specialists, Rabson's • **Oceanside:** Absolute Auto Sound, Sound Insights • **Port Jefferson Stn:** Designatron • **Rego Park:** Continental Sound • **Rockville Centre:** Audio Command Systems • **Syosset:** American Soundcraft • **Southampton:** Charos Custom Sound • **Staten Island:** Clone Audio • **Valley Stream:** Stereo Video Warehouse • **West Nyack:** Audio Video Systems, Inc. • **White Plains:** Audio Design Associates, Stereo Video Warehouse
OK Tulsa: Imperial Sound
OR Eugene: Bradford's High Fidelity
PA Ardmore: All That Jazz • **Bethlehem:** Canlen Audio • **Ephrata:** Stereo Barn • **Lancaster:** Stereo Barn • **Philadelphia:** David-Mann Ltd., Teppers Autosound
RI Middletown: Soundings
SD Sioux Falls: Audio King
TX Austin: Audio Dimensions • **Houston:** Groove Audio Video • **Laredo:** Jett Sales • **San Antonio:** Bjorn's Stereo Designs
VA Charlottesville: Preferred Sound • **Falls Church:** Myer-Emco • **Fredericksburg:** Contemporary Sounds • **Roanoke:** Custom Auto Sound • **Virginia Beach:** Videorama
WA Bellevue: Home Entertainment by Design
WI Milwaukee: Flanner & Hafsoos • **Mequon:** Flanner & Hafsoos
WV Princeton: The Sound Post

See our ad in this issue for more information
 Canton N. America (612) 333-1150

"The stereo sounds so good I could drive all night."

It could happen to you! The exceptionally clean and acoustically pure sound of Pyle Driver® car stereo speakers makes driving so enjoyable time seems to fly by.

Now you can experience Pyle's superior sound reproduction in a powerful new series of high fidelity woofers. Pyle PRO woofers use only high quality components with abundant overload capabilities to give you a powerful combination of true musical quality and sheer sonic energy.

American-made Pyle Driver® PRO woofers meet and exceed the demand of today's digital technology with these state-of-the-art features: polymer laminate cones, double-layered PolyFoam surrounds, cross-amine spiders, high temperature PolyThermal Kapton™ voice coils, vented pole pieces, massive motor structures, and heavy duty housings. Pyle PRO woofers have been designed by car stereo enthusiasts for car stereo enthusiasts.

For maximum power and performance, combine Pyle PRO woofers with Pyle Digital Demand amplifiers — then "Crank It Up" and let time fly by.

•• *"You just did."*



PYLE

For the name of the Pyle dealer nearest you write:
Pyle Industries, Inc. • Huntington, IN 46750



A Harman International Company

OPEN-REEL TAPE DECKS

SPEED CODE A—7½, 3¾ B—7½, 3¾, 1½ C—7½, 3¾ 1½, 15/16 D—15, 7½ E—15, 7½, 3¾		Model (R) = Remote Included (RD) = Remote Optional		Speeds—See Letter Code		Maximum Reel Size, Inches		Number of Heads		Number of Tracks		Number of Channels, Record/Play		Drive to Capstan		Frequency Response, Hz to Mtr. ±dB, with Best Tape at Highest Machine Speed		Wow & Flutter, Wtd. Peak, %		S/N, "A" Wtd., -dB		Output Level at 0 VU, mV		Mike Mixing?		Mike Input Impedance, Ohms, Balanced = B		Record Level Indicator(s), Number and Type		EE Tape Capable?		Dimensions, Inches		Weight, Lbs.		Price, \$		Notes	
FOSTEX	R8	†	7	2	8	8	4					40-18	0.06	74		No					††				12½ x 13½ x 6¾	28	2800.00	†15 ips. ††Eight-segment bar graph. Dolby C NR.											
	E-2	D	10½	3	2	2	3					30-20	0.05	80		No					2 VU Mtrs & 2 Peak LEDs				17 x 17½ x 9¼	73	3795.00												
	E-22	†	10½	3	2	2	3					40-18	0.05	80		No					2 VU Mtrs. & 2 Peak LEDs				17 x 17½ x 9¼	73	3995.00	†15 and 30 ips.											
NAGRA	4.2	E	10½	4	1	1	1	Belt	30-20 ±5	0.05	†	560	Yes	200	1 VU Mtr.	Yes	13½ x 9½ x 4½	15	7970.00	†NAB, 70 dB; CC1R, 68 dB. Sync capability. Sync capability.																			
	IV-S	E	10½	4	2	2	1	Belt	0-4 +0, -3	0.05	74	560	Yes	200	1 VU Mtr.	Yes	13½ x 9½ x 4½	15½	9775.00																				
	IV-STC	E	10½	4	2	1	1	Belt	30-20 ±1	0.05	72	560	Yes	100k	1 VU Mtr.	Yes	13¼ x 9½ x 4½	15½	10,895.	Center-track time code.																			
	E	†	10½	3	1	1	1	Belt	70-4.5 ±1	0.05	50	560	No	330	1 VU Mtr.	Yes	12¾ x 8½ x 4	12½	5995.00	†15/16 ips. Sync and non-sync. ††E speeds plus 30 ips. Center-track and internal time codes.																			
	T-Audio	†	10½	4	3	3	2	Belt	50-60 ±1	0.05	77	775	No	10k	LED	Yes	15¾ x 13¼ x 9¾	70	22,450.																				
OTARI	MK-III-8	D	10½	3	8	8	3		30-18 ±2	0.04	68	330	No		8 VU Mtrs.		17.3 x 21.3 x 26.6	110	5495.00																				
	MK-III-4	D	10½	3	4	4	3		30-20 ±2	0.04	69	330	No		4 VU Mtrs.		19.2 x 21.3 x 27.5	77	5935.00																				
	MK-III-2	E	10½	4	2	2	3		30-20 ±2	0.04	68	330	Yes		2 VU Mtrs.		18.75 x 21.3 x 28.3	105	3925.00																				
	B-II	E	10½	4	2	2	3		25-22 ±2	0.04	68	330	Yes		2 VU Mtrs.		22.1 x 21.3 x 10.9	60	2995.00																				
	BQ-II	D	10½	4	4	4	3		30-20 ±2	0.06	66	330	Yes		4 VU Mtrs.		22.1 x 21.3 x 10.2	66	4345.00																				
	MX-50	†	10½	3	2	2	3		30-20 ±2	0.06	69	330	No		2 VU Mtrs.		18 x 17.2 x 7.4	52	2495.00	†"A" or "D" speeds.																			
	MX-55N	†	10½	4	2	2	3		30-20 ±2	0.06	69	330	Yes		2 VU Mtrs.		19.5 x 17.6 x 8.9	67	3895.00																				
	MX-55NM	†	10½	4	2	2	3		30-20 ±2	0.06	69	330	No		2 VU Mtrs.		20 x 17.6 x 29.6	67	4995.00																				
MX-55TM	†	10½	4	2	2	3		30-20 ±2	0.06	69	330	No		2 VU Mtrs.		20 x 17.6 x 29.6	67	5995.00																					
REVOX	B77 MKII	†	10½	3	2/4	2	3	Direct	30-22 +2, -3	0.06	67	775	Yes	22k, 110k	2 Mtrs. & 2 Peak LEDs	No	16½ x 17¾ x 8¼	37½	2450.00	†Any two adjacent speeds from 15/16 to 15 ips.																			
TASCAM	22-2	D	7	3	2	2	3		40-22 ±3	0.04	68			200	VU Mtr. & Peak LEDs		16¾ x 16¾ x 9¾	30¾	1099.00																				
	32	D	10½	3	2	2	3		40-20 ±3	0.05	68			200	VU Mtr. & Peak LEDs		16¾ x 18¾ x 10¾	44	1749.00																				
	42B	D	10½	3	2	2	3		30-20 ±2	0.05	70			150B	VU Mtr. & Peak LEDs		17 x 19¾ x 10¾	70¾	2999.00																				
TEAC	X-300	A	7	3	2/4	2/4	3	Belt	40-30 ±3	0.04	65		Yes		2 VU Mtrs.	Yes	16½ x 12¾ x 9¾	30.9	1145.00																				
	X-300R	A	7	3	2/4	2/4	3	Belt	40-30 ±3	0.04	65		Yes		2 VU Mtrs.	Yes	16½ x 12¾ x 9¾	33	1280.00	Auto reverse.																			
	X-2000(RO)	A	10½	3	2/4	2/4	3	Belt	40-33 ±3	0.03	100		Yes		2 VU Mtrs.	Yes	17 x 17¾ x 10¾	46.3	1950.00	Spooling mode; dbx Type I NR.																			
	X-2000M(RO)	D	10½	3	†	†	3	Belt	40-40 ±3	0.02	100		Yes		2 VU Mtrs.	Yes	17 x 17¾ x 10¾	46.2	2235.00	†½ track record/play. As above.																			
	X-2000R(RO)	A	10½	3	2/4	2/4	3	Belt	40-33 ±3	0.03	100		Yes		2 VU Mtrs.	Yes	17 x 17¾ x 10¾	46.3	2055.00	Auto reverse.																			
UHER	4000	C	5	3	2	1	1	Belt	20-25 ±2	0.2	64	775	Yes	200	1 VU Mtr.	Yes	11 x 3½ x 9	8	1699.00																				
	4200	C	5	3	2	2	1	Belt	20-25 ±2	0.2	64	775	Yes	200B	2 VU Mtrs.	Yes	11 x 3½ x 9	8	1799.00																				
	4400	C	5	3	4	2	1	Belt	20-25 ±2	0.2	62	775	Yes	200B	2 VU Mtrs.	Yes	11 x 3½ x 9	8	1799.00	24 hours record time.																			
	6000	†	5	3	2	1	4	Belt	20-22 ±3	0.2	62	775	Yes	220	1 VU Mtr.	Yes	11 x 3½ x 9	8	2150.00	†"C" speeds plus 15/32 ips.																			
	SG 631	B	10½	4	4	2	4		20-22 ±3	0.1	67		Yes	200	2 VU Mtrs.	Yes	20 x 4½ x 16	29	2295.00																				
	1200	A	5	3	1	1	1	Belt	40-16	0.15	62	600	Yes	200	1 VU Mtr.	Yes	11 x 3½ x 9	8	5049.00																				



WISCONSIN DISCOUNT STEREO
EST. 1954
2417 W. Badger Road
Madison, WI 53713
1-608-271-6889
SOME ITEMS CLOSEOUTS

"A CUT ABOVE THE REST"

VHS



- JVC HRD620 ... SPECIAL
Oval-Cut DA-4 Head System
- JVC HRD520 ... SPECIAL
Dual Screen Programming
- SONY SLV500 ... SPECIAL
DA4 Head, PIP, Flying Erase
- VHS MTS HIFI ... \$349
SPECIAL PURCHASE
- 4-HEAD MTS HIFI ... \$389
SPECIAL PURCHASE
- JVC HRD840 ... SPECIAL
Brand New 4-Head MTS Hifi
- TOSHIBA M9485 ... SPECIAL
4-Head MTS Hifi, 4 HQ Chips
- PANASONIC PV4980 ... CALL
4-Head MTS Hifi
- SONY SLV70 ... SPECIAL
4-Head MTS Hifi with Effects
- JVC HRD850 ... SPECIAL
Brand New 4-Head MTS Hifi

CAMCORDER



- CANON A1 ... SPECIAL
HiBit 8 mm
- SONY CCDF70 ... SPECIAL
Call for Sony Camcorders
- JVC GR35 ... SPECIAL
Best VHS-C Camcorder
- HITACHI VMS200 ... SPECIAL
Audio Monitor, 8X Zoom
- JVC GRS77 ... SPECIAL
Super VHS-C with 8 Heads
- JVC GFSS50 ... SPECIAL
SuperVHS with 8X Zoom
- JVC GRS707 ... SPECIAL
BEST CAMCORDER MADE
- JVC GR60 ... SPECIAL
VHS-C with FLYING ERASE
- PANASONIC PV120 ... SPECIAL
Flying Erase Heads
- JVC GRA30 ... SPECIAL
Auto-Focus 6X Zoom

MISCELLANEOUS



- SONY MDR1FSK ... \$165
Wireless Headphones
- DUAL CS5000 ... SPECIAL
Walnut Base Turntable
- UNIDEN RD9 ... \$115
Radar Detector
- SONY WMF100III ... \$119
Walkman
- AUDIOSOURCE SS2 ... \$189
Dolby Surround with Remote

MISCELLANEOUS



- KOSS JCK300S ... \$199
Wireless Headphones
- JVC PCV77 ... SPECIAL
Portable Boom Box
- CASIO WIZARD ... SPECIAL
Pocket Computer
- SONY MDRV6 ... \$72
Professional Headphones
- MAXELL MX90 ... \$29.95 cs
Metal Audio Tapes

MISCELLANEOUS



- CLARION 8302 ... SPECIAL
12FM/6AM, A/R, Scan
- JVC KSRX1010 ... SPECIAL
High Power, Dolby CD Input
- CLARION 9700 ... \$199
High Power, Dolby, A/R
- SHERWOOD CRD210 ... \$149
Dolby B/C, CD Inputs
- CLARION 9770 ... \$239
Removeable DIN, Dolby

MISCELLANEOUS



- SHERWOOD CRD350 ... \$179
DIN with Dolby B/C
- CLARION 8671 ... \$199
Removeable DIN, A/R
- CLARION 8730 ... \$189
DIN, Dolby, Radio/Tape Switch
- JVC KSR490 ... SPECIAL
Removeable Din, A/R
- CLARION 5630 ... SPECIAL
AM/FM CD Player

MISCELLANEOUS



- ALPHASONIC PMA2050 ... CALL
50 Wts/Ch, 100 Wts Mono
- CLARION SE9350 ... \$87 pr
6 X 9 Three Way
- JVC CSX6936 ... SPECIAL
135 Wts, 6 X 9 Three Way
- PYLE KP6940 ... SPECIAL
High Power 6 X 9 Two Way
- PYLE P201 ... SPECIAL
"The Pounder" Box Speaker

**WDS Rated #1 for SERVICE and PRICE
Guaranteed Low Price
10-Day Return**

- * We get the BEST volume discounts
- * LOW OVERHEAD—To sell at best discounts
- * We shop the competition to ensure the best price
- * Returns accepted within 10 days (must be called in for prior authorization). Products must be in original condition. Returns subject to restocking fee. Shipping and handling not refundable.

Buyer Protection Plan—FREE
* 30-DAY GUARANTEED NO LEMON
* EVERY PRODUCT BRAND NEW—FULL WARRANTY

1-800-356-9514
IF YOU FIND A BETTER PRICE — CALL US



DISC MEN



- SONY D2 ... \$159
Sony Quality
- SONY D160 ... CALL
Home and Car Discman
- SONY D25 ... CALL
Mega Bass Circuit
- TOSHIBA XR9458 ... \$249
Wired + Wireless Remote
- SONY D9 ... \$194
Mega Bass Circuit

CD PORTABLES



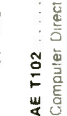
- SHARP GFCD55 ... \$228
Detachable Speakers
- JVC PCV300 ... SPECIAL
BEST CD Portable
- SHARP WFCDD7 ... \$389
Wireless Remote, Dual Decks
- SONY DA54 ... \$239
5 Band EQ with AMS
- JVC RCX3 ... SPECIAL
Dubbing Cassette Decks

DISC PLAYERS



- SAE D102 ... \$289
4X Oversampling, Remote
- JVC XLM701 ... SPECIAL
6 + 1 Stacker, Best Buy
- 10 DISC STACKER ... \$379
32 Track Programming
- JVC XLZ611 ... SPECIAL
18 Bit, 4X, Digital D/A a
- JVC XLM300 ... SPECIAL
Dual 18 Bit, 4X, 3 Inch Ready

DISC PLAYERS



- PIONEER CLD1070 ... \$499
Combination CD Player
- JVC XLM401 ... CALL
6 Disc Stacker
- MAGNAVOX CD3000 ... SPECIAL
6 Disc, 4X and Dual D/A's
- TEAC PD700 ... \$249
6 Disc, 4X, Dual D/A a
- JVC XLM300 ... SPECIAL
6 Disc Stacker

TV'S



- SONY XBR SERIES ... SPECIAL
We Carry Most Models
- JVC AV3587 ... SPECIAL
BEST 35" TV Made
- PIONEER SDF502 ... SPECIAL
50" Projection TV
- JVC AV2759 ... SPECIAL
BEST 27" Made
- JVC C1329 ... SPECIAL
13" Monitor/Receiver

SUPER VHS



- JVC HRS8000 ... SPECIAL
Digital Special Effects
- JVC HRS5000 ... SPECIAL
Special Effects Playback, Hifi
- HITACHI VT3800A ... SPECIAL
5+2 Head MTS Hifi
- TOSHIBA SV970 ... SPECIAL
Full Digital Effects, HQ PRO
- SPECIALS ON 1990 MODELS
GE, RCA, HITACHI, JVC, + MORE

CAR STEREO



- SHERWOOD CRD350 ... \$179
DIN with Dolby B/C
- CLARION 8671 ... \$199
Removeable DIN, A/R
- CLARION 8730 ... \$189
DIN, Dolby, Radio/Tape Switch
- JVC KSR490 ... SPECIAL
Removeable Din, A/R
- CLARION 5630 ... SPECIAL
AM/FM CD Player

CAR STEREO



- SHERWOOD CRD350 ... \$179
DIN with Dolby B/C
- CLARION 8671 ... \$199
Removeable DIN, A/R
- CLARION 8730 ... \$189
DIN, Dolby, Radio/Tape Switch
- JVC KSR490 ... SPECIAL
Removeable Din, A/R
- CLARION 5630 ... SPECIAL
AM/FM CD Player

CAR SPEAKERS/AMPS



- JVC CSX6936 ... SPECIAL
135 Wts, 6 X 9 Three Way
- PYLE KP6940 ... SPECIAL
High Power 6 X 9 Two Way
- PYLE P201 ... SPECIAL
"The Pounder" Box Speaker

SPEAKERS



- CELESTION DL10 II ... SPECIAL
One of the Best British 10" 3-Ways
- CELESTION DL12 II ... SPECIAL
Floor Standing Tower
- RECOTON 100's ... \$189 set
Wireless Add-on Speakers
- CELESTION DL8 II ... SPECIAL
British 8" 2-Way Bookshelf
- Design Acc PS-30 ... \$399
Subwoofer System

PHONE HOURS
M-F 8 a.m. - 8 p.m.
SAT 8 a.m. - 5:30 p.m.
SUN 11 a.m. - 5 p.m.
Central Time Zone

CALL US TOLL FREE
* For expert recommendations
* For product information
* TO ORDER PRODUCT

REC/AMPI/PREAMP



- JVC RX701 ... SPECIAL
70 Wts/Ch REC
- SAE A202 ... \$229
100 Wts/Ch AMP
- SAE P102 ... \$239
Computer Direct Line PREAMP
- SAE A502 ... \$389
200 Wts/Ch AMP
- SAE T102 ... \$174
Computer Direct Line Tuner
- SHERWOOD S2770II ... \$225
74 Wts/Ch REC
- JVC RX501 ... SPECIAL
60 Wts/Ch REC
- JVC RX601 ... SPECIAL
100 Wts/Ch REC
- JVC RX901 ... SPECIAL
120 Wts/Ch REC
- PROTON 940 ... SPECIAL
DPD Circuitry REC

CASSETTE DECKS



- SAE C102 ... \$249
2 Motor, Dolby B + C
- TEAC V670X ... \$259
3-Head, Dolby B/C/HX PRO
- JVC TDV711 ... SPECIAL
3-Head, Dolby B/C/HX PRO
- TEAC V285CHX ... \$97
Dolby B/C/HX PRO
- JVC TDR421 ... CALL
Dolby B/C/HX/Prm, A/R
- JVC TDW801 ... SPECIAL
Dubbing Auto Reverse REC/PLAY
- TEAC V570X ... \$189
Dolby B/C/HX PRO
- TEAC W660 ... \$297
Dubbing Auto-Reverse REC/PLAY
- JVC TDW501 ... SPECIAL
Dolby B/C with Auto-Reverse
- JVC TDV621 ... SPECIAL
3-Head Dolby B/C/HX PRO

CASSETTE DECKS

MANUFACTURER	Model (RD) - Remote Included, (RO) - Remote Optional	Frequency Response with Best Tape, Hz to KHz, ±dB	Monitoring During Recording?	Wow & Flutter, Wtd. Peak, %	S/N without Noise Reduction	S/N with Noise Reduction	Noise Reduction Circuit: Dolby B, C, Dolby C, Cx, D, D, D, Pro, H	Bias Adjustment: Auto-A, Manual=M	Number of Preset Bias/EQ Positions	Program Search?	Program Scan?	Level Indicators: Meter=A, Peak-P, Peak-Hold=PH	Counter Indications: Number of Tapes=T, Elapsed Time=E, Remaining Time=R	Auto Reverse?	Number of Mike Inputs	Dual Weights?	Weight, Lbs.	Price, \$	Notes
AIWA	AD-F1000	20-20 ±3	Yes	0.025	63	95	B/C/D/H			3	No	No	P	T/E	No	0	No	17.9	800.00
	AD-F780	20-19 ±3	Yes	0.035	59	78	B/C/H			3	No	No	P	T	No	0	No	11.4	450.00
	AD-R40	20-18 ±3	No	0.065	58	78	B/C/H			3	No	No	P	T	Yes	0	No	7.3	200.00
	AD-S37	20-18 ±3	No	0.065	58	78	B/C/H			3	No	No	P	T	No	0	No	7	180.00
	AD-S27	20-17 ±3	No	0.09	58	78	B/C			3	No	No	P	T	No	0	No	6.4	120.00
	AD-F800	20-19 ±3	Yes	0.035	59	78	B/C/H			3	No	No	P	T	No	0	No	11.2	400.00
	AD-WX909	20-18 ±3	Yes	0.055	61	80	B/C/H			3	Yes	No	P	T	Yes	0	Yes	13.7	800.00
	AD-WX999 (RI)	20-16 ±3	No	0.055	59	78	B/C/H			3	Yes	No	PH	T	Yes	0	Yes	11.9	550.00
	AD-WX888	20-16 ±3	No	0.065	59	78	B/C/H			3	No	No	PH	T	Yes	0	Yes	11.9	430.00
	AD-WX777	20-16 ±3	No	0.065	58	78	B/C			3	No	No	P	T	Yes	0	Yes	11.5	330.00
AD-WX505	20-16 ±3	No	0.09	58	78	B/C			3	No	No	P	T	No	0	Yes	7	180.00	
AD-WX333	20-14 ±3	No	0.09	58	65	B			3	No	No	P	T	No	0	Yes	7.3	150.00	
AR	RD-06	30-16	Yes	0.06	55	64	B/C/H	M		3	No	Yes	P	T	No	0	No	11½	500.00
BANG & OLUFSEN	Beocord 5500	30-18 ±3	No	0.09	55	74	B/C/H	A		3	Yes	No	P/PH	T	Yes	1	No	18.4	1100.00
	Beocord 4500	30-18 ±3	No	0.09	55	66	B/H	A		3	Yes	No	P	T	Yes		No	9.9	800.00
	Beocord 3300	30-18 ±3	No	0.09	56	65	B/H	A		3	Yes	No	P	T	No	1	No	8.3	550.00
CARRERA	CX-3250	40-14 ±3	No	0.08	52	63	B			3	No	No	P	T	No	2	Yes	10	149.95
	CD-7500(RI)	40-16 ±3	No	0.06	55	73	B/C			3	Yes	No	P	T	Yes	0	No	13	449.95
DENON	DR-M34HR (RI)	25-20 ±3	Yes	0.045		75	B/C/H	M		3	No	No	P	T	No	0	No	12¼	500.00
	DRM-800	20-20 ±3	Yes	0.038		75	B/C/H	M		3	Yes	No	PH	E	No	0	No	10½	500.00
	DRM-700	25-20 ±3	Yes	0.045		73	B/C/H	M		3	Yes	No	PH	E	No	0	No	10½	400.00
	DRW-750	20-18 ±3	No	0.06		74	B/C/H	M		3	Yes	No	P	T	No	0	Yes	10½	400.00
	DRR-680	20-19 ±3	No	0.06		74	B/C/H	M		3	Yes	No	P	T	Yes	0	No	9¼	400.00
	DRM-600	20-20 ±3	No	0.055		74	B/C/H	M		3	Yes	No	P	E	No	0	No	9	350.00
	DRM-500	25-18 ±3	No	0.055		74	B/C/H	M		3	Yes	No	P	T	No	0	No	8½	275.00
	DRM-400	25-18 ±3	No	0.057		73	B/C	M		3	Yes	No	P	T	No	0	No	8½	240.00
DUAL	CC5850	25-19 ±3	Yes	0.05	60	76	B/C/H	M		3	Yes	Yes	A/PH	T	No	0	No	12½	450.00
	CC8025	25-16 ±2	Yes	0.08	60	76	B/C	M		3	Yes	No	P	T	No	1	Yes	10	400.00
FISHER	CR-Z1(RI)	30-19 ±3	Yes	0.045	52	92	B/C/D/H			3	Yes	Yes	P	T	Yes	0	Yes	18.7	599.95
	CR-905(RI)	40-17 ±3	Yes	0.06	52	72	B/C			3	Yes	Yes	P	T	Yes	0	Yes	11.5	249.95
	CR-W780	40-15 ±3	Yes	0.15	51	61	B			3	No	No	P	T	Yes	0	Yes	9.3	159.95
CR-680	50-15 ±3	Yes	0.15	51	61	B			3	No	No	P	T	No	0	Yes	8.5	119.95	
FOSTEX	X-26	40-12.5	Yes	0.15		58	B/C			0	No	No	P	T	No	2	No	4	449.00
	160	40-14	Yes	0.1		70	C			0	No	No	P	T	No	4	No	7	840.00
	260	40-14	Yes	0.1		70	C			0	No	No	P	T	Yes	4	No	13	1195.00
GRUNDIG	CCT-903	30-18 ±3	No	0.09	58	73	B/C			0	No	No	A/PH		Yes	0	Yes	15	899.00
HARMAN KARDON	TD212	20-20 ±3	No	0.05	57	73	B/C			3	No	No	P	T	No	0	No	8.5	299.00
	TD262	20-20 ±3	No	0.05	57	73	B/C/H			3	No	No	P	T	No	0	No	10	399.00
	TD302	20-20 ±3	No	0.05	57	73	B/C/H			3	No	No	P	T	No	0	No	12.8	499.00
	TD392	20-22 ±3	Yes	0.05	57	73	B/C/H			3	No	No	P	T	No	0	No	12.8	799.00
	CD491	20-24 ±3	Yes	0.025	58	75	B/C/H			3	Yes	No	P/PH	T/E	No	2	No	14.3	1099.00
JVC	TDX321BK	13-16 ±3	No	0.08	58	73	B/C/H			3	No	No	P	T	No	0	No	8.2	240.00
	TDR421BK	13-16 ±3	No	0.08	58	73	B/C/H			3	No	No	P	T	Yes	0	No	8.4	290.00
	TDV621BK	15-20 ±3	Yes	0.035	59	74	B/C/H	M		3	Yes	No	P/PH	T/E/R	No	0	No	16.8	510.00
	TDV1010TN	15-20 ±3	Yes	0.022	61	76	B/C/H	M		3	Yes	No	P/PH	T/E/R	No	0	No		700.00
	TDW201BK	40-15 ±3	No	0.08	58	73	B/C			3	No	No	P	T	No	0	Yes	8.6	200.00
	TDW301BK	40-15 ±3	No	0.08	58	73	B/C			3	No	No	P	T	Yes	0	Yes	8.4	260.00
	TDW501BK	30-16 ±3	No	0.08	58	73	B/C			3	Yes	No	P	T	Yes	2	Yes	10	310.00
	TDW801BK	30-16 ±3	No	0.08	58	73	B/C			3	Yes	No	P	T	Yes	0	Yes		360.00
	TDW901BK	30-17 ±3	No	0.08	58	73	B/C/H			3	Yes	No	P	T	Yes	0	Yes		480.00
	KENWOOD	KX-8010(RD)	30-15 ±3		0.08	57	65	B/C/H	A		3	Yes	Yes	P	T	Yes	0	Yes	12
KX-6010(RD)		30-16 ±3		0.08	57	65	B/C/H	A		3	Yes	Yes	P	T	Yes	0	Yes	11	329.00
KX-3510(RD)		30-17 ±3		0.08	59	68	B/C/H	A		3	Yes	Yes	P	E	Yes	1	No	10¾	299.00
KX-68W(RD)		30-15 ±3		0.08	57	65	B			3	Yes	Yes	P	T	Yes	0	Yes	10¾	279.00
KX-58W(RD)		30-15 ±3		0.08	57	65	B			3	Yes	Yes	P	T	Yes	0	Yes	8¾	229.00
KX-48C(RD)		30-15 ±3		0.08	56	64	B/C			3			P	T	Yes	2	No	7	179.00
LUXMAN	K-111	30-18	No	0.06	55	70	B/C/H			3	No	No	P	T	No	2	No	7.7	380.00
	K-112	20-21	Yes	0.05	56	73	B/C/H	M		3	No	No	P	T	No	0	No	9.5	600.00
	K-110	30-17	No	0.07	56	74	B/C/H			3	No	No	P	T	Yes	2	No	5.4	480.00
	K-110W	30-17	No	0.07	56	74	B/C/H			3	No	No	P	T	Yes	0	Yes	6.3	580.00
	K-105	20-18	No	0.05	60	71	B/C/D			3	Yes	No	P	T	Yes	0	No	9.9	600.00
MARANTZ	DA 2452CB	40-16	No	0.12	55	64	B			No	3	No	No	P	T	Yes	0	Yes	169.95
	SD 285		No				B/C							T	Yes	0	Yes	249.00	
	SD 365		No				B/C							T	Yes	0	Yes	299.00	
	DL 3507	20-20	No	0.06		74	B/C/H	A			Yes	Yes	P	T	Yes	0	No		380.00

POWERFUL

MUSICAL

ACCURATE

A STEEL FIST IN A VELVET GLOVE.



100 watts/channel into 8 ohms, 20-20kHz with no more than 0.5% THD. A power spec like this immediately suggests the new HR-752 is no ordinary remote control receiver. Underneath its mild-mannered exterior lurks the power needed to effortlessly deliver the full impact of digital music sources. Simultaneous high current and high voltage output that unflinchingly handles speaker impedance variations. With the right set of speakers, you may be able to rearrange your furniture by remote control.

ACCD turns "dirty" FM into fresh air. Unlike competitors' receivers, the Carver HR-752 can actually transform a noisy, multipath distortion-ravaged FM signal into clean, hiss-free music with full stereo separation. The key is Carver's exclusive Asymmetrical Charge-Coupled FM Detection circuitry. Coupled with 20 random FM/AM presets and preset scan, it can dramatically increase your stereo listening options by making previously unlistenable stations sound like they're next door.

Sonic Holography® puts the reality back into music. Only through a demonstration can you fully experience the vastly increased sound stage width, height, depth and

detail produced by the HR-752's Sonic Hologram Generator. Using regular speakers. With normal stereo sources including records, tapes, CD's, FM and even video soundtracks.

Finesse as well as fury. Along with three exclusive Carver technologies, the HR-752 possesses the details which define a top quality receiver: CD-direct "straight wire" option. 3-band tone controls. 5 audio inputs. Pre/main outs. Motorized volume control. Matrix surround sound. And remote compatibility with Carver TL-3100, TL-3200 and TL-3300 CD players.

Hear the HR-752 at a Carver dealer today. You'll admire it for its brute power. But you'll come to love it for its gentle touch.

For more information and the name of your nearest Carver dealer, call 1-800-443-CAVR (8AM-4PM, M-F Pacific Time).

CARVER

CARVER CORPORATION, LYNNWOOD, WASHINGTON, U.S.A.
Distributed in Canada by EVOLUTION AUDIO INC. 1-(416) 847-8888

CASSETTE DECKS

MANUFACTURER	Model (R) = Remote Included (RO) = Remote Optional	Frequency Response Hz to KHz, \pm dB	Monitoring with Bass Tap	Wow & Flutter, Wtd. Peak, %	S/N without Noise Reduction	S/N with Noise Reduction	Noise-Reduction Circuit: Dolby B=C, D, HX, Pro=H, Other=O	Bias Adjustment: Auto=A, Manual=M	Number of Preset Bias/ED Positions	Program Search?	Program Scan?	Level Indicators: Average=A, Peak=P, Peak-hold=PH	Cover Indicators: Number of Turns=T, Eject=E, Remaining Time=H	Auto Reverse?	Number of Mike Inputs	Dual Wells?	Weight, Lbs.	Price, \$	Notes
MITSUBISHI	M-T5100(RI)	30-16	No	0.08	57	77	B/C		3	Yes	Yes	P	T	Yes	0	Yes	13.4	350.00	
NAD	6100(RI)	30-19 \pm 3	No	0.06	57	77	B/C/H	M	3	No	No	P	T	No	0	No	10 $\frac{1}{2}$	499.00	
	6300(RI)	30-19 \pm 3	Yes	0.03	59	78	B/C/H	M	3	No	No	P	T/E	No	0	No	13	899.00	
	6325	35-16 \pm 3	No	0.06	56	76	B/C	M	3	No	No	P	T	No	0	No	9 $\frac{3}{4}$	229.00	
	6340	30-19 \pm 3	No	0.06	57	77	B/C/H	M	3	No	No	P	T	No	0	No	9 $\frac{3}{4}$	399.00	
NAKAMICHI	Dragon(RO)	20-22 \pm 3	Yes	0.04	72	72	B/C	M	3	No	No	P	T	Yes	0	No	21	2195.00	Auto azimuth correction.
	RX-505(RO)	20-20 \pm 3	Yes	0.08	70	70	B/C	M	3	Yes	No	P	T	Yes	0	No	22	1395.00	Flips cassette for tape reverse.
	RX-202	20-20	No	0.11	68	68	B/C	No	3	No	No	P	T	Yes	0	No	19 $\frac{3}{4}$	795.00	As above.
	CR-7A(RI)	18-21 \pm 3	Yes	0.048	72	72	B/C	A	3	No	No	P/PH	T/E/R	Yes	0	No	19 $\frac{3}{4}$	1695.00	Manual playback azimuth adjustment.
	CR-5A(RO)	20-20 \pm 3	Yes	0.048	72	72	B/C	M	3	No	No	P	T	No	0	No	18 $\frac{3}{4}$	1095.00	
	CR-4A(RO)	20-21 \pm 3	Yes	0.048	72	72	B/C	M	3	No	No	P	T	No	0	No	13	995.00	Dolby level adjustment with test tone.
NIKKO	D-400	20-19	Yes	0.006	59	69	B/C/H	M	0	No	No	P	E	No	0	No	11	499.95	
	D-600	20-21	Yes	0.006	60	70	B/C/H	M	0	No	No	P	E	No	0	No	11	599.95	
	ONKYO	TA-2000	30-16 \pm 3	No	0.07	58	78	B/C/H	3	No	No	A	T	No	0	No	8.6	230.00	
ONKYO	TA-2200(RI)	30-18 \pm 3	No	0.07	58	78	B/C/H	3	Yes	Yes	PH	T	No	0	No	9.7	330.00		
	TA-R200	30-16 \pm 3	No	0.07	58	78	B/C/H	3	Yes	Yes	A	T	Yes	0	No	8.6	260.00		
	TA-R300(RI)	30-18 \pm 3	No	0.07	58	78	B/C/H	3	Yes	Yes	PH	T	Yes	0	No	9.9	360.00		
	Integra	30-19 \pm 3	Yes	0.035	60	80	B/C/H	3	Yes	Yes	PH	E/R	No	0	No	12.8	480.00	Three motors.	
	TA-2600	20-20 \pm 3	Yes	0.035	60	80	B/C/H	3	Yes	Yes	PH	E/R	No	0	No	13.7	650.00	As above; dual capstan; Dolby record calibration.	
	Integra	25-21 \pm 3	Yes	0.02	60	80	B/C/D/H	3	Yes	Yes	PH	E/R	No	0	No	19.8	950.00	As above.	
	TA-2090	30-16 \pm 3	No	0.07	58	78	B/C/H	3	No	No	PH	T	Yes	0	Yes	10.6	340.00		
	TA-RW400(RO)	30-16 \pm 3	No	0.06	58	78	B/C	3	No	No	PH	E/R	Yes	1	Yes	13.2	500.00		
	TA-RW470(RO)	30-16 \pm 3	No	0.06	58	78	B/C/H	3	Yes	Yes	PH	E/R	Yes	1	Yes	13.6	630.00		
	TA-RW490(RO)	30-16 \pm 3	No	0.06	58	78	B/C/H	3	Yes	Yes	PH	E/R	Yes	1	Yes	13.6	630.00		
PARASOUND	D/HX-600	30-16 \pm 2	No	0.04	52	75	B/C/H	3			PH	T	No	0	No	15	360.00	"Playtrim" adjustment.	
	D/HX-550	30-19 \pm 2	No	0.04	58	77	B/C/H	3			PH	T	No	0	No	15	285.00	As above.	
PHILIPS	FC60	20-20 \pm 3	Yes	0.035	65	78	B/C/H	M	3	Yes	Yes	P/PH	T/E				14 $\frac{1}{2}$	549.00	Dual capstan; record calibration.
	FC50	40-19 \pm 3	No	0.05	60	73	B/C/H	M	3	Yes	Yes	P/PH	T/E				11 $\frac{3}{4}$	379.00	Switchable MPX filter.
	FC40	40-19 \pm 3	No	0.06	60	73	B/C/H	M	3	Yes	Yes	P/PH	T/E				11 $\frac{3}{4}$	299.00	As above.
PIONEER	CT-W910R	18-18.5	No	0.055	58	77	B/C/H	A	3	Yes	Yes	A/PH	T	Yes	Yes	Yes	13 $\frac{1}{4}$	650.00	Twin HX Pro.
	CT-710R	25-18	No	0.055	57	76	B/C/H	A	3	Yes	Yes	A/PH	T	Yes	Yes	Yes	13 $\frac{1}{4}$	450.00	
	CT-W600R	25-18	No	0.055	57	76	B/C/H	A	3	Yes	Yes	A/P	T	Yes	Yes	Yes	11 $\frac{3}{4}$	360.00	
	CT-W510	25-16	No	0.06	56	75	B/C	A	3	Yes	Yes	A/P	T	No	Yes	Yes	11 $\frac{3}{4}$	310.00	
	CT-W310	35-16	No	0.13	56	75	B/C	A	3	No	No	A/P	T	No	Yes	Yes	8 $\frac{5}{8}$	225.00	
	CT-S705	20-21	Yes	0.05	58	77	B/C/H	A/M	3	Yes	Yes	A/PH	T/E	No	No	13	480.00		
	CT-S605	25-18	No	0.055	58	77	B/C/H	A/M	3	Yes	Yes	A/PH	T/E	No	No	11	375.00		
	CT-S405	25-17	No	0.075	57	76	B/C/H	A	3	No	Yes	A/PH	T	No	No	9 $\frac{1}{4}$	230.00		
	CT-S305	25-17	No	0.075	57	76	B/C	A	3	No	Yes	A/PH	T	No	No	9 $\frac{1}{4}$	200.00		
	PROTON	AD-630(RI)	30-17 \pm 3	Yes	0.05	54	90	B/C/D	A	3	Yes	Yes	P	E/R	Yes	2	No	18.7	800.00
740		25-16 \pm 3	Yes	0.05	54	90	B/C/D	A	3	Yes	No	A/P	E/R	Yes	2	No	11.2	349.00	
AD-300(RO)		40-15 \pm 3	Yes	0.05	54	90	B/C/D	A	3	No	No	P	E/R	Yes	2	No	10.6	319.00	
AO-200		40-15 \pm 3	No	0.08	54	71	B/C	A	3	No	No	P	E/R	No	0	No	8.8	229.00	
REVOX	B215(RO)	30-20 +2,-3	Yes	†	58	72	B/C/H	A	6	Yes	No	P	E	No	0	No	20 $\frac{1}{4}$	2300.00	†0.1%, DIN wtd. Pivoting headblock.
	B215S(RO)	30-20 +2,-3	Yes	†	58	72	B/C/H	A	6	Yes	No	P	E	No	0	No	20 $\frac{1}{4}$	2800.00	
ROTEL	RD845	30-18 \pm 3	No	0.08	55	73	B/C		3	No	No	P	T	No	0	No	9	249.00	
	RD855	30-19 \pm 3	No	0.035	55	73	B/C		3	No	No	P	T	No	0	No	11	349.00	
	RD865	30-20 \pm 3	No	0.035	55	73	B/C/H	M	3	No	No	P	T	No	0	No	11	449.00	
SAE	C102	20-20 \pm 3	No	0.04	55	74	B/C		3	Yes	No	A/PH	T/E/R	No	0	No	24	499.00	
SANSUI	Vintage O-X701	30-20	Yes	0.035	60	74	B/C		3	Yes	Yes	P	T	No	0	No	13 $\frac{3}{4}$	700.00	Dual capstan.
	D-X301iR	20-19	Yes	0.05	55	65	B/C/H		3	Yes	Yes	P	T	Yes	2	No	10	360.00	Timer record/play.
	D-X301i	20-21	Yes	0.05	55	65	B/C/H		3	Yes	Yes	P	T	Yes	0	No	11 $\frac{1}{4}$	350.00	As above.
	D-3000WR	40-15	Yes	0.09	54	72	B/C		3	Yes	Yes	P	T	Yes	0	Yes	10 $\frac{3}{4}$	380.00	
	D-1000W	20-17	Yes	0.09	54	72	B/C		3	Yes	Yes	P	T	No	0	Yes	9 $\frac{3}{4}$	310.00	
	D-900W	40-15	Yes	0.2	53	63	B		3	Yes	Yes	P	T	No	0	Yes	8	240.00	
	D-550WR	50-13	Yes	0.2	50	60	B		3	Yes	Yes	P	T	Yes	0	Yes	9 $\frac{1}{4}$	230.00	
SANYO	RDW41A	60-14 \pm 3	Yes	0.08	57	66	B		3	No	No	P	T	No	0	Yes	7.3	99.99	
	RDW389	40-16 \pm 3	Yes	0.08	56	71	B/C		3	No	No	P	T	No	0	Yes	6.8	149.99	
	RDW489	40-16 \pm 3	Yes	0.08	56	71	B/C		3	No	No	P	T	Yes	0	Yes	7.5	149.99	
	RDW589	40-16 \pm 3	Yes	0.08	55	70	B/C		3	No	No	P	T	No	2	Yes	7.5	169.99	Full and four-track; high-speed dubbing.
SCOTT	DD660	50-13	Yes		64	64	B		6			P	T	0	0				
	OD700	30-13	Yes		64	64	B		6	Yes		P	T	Yes	0				
	OD900	30-15	Yes		64	65	B		6	Yes		P	T	Yes	0				
SHARP	RT-W500	30-16	Yes	0.01	52	62	B	A		Yes	Yes	A/P	T	No	2	Yes	7.5	149.95	
	RT-W800	30-17	Yes	0.08	56	66	B	A		Yes	Yes	A/P	T	Yes	2	Yes	7.5	269.95	
SHERWOOD	OS-7000R(RO)	25-20 \pm 6	Yes	0.06	58	75	B/C/H		3	Yes	No	A/PH	E	No	2	No	13 $\frac{1}{2}$	449.95	Two line inputs/outputs; cross fader control.
	DS-1630R(RO)	25-19 \pm 6	Yes	0.08	57	75	B/C/H		3	Yes	No	A/PH	E	Yes	0	No	12 $\frac{1}{2}$	269.95	As above.

If getting everything you've ever dreamed about in a receiver has been just, well, a dream, this message could prove to be most valuable.

Because the RV-1340R Audio Video Remote Receiver is the finest Sherwood has ever built. With tighter engineering tolerances and more high performance features than any other component in its price range.

Behind its double-thick brushed aluminum front-end are two discrete amplifiers and Dolby® surround sound circuitry. One amp sends 100 watts per channel to the front speakers. While the second delivers a full 20 watts per channel to the rear. So you can turn on your Sherwood and turn your living room into a home theater experience.

The unit is designed with MOS-FET components and fully complementary circuitry. Plus video dubbing with adjustable video enhancement. And with Sherwood's DIGI-LINK unified wireless remote, you'll put an entire Sherwood system at your command.

To put the RV-1340R to the test, visit your Sherwood dealer for a thorough demonstration. And discover a receiver you can look up to that's within your reach.



MOST VALUABLE RECEIVER.



 **Sherwood®**
LIVE PERFORMANCE SOUND™

13845 ARTESIA BLVD. CERRITOS, CA 90701 • IN CANADA: NORESCO CANADA INC., TORONTO, ONTARIO © 1989 INKEL CORPORATION.
Dolby is a trademark of Dolby Laboratories Licensing Corporation.

Enter No. 84 on Reader Service Card

CASSETTE DECKS

MANUFACTURER	Model (RO) = Remote Included, (R) = Remote Optional	Frequency Response Hz to kHz, ±dB	Monitoring Response with Best Tape, ±dB	Wow & Flutter, Wtd. Peak, %	S/N without Noise Recording	S/N with Noise Recording, "A" Wtd., -dB	Noise Reduction, "A" Wtd., -dB	Bias Adjustment, "A" Wtd., -dB	Number of Preset Bias/EQ Positions	Program Search?	Program Scan?	Level Indicators: Average = A, Peak = P, Peak Hold = PH		Auto Reverse?	Number of Tapes/T. Rewinding Time = R	Dual Wells?	Weight, Lbs.	Price, \$	Notes
												E	T						
SHERWOOD (Continued)	DD-123OR (RO)	25-18 ±6	Yes	0.12	57	75	B/C		3	Yes	No	A/PH	E	Yes	0	Yes	13½	279.95	
	DD-1030	30-15.5 ±6	Yes	0.15	56	65	B		3	No	No	A/P	E	No	0	Yes	7½	129.95	
	DD-1130	30-16 ±6	Yes	0.12	56	74	B/C		3	No	No	A/P	E	No	0	Yes	9	149.95	
	DD-1032C (RO)	30-15.5 ±6	Yes	0.15	56	65	B		3	No	No	A/P	E	No	0	Yes	7½	139.95	
	DS-1135C (RO)	30-16.5 ±6	Yes	0.08	57	72	B/C/H		3	No	No	A/P	E	No	1	No	9	189.95	
SONY	TC-WR810 (RO)	30-17 ±3		0.09	58	71	B/C/H		3	Yes		P	T	Yes		Yes	10½	500.00	
	TC-WR710 (RO)	30-15 ±3		0.09	58	71	B/C/H		3	Yes		P	T	Yes		Yes	9½	350.00	
	TC-WR610 (RO)	30-15 ±3		0.09	58	71	B/C		3	Yes		P	T	Yes		Yes	9½	315.00	
	TC-WR510 (RO)	30-15 ±3		0.12	58	71	B/C		3			P	T	Yes		Yes	8¼	245.00	
	TC-W310	30-15 ±3		0.12	58	71	B/C		3			P	T	Yes		Yes	7½	210.00	
	TC-RX410 (RO)	30-15 ±3		0.09	58	71	B/C/H		3			P	T	Yes	2		8½	240.00	
	TC-FX110	30-15 ±3		0.12	58	71	B/C		3			P	T				7¾	145.00	
SONY ES	TC-WR11ES (RI)	20-20 ±3		0.05	59	72	B/C		3	Yes		P	E/R	Yes		Yes	10½	800.00	
	TC-WR10ES (RO)	20-20 ±3		0.09	58	71	B/C		3	Yes		P	E/R	Yes		Yes	10½	550.00	
	TC-WR8ES (RO)	20-20 ±3		0.09	58	71	B/C/H		3	Yes		P	E/R	Yes		Yes	10	430.00	
	TC-K730ES (RO)	20-21 ±3	Yes	0.025	60	73	B/C	M	3			PH	E/R			No	21	850.00	
	TC-K630ES (RO)	20-21 ±3	Yes	0.05	59	72	B/C/H		3	Yes	Yes	PH	E/R			No	11½	450.00	
	TC-RX55ES (RO)	20-20 ±3		0.09	58	71	B/C/H		3			P	T	Yes	2	No	8½	300.00	
TANDBERG	TCD-3014A	18-23 ±1.5	Yes	†		74	B/C	M	3	Yes	No	P	T/E	No	0	Yes	21.6		†0.06%, DIN wtd.
TEAC	V-250	30-16	No	0.095	55	65	B		3	No	No	P	T	No	0	No	6.3	119.95	
	V-270C	30-16	No	0.095	55	70	B/C	M	3	No	No	P	T	No	0	No	6.3	139.95	
	V-285CHX	30-16	No	0.095	55	70	B/C/H	M	3	No	No	P	T	No	0	No	6.3	149.95	
	V-480	30-18	No	0.07	59	74	B/C/H	M	3	No	No	P	T/E	No	0	No	9.9	199.95	
	V-570	20-19	No	0.06	59	74	B/C/H	M	3	No	No	P	T/E	No	0	No	11	349.95	
	R-445	30-17	No	0.06	55	70	B/C		3	No	Yes	P	T	Yes	0	No	6.6	209.95	
	R-445CHX	30-17	No	0.06	55	70	B/C/H		3	No	Yes	P	T	Yes	0	No	6.6	219.95	
	R-540(RO)	30-19	No	0.07	59	74	B/C/H		3	No	No	P	T	Yes	0	No	10.5	289.95	
	R-616X	25-20	Yes	0.05	59	90	B/C	M	3	Yes	Yes	P	T/E	Yes	0	No	11	499.95	
	W-350	30-16	Yes	0.095	55	65	B		3	No	No	P	T	No	0	Yes	7	169.95	
	W-370C	30-16	Yes	0.095	55	70	B/C	M	3	No	No	P	T	No	0	Yes	7	199.95	
	W-450R	30-17	No	0.06	55	70	B/C/H		3	No	Yes	P	T	Yes	2	Yes	10.1	289.95	
	W-470	30-18	No	0.07	59	74	B/C		3	No	No	P	T	No	0	Yes	10.5	249.95	
	W-550R	30-19	No	0.07	59	74	B/C/H		3	No	Yes	P	T	Yes	0	Yes	12.1	399.95	
	V-670	20-21	Yes	0.06	60	80	B/C/H	M	3	No	No	P	T/E	No	0	No	11	449.95	
V-970X(RI)	25-20 ±3	Yes	0.028	60	92	B/C/D	M	3	Yes	Yes	P	T/E	No	0	No	12.8	799.95	MPX filter. CD level check.	
	R-919X(RI)	25-20 ±3	Yes	0.029	60	92	B/C/D	M	3	Yes	Yes	P	T/E	No	0	No	13.3	829.95	As above.
	W-990R(RI)	30-19 ±3	No	0.045	59	91	B/C/D		3	Yes	Yes	P	T	Yes	0	Yes	13.3	799.95	As above.
TECHNICS	RS-B905	30-20 ±3	Yes	0.04	57	92	B/C/D	M	3	No	No	P	T	No	0	No	12	619.00	Closed-loop dual capstan.
	RS-B755	30-20 ±3	Yes	0.04	59	94	B/C/D	M	3	No	No	P	T	No	2	No	12	439.00	As above.
	RS-B605	20-18 ±3	No	0.06	56	91	B/C/D		3	No	No	P	T	No	2	No	11	359.00	
	RS-B555	20-18 ±3	No	0.06	56	91	B/C/H		3	No	No	P	T	No	2	No	10	299.00	
	RS-TR555	20-19 ±3	No	0.07	56	92	B/C/D		3	Yes		P	T	Yes	0	Yes	12	439.00	Quick-reverse and record in both wells.
	RS-TR355	20-19 ±3	No	0.1	56	74	B/C/H		3	No	No	P	T	Yes	0	Yes	12	329.00	
	RS-TR255	20-19 ±3	No	0.1	56	74	B/C		3	No	No	P	T	Yes	0	Yes	12	229.00	
	RS-TR155	20-19 ±3	No	0.1	56	66	B		3	No	No	P	T	Yes	0	Yes	12	209.00	
UHER	CR 1600	30-16 ±1	Yes	0.3	52	60	B	A	4	Yes	Yes	P	T	Yes	1	No	7	1849.00	8-hour record time.
	CR 1601	20-19 ±1	Yes	0.2	50				4	Yes	Yes	P	T	No	1	No	7	1849.00	As above.
VECTOR RESEARCH	VCX-325	40-14 ±3	No	0.08	52	63	B		3	No	No	P	T	No	2	Yes	10	159.95	
	VCX-255	30-18 ±3	No	0.05	56	75	B/C	M	3	No	No	P	T	No	0	No	11½	179.95	
	VCX-270	30-20 ±3	No	0.05	60	75	B/C/H	M	3	Yes	No	P	T	No	2	No	14	349.95	
	VCX-450	30-18 ±3	No	0.04	56	75	B/C	M	3	Yes	Yes	P	T	Yes	2	No	16	399.95	
YAMAHA	KX-300(RI)	30-20 ±3	No	0.08	60	76	B/C	M	3	Yes	Yes	P	T	No	0	No	9¼	299.00	
	KX-230(RO)	20-19 ±3	No	0.08	58	74	B/C	M	3	Yes	Yes	P	T	No	0	No	9¼	269.00	
	KX-130	20-16 ±3	No	0.15	58	74	B/C		3	No	No	P	T	No	0	No	8½	219.00	
	KXW900U (RI)	20-20 ±3	No	0.08	58	74	B/C/H		3	Yes	Yes	P	R	Yes	0	Yes	15½	699.00	
	KXW602(RI)	20-20 ±3	No	0.08	58	74	B/C/H		3	Yes	No	P	R	Yes	0	Yes	12½	519.00	
	KXW302U (RO)	20-20 ±3	No	0.15	58	74	B/C/H		3	Yes	No	P	T	Yes	0	Yes	10¾	449.00	
	KXW202U (RO)	20-18 ±3	No	0.15	58	74	B/C		3	Yes	No	P	T	No	0	Yes	9½	349.00	
	KX-1200U (RI)	20-24 ±3	Yes	0.06	61	95	B/C/D	A/M	3	Yes	Yes	P	E/R	No	0	No	17¾	749.00	
	KX-R700U (RI)	20-20 ±3	No	0.08	60	90	B/C/D		3	Yes	Yes	P	E/R	Yes	0	No	12¾	579.00	
	KX-800U(RI)	20-22 ±3	Yes	0.08	61	90	B/C/D	A/M	3	Yes	Yes	P	E/R	No	0	No	10¾	569.00	
	KX-630(RI)	20-20 ±3	Yes	0.08	60	76	B/C	M	3	Yes	Yes	P	E/R	No	0	No	10¾	469.00	
	K-640B	20-20 ±3	No	0.08	59	75	B/C/H		3	Yes	Yes	P	E/R	Yes	2	No	11½	449.00	
	KX-500U(RI)	20-20 ±3	No	0.08	60	76	B/C/H	M	3	Yes	Yes	P	E/R	No	0	No	9½	399.00	
KX-R430(RI)	20-19 ±3	No	0.08	58	74	B/C/H	M	3	Yes	Yes	P	T	Yes	0	No	9½	349.00		
YST K-W90M	30-16 ±3	No	0.15	58	74	B/C		3	Yes	No	P	T	Yes	0	Yes	9	580.00		

LEAVING A SYMPHONY UNFINISHED SHOULD BE UP TO THE COMPOSER. NOT YOUR TAPE.



Schubert had a pretty good reason for not completing music. He died.

But abrupt endings while taping CDs are not so excusable. Which is why Maxell now offers 100-minute cassettes designed specifically for digital sources. With superior frequency response and noise reduction, they actually rival CDs in sound quality. And with an extra ten minutes of

recording time, they do the same in sound quantity.

Instead of being frustrated by the shortcomings of other tapes, try our new XLII 100 and XLII-S 100. And you may never have to settle for Vivaldi's "Three-And-A-Half Seasons" again.



maxell®

© 1989 Maxell Corporation of America, 22-08 Route 208, Fairlawn, N.J. 07410

Enter No. 59 on Reader Service Card

BLANK TAPE

ANALOG CASSETTE TAPE TYPE CODE I — Normal Ferric II — Chroma/Chrome Equivalent IV — Metal Particle		ANALOG CASSETTES										OPEN-REEL				DAT CASSETTES				Notes
		MANUFACTURER	Brand	Tape Type—See Code					1200 Feet	1800 Feet	2400 Feet	3600 Feet	R-16	R-60	R-90	R-120				
				C-30	C-45 or C-46	C-60	C-90	C-120												
BASF	Ferro Extra I	I			1.49	1.69	2.19											C-100, \$1.89.		
	Ferro Super I	I			1.94	2.54														
	Ferro Maxima I	I			2.59	2.89	3.29											C-100, \$3.19.		
	Chrome Extra II	II			2.69	2.99														
	Chrome Maxima II	II			3.29	4.29	6.49													
BLACK WATCH/3M	DAT	IV										9.99	10.99	11.99						
	4040	II																		
	2020						10.00													
	226							15.00		20.00†										
	227 7707									25.00								C-76, \$7.00; C-100, \$9.00. C-76, \$4.00; C-100, \$6.00. ‡2500 feet.		
CERTRON	High Density	I	1.19	1.29	1.39	1.79	2.49													
DENON	HDM	IV			4.50	5.50														
	HD8	II			3.75	4.75														
	HD7	II			3.00	4.00														
	HD6	II			2.50	3.25														
	DX4 DX1	I I			3.00 1.75	4.00 2.25												C-75, \$4.99; C-100, \$5.99. C-75, \$4.25; C-100, \$4.99. C-75, \$3.50. C-75, \$2.75; C-100, \$3.50.		
DIC DIGITAL	XR										8.99	10.99	12.99	14.99				R-15, \$6.99; R-30, \$7.99.		
FUJI	DR-I	I			1.49	1.99														
	DR-II	II			2.49	2.99														
	FR-IIx	II			3.49	3.99														
	FR-IIx Pro	II			4.49	4.99														
	FR-Metal DAT	IV IV			5.49 5.99	5.99 5.99							10.95	11.95	12.95			C-74, \$3.79. C-74, \$4.79.		
LORAN	ESQ	II				4.99														
	H8 PRO-DAT	II II		2.99	3.49	3.99					6.80	7.50	9.00	10.50				Custom lengths available.		
MAXELL	MX	IV			4.39	5.29														
	XLII-S	II			3.59	4.39														
	XLI-S	I			3.59	4.39														
	XLII	II		3.29	3.29	3.99												C-100, \$5.99. C-100, \$4.99.		
	UDI	II		2.49	2.49	3.29														
	UDI	I		2.49	2.49	3.29														
	UR	I		1.49	1.49	1.79	2.79													
	DAT XLI Back Coated Ultra Dynamic	IV IV							12.79 9.19		35.79 28.39	8.99	10.99	12.99	14.99				C-100, \$4.39.	
MEMOREX	dBS	I		1.10	1.19	1.49	1.99													
	MRX	I			1.79	2.29														
	HBS II	II		1.59	1.79	1.99														
	HBX II CDX	II II			2.39	3.19 3.99												C-100, \$2.29.		
NAKAMICHI	ZX-C90	IV				10.00														
	SXII-C90	II				8.90														
	SX-C90	II				6.50														
	EXII-C90 R-DAT Tape	I I				6.00														
RECOTON	XR90-10					13.99†														
	SX60-2			3.99†														†Ten-pack. †Two-pack.		
SCOTCH/3M	8X	I			1.69	1.95														
	CX	I			2.40	2.99														
	XS-II	II			2.99	3.79														
	XSM-IV DAT	IV IV			4.49	5.99					8.99	10.99	12.49	14.99						
SKC	GX	I	1.29	1.39	1.59	2.39														
	AX	I	1.99	2.09	2.49															
	OX	II			2.39	2.79														
	CD	II			2.49	3.39														
	ZX	IV	3.59	4.09	5.59													C-76, \$2.99; C-100, \$3.99.		
	SONY	HF	I	1.49	1.79	2.29	2.99													
HF-S		I			1.99	2.69														
IJX		II			2.49	3.29														
IJX-S		II			2.99	3.99														
IJX-ES		II			3.99	5.49														
IJX-Pro		II			5.99	7.99														
Metal-SR		IV				3.99														
Metal-ES		IV				9.99														
Metal Master		IV				11.99														
TARA LABS		Absolute Reference "Apogee"	II				7.95													
TDK	D	I	1.50	1.60	1.75	2.00	2.50													
	AD	I			2.25	2.50														
	AR	I			2.50	2.75														
	AR-X	I			2.50	3.00														
	SD	II		2.25	2.25	2.50														
	SA	II		2.50	2.50	3.00														
	SA-X	II		3.00	3.00	3.50														
	SA-XG	II			6.50	8.75														
	MA	IV			3.50	4.00														
	MA-X	IV		4.25	4.25	5.00														
	MA-XG DA-R	IV IV			7.00	9.25						10.00	12.00	14.00						
THAT'S AMERICA	CDII	II				4.51														
	CDI	I				2.83														
	CDIV	IV				5.99														
	CDMH	II				5.31												C-74, \$4.13; C-100, \$5.10. C-74, \$2.91; C-100, \$3.95. C-74, \$5.79; C-100, \$7.35. Type II metal-particle tape. C-74, \$4.75; C-100, \$5.79.		

THE METAL AGE IS HERE

Serious recording enthusiasts know that in today's world of digital audio, conventional cassettes just won't do. Their formulations don't meet higher recording requirements.

So now there's Sony Metal™, the first complete line of advanced metal particle audiocassettes. Each

**Recording
will never be
the same.**

Sony Metal tape offers a level of performance that's ideal for digital source material like the compact disc.

To begin with, there's Metal-ES, the most highly acclaimed metal cassette currently available. That's according to *Audio, High Fidelity* and the leading consumer reporting publications. For most manufacturers, Metal-ES would be enough. Not for Sony.

Sony introduces Metal Master™, the preeminent tape in the Sony Metal line. Based upon years of Sony advanced research into high density metal materials, it combines ultrafine Extralloy® magnetic particles with a new high polymer binding, to achieve superb linearity and the highest rated output ever. Plus its unique one-piece ceramic shell and tape guide are designed to dampen vibration and reduce modulation noise.

Sony also introduces Metal-SR. The first affordably priced pure metal cassette that offers greater dynamic range performance. Because, like every Sony Metal cassette, the Metal-SR has three times the magnetic energy of any Type II cassette. And it's available in both 90 and 100 minute lengths.

Each Sony Metal cassette is the ultimate in analog recording technology. So look for Sony Metal because recording will never be the same.

For more information write: Sony Metal, Sony Magnetic Products Company, Sony Drive, Park Ridge, NJ 07656.

SONY

JEFF BAXTER AND DIC//DAT

TAKE MUSIC TO THE Nth DEGREE.

THE DIC//DAT Musician's Musicians Series #1



PHOTOGRAPH: KOPITCHINSKI
LOCATION: SOUNDTRACK NY.

The title on the album read "Can't Buy a Thrill." But the music inside proved just the opposite. Steely Dan gave the world a thrill for the price of a record. And the guitar player that gave Steely Dan its thrills through three gold albums was Jeff "Skunk" Baxter.

Behind the console or in front of the mike, Skunk Baxter lets nothing get between him and his music. That's why his trademark clear plexi guitar synthesizer clearly isn't just for show. Its thermoplastic body means virtually zero resonance. Which means virtually zero interference. The purest sound. Music to the Nth Degree.

Like DIC//DAT The definitive digital audio tape. The surface: Ultra-high density metal particles. The dispersion: Ultra-uniform. The result: Unsurpassed digital signal receptivity. And an unbelievable range and clarity way beyond vinyl. Beyond analog cassette. Beyond any way you've ever heard recorded music before.

DIC//DAT™
TAKING MUSIC TO THE Nth DEGREE.

2 University Plaza, Hackensack, NJ 07601

1-800-DAT-1-DIC

Enter No. 42 on Reader Service Card



© DIC DIGITAL SUPPLY CORPORATION, 1989

DIC **DAT**
Digital Audio Tape

MICROPHONES

MANUFACTURER	Model	Directional Pattern Plus Channels: Stereo = X2, Quad = X4, M-S = M-S	Operating Principle	Case Material	Most Common Use	Actual Impedance Balanced = Ω	Operating Range, Hz to kHz 1 kHz, Ohms	Open-Circuit Sensitivity 1 kHz, -dB, re 1 Volt/1 μbar	Mike Connector Type	Cable Length, Feet	Connector Type on Equipment End of Cable	Weight, Ounces	Wire Screen = W, On/off Switch = S, Switched Low or Proximity Filter = F	Price, \$	Notes
AKG	D-58E	Card.	Dynamic	Nckl./Brass	Noisy Envrn.	240Ω	70-12	83	XLR			1½		125.00	Noise cancelling.
	D-70M	Card.	Dynamic	Plastic	Record	600	50-18	77		15	Phone	6¾		75.00	
	D-70ME	Card.	Dynamic	Plastic	Record	620Ω	50-18	77	XLR			S		85.00	
	D-80	Card.	Dynamic	Brass	Record	210Ω	60-15	76	XLR	15	Phone	7¾		135.00	
	D-80E	Card.	Dynamic	Brass	Record	210Ω	60-15	76	XLR			S		140.00	
	D-109	Dmni	Dynamic	Brass	Voice	240Ω	70-12	79		30	Phone	7¾		125.00	Lavalier.
	D-112	Card.	Dynamic	Plastic	Bass	200Ω	20-17	75	XLR			13¾		220.00	
	D-125E	Card.	Dynamic	Zinc Alloy	Instr.	210Ω	100-18	74	XLR			8		170.00	
	D-130E	Dmni	Dynamic	Zinc Alloy	ENG	220Ω	50-13	75	XLR			9		130.00	
	D-130NR	Dmni	Dynamic	Zinc Alloy	ENG	220Ω	50-13	75	XLR			9		150.00	
	D-190E	Card.	Dynamic	Zinc Alloy	General	280Ω	30-15	73	XLR			6½	S	135.00	
	D-190ES	Card.	Dynamic	Zinc Alloy	General	280Ω	30-15	73	XLR			6½	S	155.00	
	D-202E1	Card.	Dynamic	Zinc Alloy	Strings	300Ω	20-20	76	XLR			12	F	425.00	Two-way system.
	D-222EB	Card.	Dynamic	Plastic	Podium	320Ω	20-16	77	XLR			9	F	350.00	
	D-224E	Card.	Dynamic	Plastic	Acoust. Instr.	260Ω	20-20	78	XLR			10	F	600.00	
	D-310	Card.	Dynamic	Zinc Alloy	Vocal	270Ω	80-18	78	XLR			9		160.00	
	D-310NR	Card.	Dynamic	Zinc Alloy	Vocal	270Ω	80-18	78	XLR			9		165.00	
	D-310S	Card.	Dynamic	Zinc Alloy	Instr./Vocal	270Ω	80-18	78	XLR			9	S	175.00	
	D-321	Hyper Card.	Dynamic	Zinc Alloy	Vocal	300Ω	40-20	77	XLR			13¾		210.00	
	D-321S	Hyper Card.	Dynamic	Zinc Alloy	Vocal	300Ω	40-20	77	XLR			11½	S	225.00	
	D-330BT	Hyper Card.	Dynamic	Zinc Alloy	Vocal	370Ω	50-20	78	XLR			12	F	250.00	
	D-330NR	Hyper Card.	Dynamic	Zinc Alloy	Vocal	370Ω	50-20	78	XLR			12	F	265.00	
	D-510B	Dmni	Dynamic	Nckl./Brass	Voice	230Ω		79	Attached	3¾	None	11½		140.00	Gooseneck.
	D-541B	Card.	Dynamic	Plastic	Vocal	720Ω	120-16	73	Attached	3¾	None	12½		115.00	As above.
	D-558B	Card.	Dynamic	Nckl./Brass	Voice	200Ω	70-15	83	Attached	3¾	None	11½		160.00	
	D-590	Card.	Dynamic	Nckl./Brass	Vocal	230Ω	150-17	78	Attached	3¾	None	10		170.00	As above.
	D-900E	Super Card.	Dynamic	Lacq. Nickel	ENG	240Ω	60-12	70	XLR			18	F	430.00	Long shotgun.
	D-1200E	Card.	Dynamic	Zinc Alloy	General	200Ω	25-17	73	XLR		None	8½	F	250.00	
	C-426	Multiple x2	Condenser	Zinc Alloy	Drch.	200Ω	20-20		12-Pin	60	XLR		W	3995.00	Remote pattern control.
	AKG Tube	Multiple	Condenser	Zinc Alloy	Studio	200Ω	20-20	60	12-Pin	60	XLR	24	W	2295.00	As above.
	C-41ULS	Multiple	Condenser	Zinc Alloy	Studio	200Ω	20-20	58	XLR			11	WF	995.00	Transformerless version, Model C-414TL, \$1195.00. Modular system.
	C-451E	Card.	Condenser	Zinc Alloy	Studio	200Ω	20-20	60.5	XLR			3¾		400.00	
	C-451EB	Card.	Condenser	Zinc Alloy	Studio	200Ω	20-20	60.5	XLR			3¾	F	495.00	As above.
	C-460B/CK-61ULS	Card.	Condenser	Zinc Alloy	Studio	500Ω	20-20	62	XLR			5½	F	550.00	As above.
	C-460B/CK-62ULS	Dmni	Condenser	Zinc Alloy	Studio	500Ω	20-20	62	XLR			5½	F	550.00	As above.
	C-460B/CK-63ULS	Hyper Card.	Condenser	Zinc Alloy	Studio	500Ω	20-20	62	XLR			5½	F	550.00	As above.
	C-460B/CK-1X	Card.	Condenser	Zinc Alloy	Studio	500Ω	20-20	62	LEMD	10	XLR	5½	F	775.00	As above.
	C-451EB/CK-9	Super Card.	Condenser	Zinc Alloy	Studio	200Ω	20-20	59	XLR			4	F	1100.00	Long shotgun.
	C-451EB Preamp		Condenser	Zinc Alloy	Studio	200Ω	20-20		XLF			3	F	335.00	Modular preamp.
	C-460B Preamp		Condenser	Zinc Alloy	Studio	500Ω	20-20		XLR			4½	F	420.00	As above.
	CK-1	Card.	Condenser	Zinc Alloy	Studio		20-20	60				1		145.00	
	CK-1X	Card.	Condenser	Zinc Alloy	Studio		20-20	62	LEMD	10		1½		200.00	
CK-2X	Dmni	Condenser	Zinc Alloy	Studio		20-20	62	LEMD	10		1½		200.00		
CK-3	Hyper Card.	Condenser	Zinc Alloy	Studio		20-20	61				1		145.00		
CK-3X	Hyper Card.	Condenser	Zinc Alloy	Studio		20-20	61	LEMD	10		1½		200.00		
CK-5	Card.	Condenser	Zinc Alloy	Studio		20-20	60				4		275.00		
CK-8	Super Card.	Condenser	Zinc Alloy	Studio		20-20	54				2½	W	260.00	Short shotgun.	
CK-8X	Super Card.	Condenser	Zinc Alloy	ENG		30-18	59	LEMD	10	XLR	4¼	W	365.00	As above.	
CK-9	Super Card.	Condenser	Zinc Alloy	Studio		20-20	59				12	W	320.00	Long shotgun.	
CK-22	Dmni	Condenser	Zinc Alloy	Studio		20-20	62				1½		145.00		
CK-61ULS	Card.	Condenser	Zinc Alloy	Studio		20-20	62				1		170.00		

(Continued)

Place Microphones
tab here

Place Microphones
tab here



Headphones For The Digital Era.

Records aren't the only things made obsolete by CD's. Many headphones that sounded fine with analog audio just aren't up to reproducing the remarkable clarity and full dynamic range of digital sound. In the tradition of the professionally used AKG K240 series, AKG continues to meet this technological challenge with the new K280—the first *parabolic* headphones designed specifically for digital recordings. Within each earcup are two perfectly matched transducers computer-positioned to focus interference-free sound at the center of the user's ear. This "acoustic lens" offers exceptionally transparent sound and dimensional imaging, while the use of doubled transducers improves channel balance and increases dynamic range to match the most demanding performance. Comfortable and accurate, AKG K280 headphones are designed to be driven by the low impedance outputs of modern CD players and audio gear. Also available is the K270, a non-open air [sealed] version of the K280.

AKG headphones. The standard of performing artists and recording engineers around the world. When you're listening in the digital era, you'll want to hear it all.



Focusing on new technology.
77 Selleck St. Stamford, CT 06902
(203) 348-2121

MICROPHONES

MANUFACTURER	Model	Directional Pattern Plus Channels: Stereo = X2, Quad = X4, M-S = M-S	Operating Principle	Case Material	Most Common Use	Actual Impedance Balanced Ω	Operating Range, 1 kHz, Ohms	Open-Circuit Sensitivity 1 kHz, - dB re 1 Volt/1 bar	Micro Connector Type	Cable Length, Feet	Connector Type on Equipment End of Cable	Weight, Ounces	Wind Screen = W, On-Off Switch = S, Switched Low or Preamp Filter = F	Price, \$	Notes	
AKG (Continued)	CK-62ULS	Omni	Condenser	Zinc Alloy	Studio		20-20	62					170.00			
	CK-63ULS	Hyper Card.	Condenser	Zinc Alloy	Studio		20-20	62			5 1/2	F	170.00			
	C-410	Card.	Electret Condenser	Plastic	Vocal	300	20-20	70.5	XLR	11 3/4	4 5/8		215.00			
	C-522	Card. x2	Electret Condenser	Zinc Alloy	Stereo	300B	20-20	60	5-Pin XLR	6	3-Pin XLR	10	W	995.00	X-Y stereo.	
	C-535EB	Card.	Electret Condenser	Zinc Alloy	Vocal	200B	20-20	61	XLR			10	F	350.00		
	C-562	Hemi.	Electret Condenser	Zinc Alloy	General	600B	20-20	54	XLR	10		33 3/8	W	435.00		
	C-567E	Omni	Electret Condenser	Zinc Alloy	Voice	200	20-20	64	XLR	9		3 1/2	W	275.00		
	CK-67/3	Omni	Electret Condenser	Zinc Alloy	Voice			55				3/8		155.00	Lavalier.	
	C-568EB	Super Card.	Electret Condenser	Zinc Alloy	ENG	200B	20-20	62	XLR			6	WF	350.00	Short shotgun.	
	D-12E	Card.	Dynamic	Zinc Alloy	Bass Drum	280B	30-15	73	XLR			17		390.00		
	C-535WL	Card.	Electret Condenser	Brass	Vocal		40-20	63				13 3/8		295.00	Wireless.	
	CK-67WL	Omni	Electret Condenser	Zinc Alloy			40-20	64						190.00	As above; lavalier; with tie-lac and tie-bar.	
	D-321WL	Hyper Card.	Dynamic	Zinc Alloy	Vocal		40-20	77				13 3/8		195.00	Wireless.	
	D-330WL	Hyper Card.	Dynamic	Zinc Alloy	Vocal		50-20	77				13 3/8		195.00	As above.	
	A-85 Module D-95S	Hyper Card.	Dynamic		General	300B	70-18	†	XLR				S	80.00	Allows use of any dynamic mike. †1.3 mV/Pa.	
	D-90S	Card.	Dynamic		General	300B	70-18	†	XLR				S	150.00	†As above.	
	Q-580	Super Card.	Electret Condenser		P.A.	1k, B	100-15	†		3 1/8		3 1/2		90.00	†3.8 mV/Pa. 15 3/8-inch gooseneck.	
	CK-62DF	Omni	Electret Condenser	Zinc Alloy										170.00		
	C-410P/B9	Card.	Electret Condenser	Plastic	Vocal	300	20-20	70.5	Mini			4 5/8		260.00		
	C-401B	Figure 8 Card.	Condenser	Plastic	Strings	200B	10-10		Mini					85.00	Two inputs, one output. †13 mV/Pa. As above.	
	C-402B	Card.	Condenser	Plastic	Strings	200B	2.5k-20k	†	Mini					85.00		
	C-408B	Hyper Card.	Condenser	Plastic	Perc.	200B	80-20	†	Mini					165.00	†5 mV/Pa. As above.	
	C-409B	Hyper Card.	Electret Condenser	Plastic	Wind Instr.	200B	20-20	†	Mini					165.00	†10 mV/Pa. As above.	
C-747	Hyper Card.	Condenser	Metal	Instr.	400B	30-18	†	XLR					400.00	†10 mV/Pa.		
C-1000S	Card.	Condenser	Metal	Vocal	200B	50-20	†	XLR				S	325.00	†6 mV/Pa. Includes adaptor for hyper cardioid. †5 mV/Pa. †10 mV/Pa.		
C-408	Hyper Card.	Condenser	Plastic	Perc.	200B	80-20	†	XLR					220.00			
C-409	Hyper Card.	Electret Condenser	Plastic	Wind Instr.	200B	20-20	†	XLR					220.00			
AMBICO	V-0620	Uni/Card.	Electret Condenser	Alum.	Video	600	†	40	None	3	Mini	10	WS	99.95	Switchable shotgun. †Uni, 100 Hz to 15 kHz; cardioid, 20 Hz to 18 kHz.	
	V-0623	Card.	Electret Condenser	Alum.	Video	75		300-15	94	None	0	Mini/Phone	16	SF	99.95	Wireless; hand-held.
	V-0625	Card.	Electret Condenser	Plastic	Video	75		300-15	40	Mini	0	Mini/Phone	6	S	89.95	Wireless; lavalier; three frequencies.
AUDIO-TECHNICA	AT4031	Card.	Condenser	Brass	Studio	100B		30-20	XLR-M			4.8	F	325.00		
	AT4049	Omni	Condenser	Brass	Studio	250B		20-20	XLR-M			4.4	F	580.00	Interchangeable elements.	
	AT4051	Card.	Condenser	Brass	Studio	250B		20-20	XLR-M			4.2	F	580.00	As above.	
	AT4053	Hyper Card.	Condenser	Alum.	Studio	250B		20-20	XLR-M			4.2	F	610.00	As above.	
	AT4071	Line	Condenser	Alum.	Brdcst.	250B		30-20	XLR-M			5.8	WF	950.00		
	AT4073	Gradient	Condenser	Alum.	Brdcst.	250B		30-20	XLR-M			4.2	WF	790.00		
	AT837QML	Card.	Condenser	ABS	Podium	200B		40-18	XLR-M				WF	152.00		
	AT853	Card.	Condenser	ABS	Choir/Stage	400B		30-20	Swift-TA3F	25	XLR-M	2	WSF	237.00		
	AT855	Card.	Condenser	Brass	Podium	400B		30-20	Swift-TA3F	10	XLR-M		WSF	237.00		
	AT857	Card.	Condenser	ABS	Podium	400B		30-20	Swift-TA3F	10	XLR-M	4	WSF	285.00		
	AT859a	Card.	Condenser	ABS	Voice	400B		40-18	XLR-M				WS	225.00		
	AT871	Uni	Condenser	Brass	Reinf.	400B		30-20	Swift-TA3F	25	XLR-M	14.8	SF	295.00	Boundary mike.	
	RD303	(3)Card.	Condenser	Brass	Podium	100B		30-20	(3)Swift-TA3F	(3)25	XLR-M	13.8	WSF	1000.00	Three elements in one housing.	
	AT801	Omni	Condenser	Alum.	Record	600		40-18	XLR-M	16 1/2	Phone/XLR-M		S	126.00		
	AT802	Omni	Dynamic	Alum.	Brdcst.	600		50-15	XLR-M	16 1/2	Phone/XLR-M	5	S	122.00		
	AT803a	Omni	Condenser	Alum.	Brdcst.	400B		30-20	XLR-M			0.09	S	139.00	Lavalier.	
	AT805b	Omni	Condenser	Alum.	Aero-bics	600B		50-15		20	Phone		S	85.00	As above.	
	AT811	Card.	Condenser	Alum.	Reinf.	600B		50-20	XLR-M	16 1/2	Phone/XLR-M		S	139.00		
	AT812	Card.	Dynamic	Alum.	Reinf.	600B		50-15	XLR-M	16 1/2	Phone/XLR-M		S	148.00		
AT813	Card.	Condenser	Alum.	Studio	600B		40-20	XLR-M	16 1/2	Phone/XLR-M		S	153.00	Phantom powered also available.		
(Continued)	AT814a	Card.	Dynamic	Brass	Vocal	250		50-16	XLR-M	16 1/2	Phone/XLR-M	10		173.00		

MICROPHONES

MANUFACTURER	Model	Directional Pattern	Plus Channels: Stereo = 2, Quad = 4, M.S. = M.S.	Operating Principle	Case Material	Most Common Use	Actual Impedance, 1 kHz, Ohms: Balanced = B	Operating Range, Hz to kHz	Open-Circuit Sensitivity, 1 kHz, -dB, re: 1 Volt/1 µbar	Mike Connector Type	Cable Length, Feet	Connector Type on Equipment End of Cable	Weight, Ounces	Wind Screen = W, O.D. Switch = S, Switched Low or Phantom Filter = F	Price, \$	Notes
AUDIO-TECHNICA (Continued)	AT815a	Line Gradient Card.		Condenser	Alum.	Brdcst.	600B	40-20		XLR-M	16½	Phone/XLR-M	9.2	WF	285.00	As above.
	AT831a	Card.		Condenser	Brass	Reinf. Studio	400B	40-20		XLR-M	16½	XLR-M	0.1	WS	165.00	Requires phantom powering.
	AT833R	Card.		Condenser	Alum.	Studio	150B	30-20		XLR-M	16½	XLR-M	4.7	WS	225.00	
	AT835	Line Gradient Card.		Condenser	Alum.	Brdcst.	600B	40-20		XLR-M	16½	XLR-M	8	WF	257.00	
	AT836	Card.		Dynamic	Brass	Vocal	250B	50-17		XLR-M	16½	Phone/XLR-M	8.5		162.00	Gooseneck.
	AT838g	Card.		Dynamic	Steel & Alum.	Podium	600B	100-10		XLR-M			12.4		110.00	
	ATR20	Card.		Dynamic	Plastic	Vocal	500	80-12	64	Attached	10	Mini/Phone	4.7	WS	25.95	
	ATR25	Card. x2		Condenser	Plastic	Video/Record	600	70-18	60	Mini	10	Mini/Phone	2.8	S	64.95	Subminiature lavalier.
	ATR30	Card. Omni		Dynamic	Metal	Vocal	500	60-15	58	XLR	20	Phone	8	WS	53.95	
ATR35	Card. Omni		Condenser	Metal	Vocal	1k	50-18	54	Attached	20	Mini/Phone	0.2	W	35.95		
ATR55	Card./Super Card.		Condenser	Metal	Video/Record	700	70-18	50/40	Attached	3	Mini/Phone	4	WS	104.95		
AUDIX	UD50	Card.		Dynamic	Zinc Alloy	Vocal	500B	80-15	80	XLR			9	S	89.00	With switch, Model UD360. Optional probe cap for recording instruments.
	UD300	Card.		Dynamic	Zinc Alloy	Vocal	200B	50-18	76.5	XLR			10		165.00	
	OM-1	Hyper Card.		Dynamic	Alloy Brass	Vocal/Instr.	200B	50-18	78.5	XLR			10½		239.00	
	OM-2	Hyper Card.		Dynamic	Zinc Alloy	Vocal	200B	40-20	78.5	XLR			9½		215.00	Lavalier.
	ML-10	Omni		Electret Condenser	Alum.	Vocal	1k, B	30-15	68	XLR	10	Mini XLR	1	WS	95.00	
	LEM-1	Omni		Electret Condenser	Alum.	Vocal	2.2k	80-12	66	Attached	10		3	W	49.00	Lavalier.
	UEM-81C	Card.		Condenser	Alum.	Vocal/Instr.	600B	50-18	62	XLR	20	XLR	4½	WSF	119.00	A/V shotgun.
	UEM-81S	Super Card.		Condenser	Alloy Alum.	Vocal	600B	30-20	65	XLR	20	XLR	8½	WSF	325.00	
	C-1	Card.		Condenser	Alloy Alum.	Vocal/Instr.	1k, B	40-20	65	XLR			4½	WS	189.00	Battery or phantom powered.
	UEM-83R	Super Card.		Condenser	Alum.	Vocal/Instr.	600	50-16	64	Attached	1	Mini/Phone	8	W	119.00	For A/V.
	UEM-311	Card. x2		Condenser	Alum.	Vocal/Instr.	1k	40-20	64	Attached	20	Phone	9	WS	119.00	One-point stereo.
	UEM-312	Card. x2		Condenser	Plastic	Vocal/Instr.	1k	40-20	64	Attached	20	Phone	6	WS	55.00	As above.
	ST-1	Card. x2		Condenser	Alum.	Vocal/Instr.	1.7k	80-20	64	Attached	2	Stereo Mini	4	W	129.00	For Walkman or camera.
	UEM-85	Super Card.		Condenser	Alum.	Video	2k	50-15	58	Attached	1	Mini	3	W	65.00	†For bird watching.
	UEM-87	Super Card.		Condenser	Alum.	Video	2k	50-15	62	Attached	1	Mini	3	W	65.00	
	UEM-88	Super Card.		Condenser	Plastic	†	2k	200-15	64	Attached			4	WS	89.00	
AZDEN	DX-580			Dynamic	Alum.	Music/Vocal	600	50-15	76	XLR	20	Phone		WS	69.95	†Mini with phone adaptor.
	DX-750			Dynamic	Plastic	Vocal	600	70-12	76		15	Phone †	4	WS	39.95	
	DX-431			Dynamic	Plastic	Vocal	600	100-12	76		15	Phone †	4	WS	29.95	
BEYERDYNAMIC	M58	Omni		Dynamic	Alum.	ENG/EFP	200B	40-20	149	A3M			9	W	199.00	4.5-V battery or 12 to 48-V phantom powered. 12 to 48-V phantom powered.
	M300	Card.		Dynamic	Alum.	Vocal	250B	50-15	150	A3M			8.6		179.00	
	M300S	Card.		Dynamic	Alum.	Vocal	250B	50-15	150	A3M			8.6	S	199.00	
	M300 TG	Card.		Dynamic	Alum.	Vocal	250B	50-15	150	A3M			8.6		189.00	
	M300S TG	Card.		Dynamic	Alum.	Vocal	250B	50-15	150	A3M			8.6		209.00	
	M400	Super Card.		Dynamic	Alum.	Vocal	200B	40-16	146	A3M			9		229.00	
	M400S	Super Card.		Dynamic	Alum.	Vocal	200B	40-16	146	A3M			9	S	249.00	
	M500	Hyper Card.		Ribbon	Alum.	Vocal	200B	40-18	150	A3M			8.5		219.00	
	M500S	Hyper Card.		Ribbon	Alum.	Vocal	200B	40-18	150	A3M			8.5	S	339.00	
	M500 TG	Hyper Card.		Ribbon	Alum.	Vocal	200B	40-18	150	A3M			8.5		329.00	
	M500S TG	Hyper Card.		Ribbon	Alum.	Vocal	200B	40-18	150	A3M			8.5		349.00	
	M600	Hyper Card.		Dynamic	Alum.	Vocal	250B	40-16	149	A3M			8.2		339.00	
	M600S	Hyper Card.		Dynamic	Alum.	Vocal	250B	40-16	149	A3M			8.2	SF	359.00	
	M700	Hyper Card.		Dynamic	Alum.	Vocal	250B	40-16	149	A3M			9.2		289.00	
	M700S	Hyper Card.		Dynamic	Alum.	Vocal	250B	40-16	149	A3M			9.2	S	309.00	
	MCE80	Super Card.		Electret Condenser	Brass	Vocal	190B	50-18		A3M			8	S	399.00	
	MCE81	Card.		Condenser	Brass	Vocal	190B	50-18		A3M			9.2		299.00	
	M69	Hyper Card.		Dynamic	Brass	Instr.	200B	50-16	145	A3M			11.3		209.00	
	M69 TG	Hyper Card.		Dynamic	Brass	Instr.	200B	50-16	145	A3M			11.3		219.00	
	M88 TG	Hyper Card.		Dynamic	Brass	Instr.	200B	30-20	145	A3M			11.3		399.00	
	M88	Hyper Card.		Dynamic	Brass	Instr.	200B	30-20	145	A3M			11.3		389.00	
	M101	Omni		Dynamic	Brass	Instr.	200B	40-20	149	A3M			5.6	W	230.00	
	M130	Figure 8		Dual	Brass	Instr.	200B	40-18	152	A3M			5.3		519.00	
	M160	Hyper Card.		Ribbon	Brass	Instr.	200B	40-18	152	A3M			5.5		499.00	
	M201	Hyper Card.		Dynamic	Brass	Instr.	200B	40-18	150	A3M			7.8		269.00	
	M260	Hyper Card.		Ribbon	Brass	Instr.	200B	50-18	150	A3M			10.6		299.00	
	M260S	Hyper Card.		Ribbon	Brass	Instr.	200B	50-18	150	A3M			10.6	S	319.00	
	M380 TG	Figure 8		Dynamic	Zinc	Instr.	600B	15-20		A3M			13		279.00	
	M420	Hyper Card.		Dynamic	Brass	Instr.	200B	100-12	150	A3M			5.2		199.00	
	M422	Super Card.		Dynamic	Alum.	Instr.	200B	100-12	152	A3M			2.5		139.00	
	M250N.80	Hyper Card.		Ribbon	P.A.	Instr.	200B	100-18	150	A3M			8		250.00	
	M540N	Card.		Dynamic	Zinc	P.A.	200B	100-12	152	3-Pin DIN			4		115.00	
M680S	Card.		Dynamic	Zinc	P.A.	200B	100-12	152		19	None		S	200.00	19½-inch gooseneck.	

THE NEXT PLATEAU



Kinergetics KCD-40

You Can Hear The Beauty Of The Music Free From Hysteresis Distortion.

In *all* audio equipment, each transistor, wire and connector adds its own minute bit of distortion. The sum total of this is *hysteresis distortion*. It dulls the clarity and obscures the realism of the music.



Only Kinergetics' patented hysteresis canceling circuitry gives you the true quality of the music free from this distortion. We have invented a creative merger of art and technology in music reproduction.



Our reputation is built on our obsession—to reproduce music with perfect realism.

© Kinergetics Research 1989

Our reputation...

"Kinergetics' KCD-20... "the first CD player to crack the Class I Sound barrier"

J. Peter Montcrieff

"International Audio Review", Hotline #43-45

CES Winter '87

"Their KCD-20A puts other CD players in the shade musically... it is a clear first-choice recommendation among CD players."

Neil Levenson

"Fanfare", Vol.10, No.4

CES — Summer '87

"Pure musicality is the only way I can adequately describe what I heard: no sensation of electronics or speakers, with believable sound staging and tonal accuracy... I think it would be safe to say that this represented the most 'music for dollar' at the show."

Lewis Lipnick

"Stereophile" Vol.10, No.5 Aug. 1987

CES — Winter '88

"The Death of Mid-Fi: The Big Chill in Vegas"

Michael Fremer

"The Absolute Sound" Vol.13, Issue 52, page 250

CES — Summer '88

We weren't there.

CES — Winter '89

"...I am pleased to note that the sound in the Kinergetics room was stunningly true to the sound of the original Steinway. Nice one, Ken and Tony!"

John Atkinson

"Stereophile" Vol.12, No.3, Mar. 1989

Kinergetics Research — "constantly reaching for the final plateau — perfection."

KCD-20 Compact Disc Player • KCD-40 Compact Disc Player • KBA-75 Class A Power Amplifier • KBA-202 Mono Power Amplifier • KBT-1 FM Tuner • KPC-1 Passive Control Center • BSC CompuSound Systems: SW-200 Sub-Woofer Amplifier • SW-100 Sub-Woofer • SW-100.5 Sub-Woofer • Music Mate Speaker/Sub-Woofer Stands

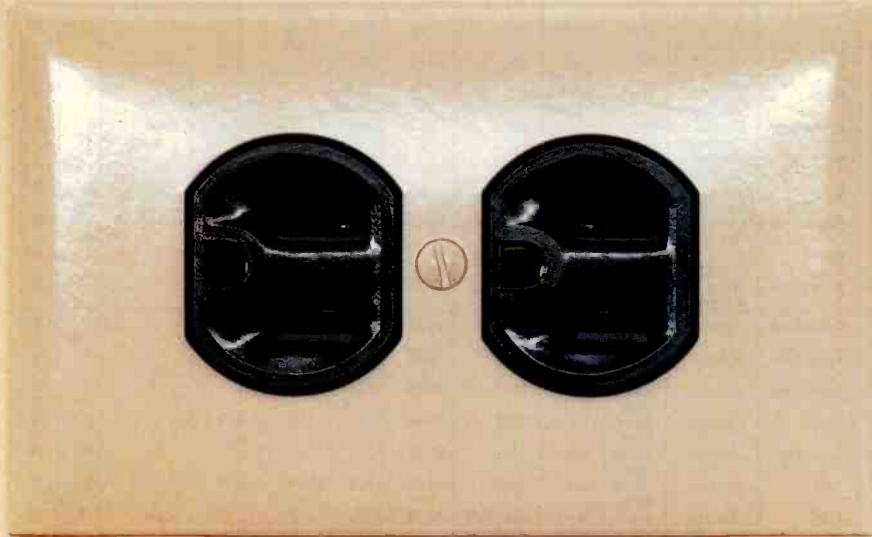
 **KINERGETICS
RESEARCH**

6029 Reseda Boulevard • Tarzana, California 91356 • Phone (818) 345-5339 • Fax (818) 609-8576

MICROPHONES

MANUFACTURER	Model	Directional Pattern Plus Channels: Stereo = X2, Quad = X4, M/S = M: S	Operating Principle	Case Material	Most Common Use	Actual Impedance Balanced = B	Operating Range, Hz to kHz 1 kHz. Ohms:	Open-Circuit Sensitivity 1 kHz. dB, re: 1 Volt/1 µbar	Mike Connector Type	Cable Length, Feet	Connector Type on Equipment End of Cable	Weight, Ounces	Wind Screen = W, On/Off Switch = S, Switched Low or Frequency Filter = F	Price, \$	Notes	
BEYERDYNAMIC (Continued)	M682	Card.	Dynamic	Zinc	P. A.	200B	100-12	152	A3M	19	None		195.00	1 1/4-inch gooseneck.		
	M682N(C)	Card.	Dynamic	Zinc	P. A.	200B	100-12	152	A3M			F	200.00	As above.		
	CV710P48			Brass	Studio	200B	40-20		A3M			F	300.00	Modular preamp for use with "CK" models.		
	Preamp			Brass	Studio	200B	40-20		A3M			F	350.00	8 to 52-V phantom powered.		
	CV720PV			Brass	Studio	150B	40-20		A3M		6	F	500.00			
	Preamp															
	AC/CV750															
	Preamp															
	CK701	Omni		Condenser	Brass	Studio	40-20					W		265.00	Build-in suspension.	
	CK702	Omni		Condenser	Brass	Studio	40-20					W		325.00		
	CK703	Card.		Condenser	Brass	Studio	40-20					W		325.00		
	CK704	Card.		Condenser	Brass	Studio	40-20					W		345.00		
	CK706	Card./Lobe		Condenser	Brass	Studio	40-20							560.00		
	CK707	Lobe		Condenser	Brass	Studio	40-20							670.00		
	CK708	Figure 8		Condenser	Brass	Studio	40-20							625.00		
	MC734P48	Card.		Condenser	Alum.	Vocal	20-18	138	A3M			9.5	F	795.00	48-V phantom powered.	
	MC734PA	Card.		Condenser	Alum.	Vocal	150B	20-18	138	A3M		9.5	F	825.00	Higher SPL version of model above.	
	MC736P48	Card./Lobe		Condenser	Alum.	Studio	150B	40-20	30	A3M		8.8	F	925.00		
	MC736PV	Card./Lobe		Condenser	Alum.	Studio	150B	40-20	33	A3M		7	F	900.00		
	MC737P48	Lobe		Condenser	Alum.	Studio	150B	40-20	30	A3M		15.6	F	955.00		
	MC737PV	Lobe		Condenser	Alum.	Studio	150B	40-20	33	A3M		9	F	975.00		
	MC740	5-Pattern		Condenser	Alum.	Studio	150B	40-20	133	A3M		13.8	F	1450.00		
	MC740N	5-Pattern		Condenser	Alum.	Studio	150B	40-20	133	A5M		13.8	F	1550.00		
	(C/S)															
	MCE5	Omni		Electret	Brass	Brdcst.	800B	20-20	141		4	6-Pin DIN	0.25	W	199.00	Lavalier.
	MCE5-3M	Omni		Condenser	Brass	Brdcst.	800B	20-20	141		10	6-Pin DIN	0.25	W	209.00	As above.
	MCE5.1	Omni		Electret	Brass	Brdcst.	200B	20-20	129		10	Phone	0.25	WS	299.00	As above.
	MCE5.9	Omni		Condenser	Brass	Brdcst.		20-20	129		10	None	0.25	W	189.00	As above; for wireless system.
	MCE5.11	Omni		Electret	Brass	Brdcst.	200B	20-20	129		10	A3M	0.25	WS	399.00	
	MCE6	Omni		Condenser	Brass	Instr.	800B	20-20	111		4	6-Pin DIN	0.25	W	199.00	Lavalier.
MCE6.1	Omni		Electret	Brass	Instr.	200B	20-20	99		10	Phone	0.25	WS	299.00	As above.	
MCE6.9	Omni		Condenser	Brass	Instr.		20-20	99		10	None	0.25	W	189.00	As above; for wireless system.	
MCE6.11	Omni		Electret	Brass	Instr.	200B	20-10	99		10	A3M	0.25	WS	399.00	Lavalier; battery or phantom powered.	
MCE10	Hyper Card.		Condenser	Brass	Brdcst.	700B	40-20	42		4	6-Pin DIN	0.5	W	299.00	Lavalier; for mike line level.	
MCE10.1	Hyper Card.		Electret	Brass	Brdcst.	200B	40-20	42		10	Phone	0.5	WS	399.00	Lavalier.	
MCE10.9	Hyper Card.		Condenser	Brass	Brdcst.		40-20	42		10	None	0.5	W	259.00	As above; for wireless system.	
MCE10.11	Hyper Card.		Electret	Brass	Brdcst.	200B	40-20	42		10	A3M	0.5	WS	399.00	Lavalier; battery or phantom powered.	
MPC40	Hemi.		Condenser	Brass	Reinf.	1k	25-20			10	3-Pin	3	S	295.00		
MPS40.01	Hemi.		Condenser	Brass	Reinf.	180B	25-20			10	3-Pin	3	S	539.00	Includes MES40 power supply.	
MPS40.02	Hemi.		Condenser	Brass	Reinf.	150B	25-20		A3M	10	3-Pin	3	F	795.00	Includes CV750 preamp.	
MPC50	Hemi.		Condenser	Oak	Reinf.	200B	20-20		A3M		18	S	695.00	Battery or phantom powered.		
MPC60/1	Hemi.		Condenser	Oak	Reinf.	200B	20-20		A3M		26	S	895.00	As above.		
MPC60/3	Half Card.		Condenser	Oak	Reinf.	200B	20-20		A3M		25	S	995.00			
BRÜEL & KJÆR	4003	Omni	Condenser	Brass	Piano/Orch.		10-20	†	4-Pin XLR	15		5.3	W	1226.00	†50 mV/Pa. Requires Model 2812 power supply (two-channel, 130 V), \$1275.00.	
	4004	Omni	Condenser	Brass	Perc.		10-40	†	4-Pin XLR	15		5.3	W	1226.00	†10 mV/Pa. Power supply as above.	
	4006	Omni	Condenser	Brass	Piano/Orch./Vocal		20-20	†	XLR	15		5.3	W	1226.00	†12.5 mV/Pa. 48-V phantom powered.	
	4007	Omni	Condenser	Brass	†		20-40	††	XLR	15		5.3	W	1226.00	†Sampling. ††2.5mV/Pa. Powered as above.	
	4011	Card.	Condenser	Brass	Vocal/Instr.		40-20	†	XLR	15		5.8	W	1497.00	†10 mV/Pa. Powered as above.	
	3529	Omni x2	Condenser	Brass	†		20-20	††	4-Pin XLR	15			W	5378.00	†Piano orch./sampling. ††50 mV/Pa. Requires Model 2812 supply.	
	3530	Omni x2	Condenser	Brass	†		20-20	††	XLR	15			W	4185.00	†As above. ††12.5 mV/Pa. 48-V phantom powered.	
CROWN INTERNATIONAL	PZM-6FS	Hemi.	Electret	Alum.	Record	240	20-15	67		15	XLR	5	W	349.00	Pressure Zone Mike.	
	PZM-6R	Hemi.	Condenser	Alum.	Record	240	20-15	65		15	XLR	5	W	349.00	As above.	
	PZM-30FS	Hemi.	Electret	Alum.	Record	240	20-15	67	XLR		6 1/2	W	349.00	As above.		
	PZM-30R	Hemi.	Condenser	Alum.	Record	240	20-15	65	XLR		6 1/2	W	349.00	As above.		
	PZM-20RG	Hemi.	Electret	Alum.	Conf.	240	20-15	65	Screw		8	W	319.00	As above.		
	PZM-180	Hemi.	Condenser	Plastic	Record	150	50-18	70	XLR		2	W	189.00	As above.		
	Sound Grabber CM-310	Hemi.	Electret	Plastic	Conf.	1.6k	50-15	55		8	Mini/Phone	2	W	99.00	As above.	
(Continued)	Diff. Card.		Condenser	Alum./Steel	Stage/Vocal	200	60-17	77	XLR		7	W	259.00	High gain before feedback.		

TWO VERY IMPORTANT FACTORS FOR AUDIO & VIDEO EQUIPMENT PERFORMANCE



You know how important the top one is for performance, but you might not know that the other is just as vital. It's a ComponentGuard GuardCard, and it's the safest, easiest way to keep your home electronics in perfect working order—while protecting you from costly repairs.

ComponentGuard extended service plans pay for everything required to fix troublesome equipment, even in some cases, to guaranteeing the product's key performance specifications.

When servicing is needed, just show your GuardCard. Which makes ComponentGuard as problem free for you as it is for your equipment.

Remember, if it plugs into the wall, protect it with ComponentGuard.

COMPONENTGUARD™

ComponentGuard coverage is sold at fine audio, video and electronics stores everywhere. Or, call 1-800-421-9820.

Enter No. 35 on Reader Service Card

MICROPHONES

MANUFACTURER	Model	Directional Pattern	Operating Principle	Case Material	Most Common Use	Actual Impedance, Ω	Actual Impedance, B	Operating Range, Hz to kHz	Open-Circuit Sensitivity, μV /Pa	Micro Connector Type	Cable Length, Feet	Connector Type on Equipment	Weight, Ounces	Wind Screen, Switched Low or Preset Filter = ϕ	Price, \$	Notes
		Stereo = X2, Quad = X4, M-S = M-S					1 kHz, Ohms;		1 kHz, -dB re: 1 Volt/ubar							
CROWN INTERNATIONAL (Continued)	CM-200	Card.	Electret Condenser	Alum./Steel	Stage/Vocal	200		80-15	73	XLR			7	W	259.00	
	CM-100	Omni	Electret Condenser	Alum./Steel	Vocal/Stage	240		20-20	72	XLR			8	W	189.00	Pressure Zone Mike.
	PCC-160	Half Super Card.	Electret Condenser	Steel	Stage	150		50-18	53	Swcft. TA3M	15	XLR	11½	WF	275.00	Boundary mike.
	PCC-200	Half Super Card.	Electret Condenser	Steel	Stage	150		50-18	53	Swcft. TA3M	15	XLR	11½	WF	329.00	Gated boundary mike.
	GLM-200	Hyper Card.	Electret Condenser	Steel	P.A./Record	100		60-20	69		8	XLR	1	W	229.00	Miniature.
	GLM-100	Omni	Electret Condenser	Steel	P.A./Record	240		20-20	71.5		8	XLR	1	W	199.00	As above.
	GLM-200/EQ	Hyper Card.	Electret Condenser	PVC		400		100-18	75		4	None	1	W	119.00	Lavalier; for wireless transmitter.
	GLM-100/E	Omni	Electret Condenser	PVC											98.00	As above.
	GLM-100/ENG	Omni	Electret Condenser	PVC/Steel	ENG	240		80-20	71.5		5	XLR	1	W	239.00	Lavalier.
	LM-200	Super Card.	Electret Condenser	Steel		100		80-15	68		8	Screw	10¼	W	289.00	†Lectern.
SASS-P	Uni x2	Electret Condenser	Plastic	ENG	240		20-18	64	XLR			17	WF	849.00		
SASS-B	Uni x2	Electret Condenser	Plastic		30		20-18	56.5	XLR			30	W	799.00	†Classical recording.	
ELECTRO-VOICE	N/D 757	Super Card.	Dynamic	Steel & Alum.	Vocal	150B		25-22	50†	A3M			7.7	WF	297.00	†0 dB = 1 mW/Pa.
	N/D 457	Hyper Card.	Dynamic	Steel & Alum.	Vocal	150B		25-21	50†	A3M			7.1	W	222.00	
	N/D 357	Super Card.	Dynamic	Steel & Alum.	Vocal	150B		25-20	53†	A3M			7.1	W	174.00	
	N/D 257	Card.	Dynamic	Steel & Alum.	Vocal	150B		35-19	53†	A3M			7.1	W	126.00	
	N/D 408	Super Card.	Dynamic	Steel & Alum.	Instr.	150B		30-22	50†	A3M			6.7	W	228.00	Positionable yoke mount.
	N/D 308	Card.	Dynamic	Steel & Alum.	Instr.	150B		40-20	53†	A3M			6.7	W	186.00	As above.
	RE20	Card.	Dynamic	Steel	Music/Vocal	50B/150B/250B		40-18	57†	A3M	15	None	26	WF	545.00	Variable-D.
	RE18	Super Card.	Dynamic	Steel	Music/Vocal	150B		80-15	57†	A3M	15	None	8	W	308.00	As above; integral shock mount.
	RE16	Super Card.	Dynamic	Steel	Vocal	150B		80-15	56†	A3M	15	None	8	W	296.00	Variable-D.
	RE15	Super Card.	Dynamic	Steel	Vocal	150B		80-15	56†	A3M	15	None	6	W	286.00	As above.
	RE11	Super Card.	Dynamic	Steel	Vocal	150B		90-13	56†	A3M	15	None	6	W	201.00	As above.
	RE10	Super Card.	Dynamic	Steel	Vocal	150B		90-13	56†	A3M	15	None	6	W	189.00	As above.
	RE98	Omni	Condenser	Brass & Alum.	Music/Vocal	150B		80-15	45†	A3M	10	A3M	11	W	218.00	†10.7 ounce for capsule only. Battery or phantom powered.
	RE50	Omni	Dynamic	Alum.	Vocal	150B		80-13	55†	A3M	15	None	9.5	W	165.00	integral shock mount.
	RE55	Omni	Dynamic	Steel	Music/Vocal	150B		40-20	57†	A3M	15	None	8.5	W	274.00	
	RE45N/D	Hyper Card.	Dynamic	Alum.	ENG	600B		150-15	50†	A3M	15	None	7.5	WF	375.00	Short shotgun.
	OS35	Card.	Dynamic	Steel	Music/Vocal	150B		60-17	60†	A3M	15	None	9.2	W	176.00	integral shock mount.
	D054	Omni	Dynamic	Steel	Music/Vocal	150B		50-18	58†	A3M	15	None	6.5	W	164.00	
	D056	Omni	Dynamic	Steel & Alum.	Music/Vocal	150B		80-18	61†	A3M	15	None	6.5	W	137.00	As above; with longer handle, Model D056L, \$156.00.
	C015P	Omni	Condenser	Steel	Music/Vocal	150B		20-18	49†	A3M	15	None	7.5	W	315.00	
C090	Omni	Condenser	Brass & Alum.	Music/Vocal	150B		40-15	57†	Threaded	6	None	0.7	W	159.00	Lavalier; battery powered.	
PL80	Super Card.	Dynamic	Zinc & Alum.	Vocal	150B		60-17	56†	A3M	0	None	12.3	W	219.00		
PL20	Card.	Dynamic	Steel	Music/Vocal	50B/150B/1250B		45-18	57†	A3M	0	None	26	WF	584.00	Variable-D.	
PL10	Card.	Dynamic	Steel	Music/Vocal	150B		75-15	56†	A3F	0	None	11	W	354.00	As above.	
PL50N/D	Card.	Dynamic	Zinc	Vocal	150B		80-18	53†	A3M	0	None	9.7	WS	156.00		
PL60N/D	Super Card.	Dynamic	Zinc	Vocal	150B		70-18	53†	A3M	0	None	9.7	WS	210.00		
PL70N/D	Hyper Card.	Dynamic	Zinc	Vocal	150B		60-18	50†	A3M	0	None	9.7	WS	252.00		
8K-1	Hyper Card.	Condenser	Zinc & Alum.	Vocal	150B		50-18	50†	A3M	0	None	12	WS	199.00	Battery or phantom powered.	
FOSTEX	M20RP	M-S	Ribbon	Alum.	Vocal/Instr.	250B		40-18	51		6		24		695.00	
	M11RP	Uni	Ribbon	Alum.	Vocal	250B		40-18	51				20		595.00	
	M88RP	Bi	Ribbon	Alum.	Vocal	250B		40-18	52				20	F	650.00	
	M77RP	Uni	Ribbon	Alum.	Instr.	250B		40-18	56				20	F	460.00	
M85RP	Uni	Ribbon	Alum.	Instr.	250B		50-12	56					20	F	395.00	
GC-THORSEN	30-2374	Card.	Dynamic	Alum.	Vocal	500/50k		80-15	†		20	Phone	8	WSF	35.45	†-72 dB at 500 ohms, -52 dB at 50 kilohms.
	30-2382	Card. x2	Electret Condenser	Alum.	Vocal	600		50-16	68	Attached	10	Phone	8	WSF	36.00	
HM ELECTRONICS	HM58	Card.	Dynamic		Pro					XLR					164.00	Built-in reverb.
	RM77		Electret Condenser		Pro					XLR					144.00	
	EM43-4	Omni	Electret Condenser			1.4k, B		20-20			8	TA4F		W	70.00	Wireless; tie-clip.
	System 55		Condenser												1100.00	Diversity wireless system; HM58 element standard; choice of optional elements and hand-held transmitters.
(Continued)	System 515													770.00	Wireless, body-pack type; no mike.	

What was true in 1961
has been proven
through time to be
the Truth in 1989.

McIntosh is the best

McIntosh music reproduction instruments are the best. McIntosh alone guarantees the advertised performance capabilities of McIntosh instruments to further assure you that you are buying the best.

Conservative claims and specifications are traditional at McIntosh. "Rated with honesty and conservatism" . . . are the words used by independent experts when writing of McIntosh. Every advertised claim is individually analysed and verified by engineers using the most sensitive test equipment and internationally recognized test procedures. Every McIntosh instrument manufactured is tested to meet the same rigid standards.

Careful, diligent research, meaningful design considerations and meticulous manufacturing produces the highest quality equipment. When you buy McIntosh—you know you are buying the best. Only McIntosh is the best.

McIntosh LABORATORY, INC.

2 CHAMBERS STREET, BINGHAMTON, N. Y.

*High Fidelity Magazine, April 1961

In 1961, this McIntosh advertisement appeared in the magazines. . . consistency of philosophy, engineering, manufacturing and marketing is the hallmark of McIntosh.

Enter No. 62 on Reader Service Card

For information on McIntosh products, please send your name, address and phone number to:

McIntosh Laboratory Inc.
Department 889A
PO Box 96 East Side Station
Binghamton, NY 13904-0096

MICROPHONES

MANUFACTURER	Model	Directional Pattern Plus Channels: Stereo = 2, Quad = 4, M-S = M-S	Operating Principle	Case Material	Most Common Use	Actual Impedance, Ohms: Balanced = B	Operating Range, Hz to kHz	Open-Circuit Sensitivity: 1 kHz, dB, re: 1 Volt/1 μ bar	Mike Connector Type	Cable Length, Feet	Connector Type on Equipment End of Cable	Weight, Ounces	Wind Screen = W, On/Off Switch = S, Switched Low or Frequency Filter = F	Price, \$	Notes
HM ELECTRONICS (Continued)	System 525												785.00	Wireless, includes HM58 element.	
	System 535												650.00	Wireless, body-pack type; includes EM43-4 element.	
MARANTZ	EC-1	Omni	Electret Condenser	Alum.		2k	60-13	52 \uparrow			Phone		30.00	\uparrow 1 V/Pa. Includes desk stand.	
	EC-1S	Omni	Electret Condenser	Alum.		2k	60-13	52 \uparrow			Phone		34.00	As above; start/stop switch.	
	EC-3	Card.	Electret Condenser	Alum.		1.5k	50-15	52 \uparrow			Phone		42.00		
	EC-3S	Card.	Electret Condenser	Alum.		1.5k	50-15	52 \uparrow			Phone		48.00	Start-stop switch.	
	EC-7	Card.	Electret Condenser	Alum.		250B	40-16	52 \uparrow			Cannon XLR		88.00	Low-cut switch.	
	EC-9P	Card.	Electret Condenser	Alum.		250B	30-17	56 \uparrow			Cannon XLR		140.00	As above; 10-dB pad.	
MILAB	VIP-50	Multiple Card.	Condenser Condenser	Alum. Brass	Vocal Vocal/Instr.	180B 170B	40-20 40-20	\uparrow \uparrow	3-Pin XLR 3-Pin XLR			14.3 WF 7.1 W	1395.00 695.00	\uparrow 14 mV/Pa. \uparrow 6 mV/Pa.	
	VM-41	Card	Condenser	Brass	Vocal	170B	40-20	\uparrow	3-Pin XLR			3.8 WF	475.00	\uparrow 10 mV/Pa. Hand-held; line-level version with 400-ohm impedance; Model LC-25LL.	
	LC-25	Card.	Condenser	Brass	Vocal	170B	40-20	\uparrow	3-Pin XLR			11.4 W	575.00	Hand-held.	
	LC-28	Card. Hemi.	Condenser Condenser	Brass Brass	Vocal Instr.	170B 170B	40-20 40-20	\uparrow \uparrow	3-Pin XLR 3-Pin XLR			11.4 WF 2.9 W	675.00 350.00	\uparrow 9 mV/Pa. Pressure Zone Mike.	
	MP-30	Card.	Condenser	Brass	Vocal	200B	40-20	\uparrow	3-Pin XLR			11.1 WF	375.00	\uparrow 5 mV/Pa. Hand-held.	
	BM-75 D-37	Card. Card.	Dynamic	Brass	Vocal/Instr.	250B	50-20	\uparrow	3-Pin XLR			10.4 W	275.00	\uparrow 1.3 mV/Pa. As above.	
NADY	1200 GT												1599.95	True diversity wireless system; up to 20 units.	
	1200 LT												1599.95	As above but with lavalier transmitter with mini XLR connector; compatible with most lavaliers.	
	1200 HT												1699.95	Same as 1200 GT but with Shure SM-58 mike/transmitter; choice of optional elements.	
	650 GT												599.95	True diversity wireless system; up to 10 units.	
	650 LT												639.95	As above but with lavalier transmitter; compatible with most lavaliers; also used with directional mikes for instruments.	
	650 HT												659.95	Same as 650 GT but with Nady YD-08 hand-held mike/transmitter.	
	650 HT/58												859.95	Same as 650 GT but with Shure SM-58 element on hand-held mike/transmitter.	
	o50 HT/N/DYM												889.95	Same as 650 GT but with Electro-Voice N/DYM on hand-held mike/transmitter.	
	750 Receiver												849.95	Two separate receiving sections plus mixer.	
	201 GT												349.95	True diversity wireless system; seven channels.	
	201 LT												389.95	As above but with lavalier transmitter; compatible with most lavaliers.	
	201 HT												409.95	Same as 201 GT but with Nady YD-08 hand-held mike/transmitter.	
	201 HT/58												609.95	Same as 201 GT but with Shure SM-58 element on hand-held mike/transmitter.	
	201 HT/N/DYM												639.95	Same as 201 GT but with Electro-Voice N/DYM element on hand-held mike/transmitter.	
	101 GT												249.95	Seven channels.	
	101 LT												279.95	As above but with lavalier transmitter; compatible with most lavaliers.	
	101 HT												299.95	Same as 101 GT but with Nady YD-08 hand-held mike/transmitter.	
101 HT/58												509.95	Same as 101 GT but with Shure SM-58 element on hand-held mike/transmitter.		
101 HT/N/DYM												534.95	Same as 101 GT but with Electro-Voice N/DYM element on hand-held mike/transmitter.		

(Continued)

MICROPHONES

MANUFACTURER	Model	Directional Pattern Plus Channels: Stereo = 2, Quad = 4, M-S = M-S	Operating Principle	Case Material	Most Common Use	Actual Impedance, 1 kHz, Ohms; Balanced = B	Operating Range, Hz to kHz	Open Circuit Sensitivity, 1 kHz, -dB, re. 1 Volt/ubar	Mike Connector Type	Cable Length, Feet	Connector Type on Equipment End of Cable	Weight, Ounces	Wind Screen = W, On-Off Switch = O, Switched Low or Proximity Filter = F	Price, \$	Notes
NADY (Continued)	49 Mini/GT												119.95	Compact wireless system; operates on two 49-MHz frequencies. As above but with lavalier transmitter, Nady E-107 omni element. Same as 49 Mini/GT but with Nady YD-08 hand-held mike/transmitter.	
	49 Mini/LT												159.95		
	49 Mini/HT												199.95		
NAKAMICHI	CM-300S	Card./Omni	Electret Condenser	Alum.		200	30-18	76	XLR	16½	Phone	5.9	WSF	250.00	Both capsules supplied, shotgun capsule optional; three-mike matched set, Model CM-300T, \$650.00. Omni and shotgun capsules optional.
	CM-100	Card.	Electret Condenser Dynamic	Alum.	Vocal	200	30-18	76	XLR	16½	Phone	5.6	WSF	150.00	
	DM-500	Card.	Electret Condenser Dynamic	Alum.	Vocal	250	50-15	73	XLR	16½	Phone	5.6	W	150.00	
NEUMANN	KM130	Omni	Condenser	Brass	General	50B	40-20	†	A3M		A3M	3	W	600.00	†12 mV/Pa (1 Pa equals 94 dB SPL). †15 mV/Pa. †14 mV/Pa. Low-frequency roll-off. †10 mV/Pa. †23 mV/Pa. Stereo shotgun; mono compatible. †5 mV/Pa. †20 mV/Pa. †8 mV/Pa. †8 mV/Pa. †10 mV/Pa. "Dummy" head included. †12 mV/Pa. †18 mV/Pa. Short shotgun. †21 mV/Pa. Shotgun. †23 mV/Pa. Stereo shotgun, mono compatible. †19 mV/Pa. †10 mV/Pa.
	KM140	Card.	Condenser	Brass	General	50B	40-20	†	A3M		A3M	3	W	600.00	
	KM145	Card.	Condenser	Brass	General	50B	40-20	†	A3M		A3M	3	W	600.00	
	KM150	Hyper Card. M-S	Condenser	Brass	General	50B	40-20	†	A3M		A3M	3	W	725.00	
	RSM1915		Condenser	Alum.	Film/Brdcst.	50B x2	40-20	†	A3M Spez.	16½	A3M (2)A3M	6	WF	2650.00	
	KMS84	Card.	Condenser	Brass	Vocal/Perf. Studio	150B	40-18	†	A3M	25	A3M	7½	WF	1140.00	
	U87A	Omni/Card./Figure 8	Condenser	Brass	Studio	200B	40-16	†	A3M	25	A3M	17½	WF	1875.00	
	U89	5-Pattern Binaural	Condenser	Brass	Studio	150B	40-18	†	A3M	25	A3M	14	WF	1700.00	
	TLM170		Condenser	Brass	Studio	100B	40-18	†	A3M	25	A3M	22	WF	1750.00	
	KU81	Condenser	Rubber		Studio	150B	40-16	†	A3M	25	A3M	95	WF	3990.00	
	KMF4	Card. Lobe	Condenser	Brass	Film/Brdcst.	150B	40-20	†	A3M	25	A3M	¾	W	925.00	
	KMR81	Condenser	Brass	Film/Brdcst.	150B	40-18	†	A3M	25	A3M	5	WF	975.00		
	KMR82	Lobe	Condenser	Brass	Film/Brdcst.	150B	40-20	†	A3M	25	A3M	8¾	WF	1080.00	
	RSM190	M-S	Condenser	Brass	Film/Brdcst.	50B	40-18	†	Spez.	16½	A3M	10½	W	2445.00	
SM69fet	M-S/X-Y	Condenser	Brass	Concert Hall	200B	40-16	†	Spez.	33	A3M	16½		3840.00		
USM69	M-S/X-Y	Condenser	Brass	Studio	150B	40-16	†	A5M	25	A3M	18		3490.00		
PASO SOUND	M501	Card.	Dynamic	Die-Cast Zinc	Vocal	250B	50-15		A3F	15	A3F or A3M	32	WS	90.00	Includes holder.
	M601	Card.	Dynamic	Die-Cast Zinc	Vocal	250B	50-15		A3F	15		32	WS	104.00	As above.
	M701	Card.	Dynamic	Die-Cast Zinc	Vocal/Instr.	250B	40-16		A3F	15		32	WS	134.00	Includes anti-shock mount, holder, and case.
	M800	Card.	Dynamic	Die-Cast Zinc	Vocal/Instr.	250B	40-18		A3F	15		48	W	160.00	As above.
	M50	Card.	Dynamic	Zinc Plastic		250B	50-15		A3F	15		22	W	76.00	Includes holder.
PIONEER	DM-51											11		100.00	
	DM-21											13		30.00	
SANSUI	DM-7	x2		Alum.	Vocal	600B	100-10	76	Phone	20	Phone	28	W	75.00	
	DM-5	x2		Alum.	Vocal	500B	100-10	77	Phone	16½	Phone	13	W	30.00	
	DM-3	x2		Alum.	Vocal	500B	100-10	77	Phone	10	Phone	12	W	20.00	
	EM-5	x2		Plastic	Vocal	1k. B	100-10	72	Phone	6½	Phone	12	W	35.00	
SCHOEPS	CMC 52S	Omni	Condenser	Nckl. & Brass	Spaced Omni	35B	20-20	†	XLR-3M			¾		930.00	†1.2 mV/ubar (at 1 kHz into 1 kilohm).
	CMC 54	Card.	Condenser	Nckl. & Brass	Piano & Spot	35B	40-20	†	XLR-3M			¾		890.00	
	CMC 541	Hyper. Card.	Condenser	Nckl. & Brass	Film/Video	35B	40-20	†	XLR-3M			¾		1040.00	
	CMC 521	Sub Card.	Condenser	Nckl. & Brass	Vocal	35B	30-20	†	XLR-3M			¾		950.00	
	CMC 58	Figure 8	Condenser	Nckl. & Brass	Stereo Pair	35B	40-16	†	XLR-3M			¾		1130.00	
	BLM 53	Hemi. Hyper Card. Card. x2	Condenser	Alum.	Stage	35B	20-20	†	XLR-3M			26		1160.00	
	CMH 541C		Condenser	Brass	Vocal	35B	50-18	†	XLR-3M			6½		1215.00	
	MSTC 54	Condenser	Nckl. & Brass	ORTF	35B	40-20	†	XLR-5M				9		1960.00	
CMTS 501	Omni/Card./Fig. 8 x2	Condenser	Nckl. & Brass	M-S/X-Y	250B	40-16	†	XLR-5M			12½		3250.00		
SENNHEISER	ME88	Spot	Back Electret Condenser	Alum.	Distant		50-15	†				12		315.00	†Requires K3U power supply (d.c. or 48-V phantom power), \$210.00. Lavalier.
	MKE2-3	Omni	Back Electret Condenser		Vocal/Instr.		40-20	†						254.00	
	MKE40-3	Card.	Back Electret Condenser	Alum.	Vocal/Instr.		50-20	†						289.00	
	MKH416	Shotgun Omni	Condenser		Distant		40-20		XLR			18		925.00	Uses 48-V phantom power.
MKH-20P8U3	Condenser			Vocal/Instr.		20-20		XLR			20		975.00		

THE PERFECT HARMONY.



PRICE AND PERFORMANCE.



Introducing three slick new performers from Blaupunkt. Finally, legendary performance without a legendary price tag. That's the Blaupunkt difference. Just feast your eyes on our three latest innovations. The Phoenix and Boston cassette/receiver combinations and the QL6500 speakers. Compare the features. Then visit a Blaupunkt dealer and compare the performance. Once you do, you'll see there's no comparison.

- The Phoenix SQR 29 (\$279.95) Quick release removable chassis Auto reverse cassette deck CPS cassette program search AM/FM stereo with 20 presets TS travel store with 5 presets True 4-channel preamp-out Separate bass/treble Loudness Noise reduction system Flex-Fader Code Protection with flashing LED Multifunction display 15 watts total power.
- The Boston SQR 49 (\$299.95) High power 50 watts Auto reverse cassette deck AM/FM stereo with 24 presets TS travel store with 6 presets True 4-channel preamp-out Separate bass/treble Flex-Fader Code Protection with flashing LED Multifunction display.
- QL6500 Speakers (\$179.95) 6.5-inch Coaxial Quartz polypropylene cone Altanium tweeter for optimum high frequency response 50-20,000 Hz overall frequency response 100 watts max 90 dB sensitivity.
- For the Blaupunkt dealer nearest you, call 1-800-237-7999.

For More Information



Call 1-800-553-4355

BLAUPUNKT
BOSCH Group

the difference is pronounced.™

Enter No. 26 on Reader Service Card

MICROPHONES

MANUFACTURER	Model	Directional Pattern Plus Channels: Stereo = X2, Quad = X4, M.S. = M.S.	Operating Principle	Case Material	Most Common Use	Actual Impedance, 1 kHz, Ohms: Balanced = B	Operating Range, Hz to kHz	Open-Circuit Sensitivity, 1 kHz, -dB, re. 1 Volt/1 μ bar	Mike Connector Type	Cable Length, Feet	Connector Type on Equipment End of Cable	Weight, Ounces Wind Screen = W, On Off Switch = S Switched Low or Proximity Filter = L	Price, \$	Notes
SENNHEISER (Continued)	MKH-30P8U3	Figure 8	Condenser		Vocal/Instr.	40-20		XLR		21		995.00	As above.	
	MKH-40P8U3	Card.	Condenser		Vocal/Instr.	40-20		XLR		20		975.00	As above.	
	MKH-70P8U3	Shotgun	Condenser		Instr. Distant	40-20		XLR				1479.00	As above.	
	MD518	Card.	Pressure Gradient	Alum.	Vocal	200B	50-16		XLR		5.6	219.00		
	MD409	Card.	Pressure Gradient	Alum. ABS	Vocal/Instr.	200B	50-15		XLR			269.00		
	MD421	Card.	Pressure Gradient	ABS	Vocal/Instr.	200B	30-17		XLR			399.00		
	MD431	Super Card.	Pressure Gradient	Alum.	Vocal	250B	40-16		XLR			429.00	Hand-held.	
	MD441	Super Card.	Pressure Gradient	Alum.	Vocal/Instr.	200B	30-20		XLR			559.00	As above.	
	MKE4032	Super Card.	Back Electret Condenser	Alum.	Vocal	140B	70-20		XLR				595.00	
	ME20	Omni	Back Electret Condenser	Alum.	Distant		50-15		†		4		112.00	
	ME40	Card.	Back Electret Condenser	Alum.	Distant		50-15		†		4		165.00	
ME80	Shotgun	Back Electret Condenser	Alum.	Distant		50-15		†		5		239.00		
SHURE	Beta 58	Super Card.	Dynamic	Steel	Vocal	150B	50-16	71	A3M			9.3	258.00	Four-way response-tailoring switch. Lavalier. Includes multiple instrument mounts.
	Beta 57	Super Card.	Dynamic	Steel	Instr.	150B	50-16	71.5	A3M			9.2	258.00	
	SM7	Card.	Dynamic	Alum. & Steel	Vocal/Record	150B	40-16	79	A3M			2.7	550.00	
	SM11	Omni	Dynamic	Alum.	Vocal	200B	50-15	85		4	A3M	0.28	102.00	
	SM17	Omni	Dynamic	Alum.	Strings	200B	50-15	84.5		10	A3M	0.28	108.00	
	SM18	Hemi. Card.	Dynamic	Foam & Plastic	Vocal	180B	150-10	73.0		9	A3M	3.9	98.00	
	SM48	Card.	Dynamic	Die-Cast	Vocal	270B	55-14	77.5	A3M			13.1	126.00	
	SM57-CN	Card.	Dynamic	Die-Cast	Instr.	310B	40-15	75.5	A3M	25	A3M	10	160.00	
	SM57-LC	Card.	Dynamic	Die-Cast	Instr.	310B	40-15	75.5	A3M			10	137.00	
	SM58-CN	Card.	Dynamic	Die-Cast	Vocal	310B	50-15	75.5	A3M	25	A3M	10.5	199.00	
	SM58-LC	Card.	Dynamic	Die-Cast	Vocal	310B	50-15	75.5	A3M			10.5	176.00	
	SM59	Card.	Dynamic	Zinc & Steel	Vocal/Instr.	150B	50-15	83.0	A3M			7.6	208.00	
	SM61	Omni	Dynamic	Alum.	Vocal	175B	50-14	82.0	A3M			5.2	134.00	
	SM62	Card.	Dynamic	Alum. & Steel	Vocal	180B	100-10	82.0	A3M			4	148.00	
	SM63	Omni	Dynamic	Alum.	Speech	270B	50-20	76.0	A3M			3.5	127.00	
	SM63L	Omni	Dynamic	Alum.	Speech	270B	50-20	76.0	A3M			4.3	145.00	
	SM77EB	Card.	Dynamic	Alum.	Instr.	250B	50-15	79.0	A3M			6	115.00	
	SM78EB	Card.	Dynamic	Alum.	Vocal	250B	50-15	79.0	A3M			7.2	140.00	
	SM80	Omni	Condenser	Steel	Instr./Studio	85B	20-20	65	A3M			8	380.00	Switchable -10 dB pad.
	SM81	Card.	Condenser	Steel	Studio	85B	20-20	65	A3M			8	380.00	As above.
	SM82	Card.	Condenser	Steel	Remote Brcdst.	250B	40-15	23	A3M			14.4	410.00	Line level; includes limiter; battery or phantom powered.
	SM83	Omni	Condenser	Brass	Vocal	90B	80-20	69.0		10/10	A3M	1.58	223.50	Lavalier, includes preamp; battery or phantom powered.
	SM84	Super Card.	Condenser	Brass	Vocal	90B	80-20	72.0		10/10	A3M	1.58	300.00	As above.
	SM85	Card.	Condenser	Alum.	Vocal	85B	50-15	74	A3M			6.3	290.00	
	SM87	Super Card.	Condenser	Alum.	Vocal	85B	50-18	74	A3M			6.3	329.00	
	SM89	Hyper Card.	Condenser	Alum.	Distant	100B	60-20	53	A3M			6.9	900.00	Shotgun.
	SM90	Omni	Condenser	Die-Cast & Steel	†	90B	20-20	66.0	Tiny QG	25	A3M	9.9	310.00	†Surface mount. Boundary mike, includes preamp; battery or phantom powered.
	SM91	Hemi. Card.	Condenser	Die-Cast & Steel	†	90B	20-20	69.0	Tiny QG	25	A3M	9.3	310.00	All as above.
	SM94	Card.	Condenser	Steel & Brass	Instr.	200B	40-16	69	A3M			8.8	250.00	Optimized for sampling.
	SM96	Card.	Condenser	Steel & Alum.	Vocal	200B	70-16	74	A3M			9.2	250.00	
	SM98	Card.	Condenser	Brass	Instr.	90B	40-20	80.0	Tiny QG	15	A3M	0.4	250.00	Optional A98SPM super-cardioid pattern modifier. Gooseneck miniature.
SM99	Super Card.	Condenser	Steel & Brass	Podium	90B	80-20	73.0	A3M			5.8	240.00		
Prologue 8L	Card.	Dynamic	Die-Cast	Home Record	600	80-10	76.5	Attached	15	Mini/Phone	9.7	53.75	Includes phone adaptor.	
Prologue 10H	Card.	Dynamic	Die-Cast	Home Record	Hi-Z	80-10	59.5	A3M			9.1	47.75		
Prologue 10L	Card.	Dynamic	Die-Cast	Home Record	600B	80-10	76.5	A3M			9.1	42.25		
Prologue 12H	Card.	Dynamic	Die-Cast	Home Record	Hi-Z	80-10	59.5	A3M			9.7	64.00		
Prologue 12L	Card.	Dynamic	Die-Cast	Home Record	600B	80-10	76.5	A3M			9.7	58.50		
Prologue 14H	Card.	Dynamic	Die-Cast	Home Record	Hi-Z	40-13	59.5	A3M			10	77.00		

(Continued)

When we play the numbers game, we play for keeps.



Introducing the TL-3300 18-Bit/8X Oversampling CD Player with Digital Time Lens and 22-function Remote Control.

Frankly, a lot of stereo specs are more confusing than informative. But the benefits of increased digital oversampling rates are tangible and audible. At least when they're incorporated in a player as advanced as the TL-3300. It literally extracts *eight times* more information from a CD than conventional players can. Combined with its ability to resolve amplitude information *400% better* than a 16-bit player, the TL-3300 dramatically reduces noise levels and distortion while enhancing musical detail and faithfully reproducing CDs' full dynamic range. Add dual D/A converters for improved phase linearity, meticulously designed analog output circuitry and Carver's unique Digital Time Lens feature you have a player that can re-define the Compact Disc experience. High-end harshness melts away to reveal the intimate details of the performance and the space in which it was recorded.

Naturally, the TL-3300 is as easy to use as it is easy to listen to. All major transport and programming functions (plus the Digital Time Lens) are at your fingertips on the 33-key wireless remote control. Program up to 22 random tracks, repeat any segment, individual song or programmed sequence, or access selections backwards or forwards by track or in real time with audible cueing.

Whether you're looking for a CD player with leading edge technology or simply desire the finest overall quality component possible, you owe it to yourself to discover just how much more the TL-3300 can offer.

Hear it at your Carver Dealer today.

CARVER

POWERFUL

MUSICAL

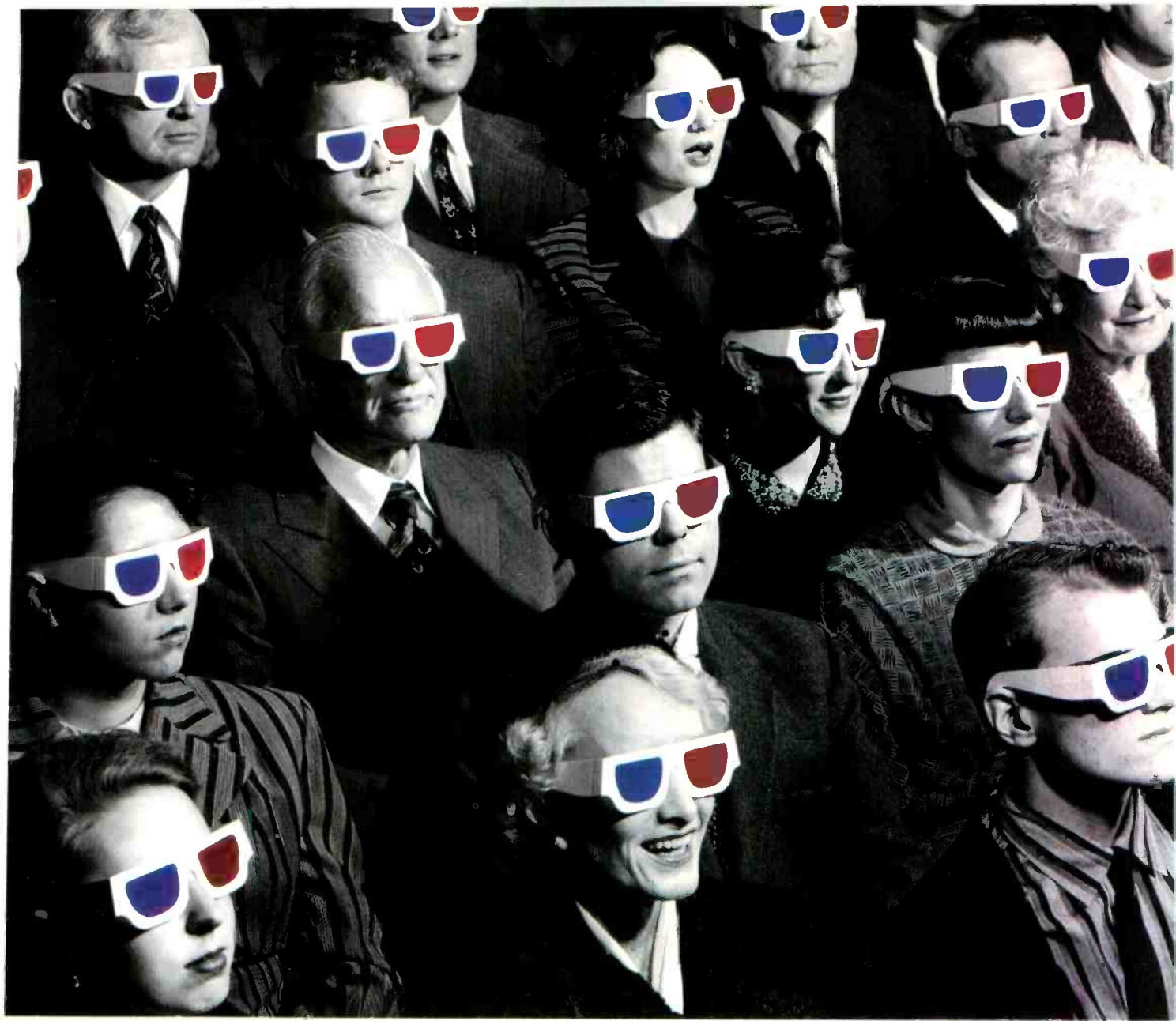
ACCURATE

CARVER CORPORATION, P.O. Box 1237, Lynnwood, WA 98046

For more information or the dealer nearest you, call 1-800-443-CAVR

MICROPHONES

MANUFACTURER	Model	Directional Pattern Plus Champs. Stereo - x2, Quad - x4, M-S = M-S	Operating Principle	Case Material	Most Common Use	Actual Impedance, Ohms Balanced - B	Operating Range, Hz to kHz	Open-Circuit Sensitivity 1 kHz, -dB, re: 1 Volt/1 μ bar	Mike Connector Type	Cable Length, Feet	Connector Type on Equipment End of Cable	Weight, Ounces	Wire Screen = W, On Off Switch = S, F Switches = Low or Proximity Filter = F	Price, \$	Notes
SHURE (Continued)	Prologue 14L	Card.	Dynamic	Die-Cast Alum.	Home Record Instr./Record Vocal	600B	40-13	76.5	A3M			10	S	71.50	
	Prologue 16L	Card.	Condenser	Alum.	600B	50-15	69.5	A3M			4.7	S		116.00	
	Prologue 22H-LC	Super Card.	Dynamic	Steel	Vocal	Hi-Z	40-13	59.0	A3M	15	Phone	9.5	S	82.00	Lockable switchplate.
	Prologue 22H-CS	Super Card.	Dynamic	Steel	Vocal	Hi-Z	40-13	59.0	A3M			9.5	S	96.25	
	Prologue 22L-LC	Super Card.	Dynamic	Steel	Vocal	Lo-Z	40-13	76.5	A3M			9.5	S	76.50	As above.
	Prologue 22L-CS	Super Card.	Dynamic	Steel	Vocal	Lo-Z	40-13	76.5	A3M	25	A3M	9.5	S	98.75	
	Prologue 24H-LC	Super Card.	Dynamic	Steel	Vocal	Hi-Z	40-13	59.0	A3M			9.3		95.00	
	Prologue 24H-CS	Super Card.	Dynamic	Steel	Vocal	Hi-Z	40-13	59.0	A3M	15	Phone	9.3		109.00	
	Prologue 24L-LC	Super Card.	Dynamic	Steel	Vocal	Lo-Z	40-13	76.5	A3M			9.3		89.50	
	Prologue 24L-CS	Super Card.	Dynamic	Steel	Vocal	Lo-Z	40-13	76.5	A3M	25	A3M	9.3		111.75	
	512SB-G18	Card.	Dynamic	Die-Cast Alum.	Vocal	170B	80-13	82.0		4	None	29	S	66.75	18-inch gooseneck.
	515SD	Card.	Dynamic	Die-Cast Alum.	Vocal/Music Harmonica	170B/Hi-Z	80-13	†	A3M			9	S	49.00	†At lo-Z, -82.5 dB; at hi-Z, -59.0 dB.
	520D	Omni	Controlld. Magnetic	Die-Cast		160B/Hi-Z	100-5	†		20	None	22		99.00	†As above but -73.0 and -56.0 dB. "Green Bullet."
	545D	Card.	Dynamic	Die-Cast Alum.	Vocal/Instr. Vocal	275B/Hi-Z	50-15	†	A3M			9	S	110.00	†As above but -78.0 and -55.0 dB.
	545L	Card.	Dynamic	Die-Cast Alum.	Vocal	250B	50-15	77.5		20	None	12.5		109.75	Lavalier.
	545SC-LC	Card.	Dynamic	Die-Cast Alum.	Vocal	275B/Hi-Z	50-15	†	A3M			9	S	114.00	†At lo-Z, -78.0 dB; at hi-Z, -55.0 dB.
	545SD-CN	Card.	Dynamic	Die-Cast Alum.	Vocal	250B/Hi-Z	50-15	†	A3M	20	A3M	9	S	135.00	†As above.
	565D	Card.	Dynamic	Die-Cast Alum.	Vocal	250B/Hi-Z	50-15	†	A3M			10.5	S	122.00	†As above but -76.0 and -54.0 dB.
	565SD-LC	Card.	Dynamic	Die-Cast Alum.	Vocal	250B/Hi-Z	50-15	†	A3M			10.5	S	124.00	†As above.
	565SD-CN	Card.	Dynamic	Die-Cast Alum.	Vocal	250B/Hi-Z	50-15	†	A3M	20	A3M	10.5	S	147.00	†As above.
	570S	Omni	Dynamic	Steel Alloy	Vocal	180B	50-12	81.5		30	None	4	S	150.00	Lavalier.
	575SB	Omni	Dynamic	Alum.	Vocal	200	40-15	79.0		7		5	S	55.00	As above.
	579SB	Omni	Dynamic	Alum.	Vocal	200B	50-14	78.5	A3M			5.5	S	90.00	Lockable switchplate.
	587SB	Card.	Dynamic	Die-Cast Alum.	Vocal	270B	55-14	77.5	A3M			13.1	S	95.00	As above.
	588SD	Card.	Dynamic	Die-Cast Alum.	Vocal	180B/Hi-Z	80-13	†	A3M			10	S	60.00	†At lo-Z, -82.0 dB; at hi-Z, -59.5 dB.
	800HF	Super Card.	Condenser	Die-Cast Alum.	Cellular	†	300-10	†		9		1.8		134.75	†-17 to -59 dB. Includes preamp.
	809	Omni	Condenser	Die-Cast Alum.	†	600B	50-20	68.0	Tiny QG	25-10	A3M	9.9		200.00	†Surface mount. Boundary effect; includes preamp.
	819	Hemi. Card.	Condenser	Die-Cast Alum.	†	600B	60-20	71.0	Tiny QG	25-10	A3M	9.3		210.00	All as above.
	839	Omni	Condenser	Steel Brass	Vocal	600B	80-20	70.0		5/10	A3M	0.21		127.00	Lavalier; battery or phantom powered.
	849	Card.	Condenser	Steel Alum.	Instr.	600B	40-16	70.0	A3M			8.8	S	168.00	Powering as above.
	869	Card.	Condenser	Steel Alum.	Vocal	600B	70-16	76.0	A3M			9.2	S	168.00	Powering as above.
	PE10D	Card.	Dynamic	Zinc	Instr.	Lo/Hi-Z	80-13	†	A3M			11	S	72.00	†At lo-Z, -82.5 dB; at hi-Z, -59.0 dB.
	PE15D	Card.	Dynamic	Zinc	Vocal	Lo/Hi-Z	80-13	†	A3M			12	S	92.00	†As above but -82.0 and -59.5 dB.
	PE65L	Card.	Dynamic	Zinc	Instr.	150B	50-15	77.5	A3M			9	S	142.00	
	PE66L	Card.	Dynamic	Zinc	Instr.	150B	40-15	75.5	A3M			9	S	142.00	
PE65L	Card.	Dynamic	Zinc	Vocal	150B	50-15	77.5	A3M			10.5	S	164.00		
PE66L	Card.	Dynamic	Zinc	Vocal	150B	50-15	75.5	A3M			10.5	S	164.00		
W15HT/58	Card.	Dynamic	Alloy	Vocal		50-15					14.5	S	750.00	Wireless; available as diversity or non-diversity system.	
W15HT/87	Super Card.	Condenser	Alloy Brass	Vocal		50-18					8.5	S	900.00	As above.	
WL83	Omni	Condenser	Brass	Vocal	1.2k	50-16	65.5		4	4-Pin Mini	0.21	W	165.00	Wireless; lavalier only.	
WL84	Super Card.	Condenser	Brass	Vocal	1.2k	50-16	68		4	4-Pin Mini	0.21	W	190.00	As above.	
WM98	Super Card.	Condenser	Brass	Vocal	1.2k	40-20	74.0		2.7	4-Pin Mini	0.4	W	165.00	Wireless; mike only.	
SDNDTRIM	STR-PPS	Omni	Electret Condenser	Plastic	Speech	250B	50-15		XLR-3M	9	XLR-3M	2	W	265.00	Lavalier.
SDNY	FV-X30	Card.	Dynamic	Plastic	Vocal	600	80-12		Attached	9.8	†	7.8	WS	35.00	†Mini/phone; includes adaptor.
	FV-X50	Card. x2	Dynamic	Zinc Die-Cast	Vocal/Instr.	600	80-15		XLR	16.4	†	9	WS	56.00	†As above.
	ECM-909	Var. x2	Electret Condenser	Plastic	Instr.	1k	100-15		Attached	4.9	Mini	3.2	WS	100.00	
	F-99LT	Uni x2	Dynamic	Plastic	Vocal/Instr.	†	80-12		Attached	10.4	Mini	5.3	WS	55.00	†Mono, 1 kilohm; stereo, 500 ohms.
SPEIDEN	SF-12	Fig. 8 x2	Ribbon	Iron	Concert Hall Instr.	200B	30-16	77	Neutrik A5M	20	Neutrik A3M x2	12		975.00	Single-point stereo.
	MF-12	Figure 8	Ribbon	Iron	Concert Hall Instr.	200B	30-16	77	Neutrik A3M	20	Neutrik A3M	8		575.00	
TECHNICS	RP-V340	Card.	Dynamic	Alum.	Video		100-10				9	W	39.00		
	RP-V370	Card.	Dynamic	Alum.	Vocal/Instr.		40-12				12	W	59.00		



PRESENTING THE SAME THING ONLY FOR YOUR EARS.

What 3-D did for your eyes Technics can do for your ears.

Thanks to the virtues of our SA-R477 A/V receiver with Dolby Surround Sound.*

When hooked up to an extra pair of speakers and your VCR, it can make moving pictures at lot more moving. For instance, when the Orient Express crosses your TV screen, it will sound like it's crossing your living room. Or when you're watching a great war film, it will sound like the battle is taking place around your couch.

This incredibly life-like sound is brought to you in large part by a special digital delay circuit. Which allows you to decode the signal on many pre-recorded video tapes and acoustically shape

the size of the room to the sound of the movie.

Naturally, with 100 watts of pure power per channel (at 8 ohms, 20Hz — 20kHz with 0.008% THD) it has the power to keep you on the edge of your seat. However, you certainly won't have to leave it. Because this receiver comes with a remote control that can control all compatible Technics audio components, and many TVs and VCRs, as well.

Hear the remarkable sound of the SA-R477 A/V receiver at a Technics dealer near you.

You won't need a pair of those silly glasses to appreciate this type of 3-D. Just a good pair of ears.



Technics Surround Sound A/V Receiver.

*Compatible video software required. Dolby and the double-D symbol are registered trademarks of Dolby Laboratories Licensing Corporation. Permission for restaging of copyrighted J. R. Eyerman photograph of 3-D movie audience courtesy The Time Inc. Magazine Company.

Enter No. 91 on Reader Service Card

Technics
The science of sound

HEADPHONES

MANUFACTURER	Model	Operating Principle	Frequency Range, Hz to kHz		Impedance, Ohms	Sensitivity dB SPL to 1 mW Input	Maximum Input, mW	THD at 95 dB SPL, %	Cord Length, Feet	Cord Style: Flat = F, Coiled = C, Round = R	Plug Type: 3.5 mm Mini = M, 1/2" Phone = P, Adaptor Included = A	Individual Volume Controls?	Circumaural = A, Supra-aural = S Over-ear Design = O, In-Ear = I	Headband: Adjustable = A, Folding = F	Cover Material on Ear Cup	Weight, Ounces	Price, \$	Notes
AIWA	HP-X80	Dynamic	5-25	40	102	1W		9.8	C	A	No	C	A	Foam	4.9	95.00		
	HP-X50	Dynamic	5-24	40	102	1W		8.2	F	A	No	C	A	Foam	4.9	70.00		
	HP-X30	Dynamic	5-23	40	102	1W		8.2	F	A	No	C	A	Foam	4.9	50.00		
	HP-A550	Dynamic	7-20	40	103	200mW		6.6	F	A	No	O	A	Foam	3	33.00		
	HP-A350	Dynamic	10-20	40	103	200mW		4.9	F	A	No	O	A	Foam	2.6	27.00		
	HP-A250	Dynamic	20-20	32	97	100mW		4.9	F	A	No	O	F	Foam	1.7	17.00		
	HP-A150	Dynamic	20-20	32	97	100mW		4.9	F	A	No	O	A	Foam	1.6	12.00		
	HP-V88	Dynamic	8-25	16	105	40mW		3.9	F	A	No	I	N	Foam	0.3	80.00		
	HP-V57	Dynamic	10-25	16	104	40mW		3.9	F	M	Yes	I	N	Foam	0.2	35.00		
	HP-V53	Dynamic	10-25	16	104	40mW		3.9	F	M	No	I	N	Foam	0.2	28.00		
	HP-V25	Dynamic	15-30	16	105	40mW		3.9	F	M	No	I	N	Foam	0.18	22.00		
	HP-V12	Dynamic	15-30	16	105	40mW		3.9	F	M	No	I	N	Foam	0.18	12.00		
AKG	K-2	Dynamic	30-18	200	92	6.3V	0.9	8	R	M/A	No	S	A	Plastic	3.2	45.00		
	K-45	Dynamic	30-18	200	92.5	6.3V	0.9	10	R	P	No	S	A	Plastic	4.5	60.00		
	K-130	Dynamic	20-20	200	93.5	9V	0.7	9	R	P	No	S	A	Plastic	4.4	70.00		
	K-135S	Dynamic	25-18	150	92	8.9V	0.7	10	R	P	No	S	A	Plastic	5.6	85.00		
	K-141M	Dynamic	20-20	600	97.5	11V	0.5	10	R	P	No	S	A	Metal & Plastic	6.9	100.00		
	K-145S	ES/Dyn.	20-24	200	89	8.9V	0.5	10	R	P	No	S	A	Metal & Plastic	6	110.00		
	K-240M	Dynamic	15-20	600	88	11V	0.3	10	R	P	No	C	A	Metal & Plastic	8.5	120.00		
	K-240DF	Dynamic	15-20	600	88	11V	0.3	8½	R	P	No	C	A	Metal & Plastic	8.5	150.00		
	K-260	Dynamic	10-20	600	88	11V	0.2	10	R	P	No	C	A	Plastic	9.2	170.00		
	K-340	ES/Dyn.	15-25	400	88	10V	0.1	10	F/C	P	No	C	A	Metal & Plastic	13.5	235.00		
	K-280	Dynamic	20-20	75	94	4V	0.2	10	F	P	No	C	A	Metal & Plastic	9.6	195.00		
K-55	Dynamic	25-18	150	92	5.5V	0.9	10	F	M/P	No	S	A	Metal & Plastic	3.2	50.00			
K-21TV	Dynamic	25-17.5	150	92	5.5V	0.9	20	F	M/P	No	S	A	Metal & Plastic	3.2	60.00			
K-270	Dynamic	20-20	75	92	4V	0.2	10	F	P	Yes	C	A	Metal & Plastic	9.6	195.00			
AUDIOTECHNICA	SG410	Dynamic	40-20	4-16	92			3	F	M/A	No	D	A	Foam	1	14.95	†Over-the-ear, earbud.	
	SG430	Dynamic	35-20	4-16	96			4	F	M/A	No	I	N	Foam	0.3	24.95		
	SG450	Dynamic	20-20	4-16	96			3	F	M/A	No	S	A	Plastic	0.5	29.95		
	SG600CD	Dynamic	20-20	4-16	89			6	F	M/A	No	S	A	Vinyl	2.8	39.95		
	SG750CD	Dynamic	20-20	35	100			7.6	F	P	No	S	A	Vinyl	4.7	49.95		
	AP1000	Dynamic	100-15	4-16	86			4	F	M	No	I	N	Plastic	1	24.95		
	AP1200	Dynamic	20-20	4-16	90			6	F	P	No	S	A	Fabric	3.3	39.95		
	AP1300	Dynamic	20-20	4-16	108			10	F	P	No	S	A	Vinyl	5.4	49.95		
	AP1400	Dynamic	20-22	4-16	105			10	F	P	No	S	A	Fabric	5.5	59.95		
	ATH-909	Dynamic	20-20	4-16	100			10	F	P	No	C	A	Fabric	6.9	79.95		
	ATH-910	Dynamic	20-20	4-16	100			10	F	P	No	C	A	Vinyl	7.2	99.95		
AZDEN	OM-90	Dynamic	4-26	32	105	800	0.2	10	F	A	No	S	A	Vinyl		100.00		
	OM-70	Dynamic	4-24	32	103	500	0.3	10	F	A	No	S	A	Vinyl		80.00		
	DSR-18	Dynamic	15-22	60	103	200		10	C	A	No	S	A	Plastic		70.00		
	DSR-12	Dynamic	20-20	200	105	100		8	F	P	No	S	A	Cloth		60.00		
	DSR-48	Dynamic	15-24	40	97	100		8	F	A	No	O	A	Foam		70.00		
	DSR-42	Dynamic	20-20	50	102	100		8	F	M	No	O	A	Plastic		40.00		
BANG & OLUFSEN	Form 1	Dynamic	20-20	35	94			10	C	M/A	No	O	A	Foam	6	120.00		
	Form 2	Dynamic	40-20	30	94			10	F	M/A	No	O	A	Foam	2½	60.00		
BEYERDYNAMIC	DT48A	Dynamic	16-20	5		1V		10	F	P	No	S	A	Rubber	14	320.00	†Available with 8, 25, or 200 ohms.	
	DT48K	Dynamic	16-20	†		4.4V		10	F	P	No	C	A	Vinyl	14	300.00		
	DT48WK	Dynamic	16-20	†		4.4V		5	C	P	No	C	A	Vinyl	14	315.00	††Available with 8, 50, 100, 200, 400, 600, or 800 ohms.	
	DT96AK	Dynamic	30-17	50		12V		10	F	P	No	C	A	Vinyl	4½	140.00		
	DT96AWK	Dynamic	3-17	50		20V		5	C	P	No	C	A	Vinyl	4½	140.00		
	DT100K	Dynamic	30-20	††		20V		10	F	P	No	C	A	Vinyl	12½	172.00		
	DT100WK	Dynamic	30-20	††		20V		5	C	P	No	C	A	Vinyl	12½	172.00		
	DT102K	Dynamic	30-20	††		20V		10	F	P	No	C	A	Vinyl	9	119.00		
	DT102WK	Dynamic	30-20	††		20V		5	C	P	No	C	A	Vinyl	9	119.00		
	DT880	Dynamic	5-25	600	94	7.75V	0.5	8	C	P	No	C/O	A	Vinyl	7	169.00		
	DT880ST	Dynamic	5-35	600	94	7.75V	0.5	8	C	P	No	C/O	A	Vinyl	7	229.00		
	DT990	Dynamic	5-35	600	96	7.75V	0.5	8	C	P	No	C/O	A	Terry	8	209.00		
	DT770	Dynamic	5-35	600	96	7.75V	0.5	8	C	P	No	C	A	Vinyl	9	189.00		
	DT550	Dynamic	10-22	600	95	7.75V	1.0	8	C	P	No	C/O	A	Vinyl	9	145.00		
DT220	Dynamic	20-20	400	102	6.4V	1	8	C	P	No	C	A	Vinyl	7	129.00			
DT340TV	Dynamic	20-20	50	108	2.24V		22	F	P	Yes	C	A	Vinyl		85.00			
DT303TV	Dynamic	20-20	50	112	2.24V			F	P	Yes	S	A	Foam	2¾	69.00			
DT330MKII	Dynamic	15-18	40	85	2V	1	8	F	M/A	No	C/O	A	Vinyl	7	89.00			
DT320MKII	Dynamic	20-20	40	88	7.75V	1	6	F	M/A	No	C/O	A	Vinyl	4	79.00			
DT325	Dynamic	20-20	40	88	7.75V	1	3	F	M/A	No	C/O	A	Foam	4	65.00			
IRS690	Dynamic	20-20	600	114						Yes		A	Fabric	8	399.00	Infrared, wireless.		
BONDWELL	BW-2800		70-16	5k			0.4†			A	Yes	I	N			79.99	Infrared, wireless. †At 1 kHz.	
DENON	AH-D900	Dynamic	3-31	32	106	6.2V		10	F	M/A	No	C	A	Plastic	8	140.00		
	AH-D700	Dynamic	3-30	32	106	5.7V		10	F	M/A	No	C	A	Plastic	8	120.00		
	AH-D500	Dynamic	4-28	32	105	5.1V		10	F	M/A	No	S	A	Plastic	5.3	80.00		
	AH-D300	Dynamic	4-26	32	105	5.1V		10	F	M/A	No	S	A	Plastic	5	70.00		
	AH-D100															60.00		
	AH-C30	Dynamic	18-22	16	106	700		4	F	M	No	O/I	N		0.2	34.95		
AH-C6	Dynamic	16-22	16	106	700		4	F	M	No	O/I	N		0.2	24.95			
FOSTEX	T-20	RP	50-30	50	96	200		8	F	P	No	C	A	Vinyl	18	89.00	One-sided with boom mike and routing box.	
	T-40	RP	30-40	50	98	200		8	F	P	No	C	A	Vinyl	18	130.00		
	T-45	RP	30-40	50	98	200		8	F	P	No	C/O	A	Vinyl	18	230.00		

Even If Your Best Friend Breaks Them, We'll Repair Or Replace Them.



Place Headphones
tab here

Koss Stereophones have become world-renowned for two things: outstanding sound and extraordinary durability. But nobody's perfect. That's why Koss is pleased to present something literally unheard of in the audio business.

Introducing the industry's first lifetime warranty. From now on, if any pair of Koss Stereophones should ever fail for any reason, we'll repair or replace them. No questions asked. From the smallest portable model right up through Koss' infrared Kordless™ systems.

And that's something to think about the next time you're in the market for a pair of phones. After all, it'd be a shame for a broken pair of stereophones to break up a good friendship.

For more information and the name of your nearest dealer, call toll free: 1-800-USA-KOSS. Or write: Koss Stereophones, 4129 North Port Washington Road, Milwaukee, WI 53212.

 **KOSS**
stereophones

Koss'No-Questions-Asked Limited Lifetime Warranty.

Enter No. 56 on Reader Service Card



Place Headphones
tab here

STOP BEDROOM HEADACHES BEFORE THEY HAPPEN.

You want to watch late-night TV while your wife sleeps. How can you turn on your set without turning off your spouse?

It's easy with Koss' JCK-200 Kordless Stereophone System.

Just plug the infrared transmitter into any TV, VCR, receiver or amplifier. Then slip on the stereophones.

Now you're ready to enjoy a night of first-class sound

while your wife enjoys a sound night's sleep. There's no cord, no hassles and no distractions to get in the way.

And if you think the Koss Kordless System is a pleasure in the bedroom, you'll be glad to know it sounds just as good in your living room, dining room or den.

So you can enjoy the great Sound of Koss when-

ever you get the urge.

For more information and the name of your nearest dealer, call toll free: 1-800-USA-KOSS.

Or write: Koss Stereophones, 4129 North Port Washington Road, Milwaukee, WI 53212.

KOSS
stereophones



HEADPHONES

MANUFACTURER	Model	Operating Principle	Frequency Range, Hz to kHz		Impedance, Ohms	Sensitivity, dB SPL for 1 mW Input	Maximum Input, mW	THD at 95 dB SPL, %	Cord Length, Feet	Cord Style: Flat = F, Coiled = C, Round = R	Plug Type: 3.5 mm Mini = M, 1/8" Phone = P, Adaptor Included = A	Individual Volume Controls?	Circumference = A, Super-Arm = S, Headband: None = B, 1.5" Ear = E, Adjustable = X, Folding = F	Cover Material on Ear Cup	Weight, Ounces	Price, \$	Notes	
			20-20	32														
GC-THORSEN	90-102	Dynamic	30-18	8	90	2V		10	F	M/P	No	O	A	Vinyl	12	15.99		
	90-115	Dynamic	20-20	32	95	1.3V		3 1/2	F	M/P	No	O	N	Foam	0.17	8.99		
	90-125	Dynamic	20-20	32	98	2V		6	F	M/P	No	O	A	Plastic	1.13	11.79		
	90-135	Dynamic	20-20	32	98	2V	1	6	F	M/P	No	O	A	Foam	1.7	7.99		
	90-150	Dynamic	20-25	100	100	5.5V		6	F	M/P	No	O	A	Leather	4.6	26.99		
	90-130	Dynamic	50-18	32	90	2V		6	F	M/P	No	O	A	Foam	1.7	5.29		
	90-133	Dynamic	20-20	32	98	2V		6	F	M/P	No	O	A	Foam	1.7	2.99		
JECKLIN	JJ I	Dynamic	35-20	200				10	F	P	No	O	F	Plastic	14	99.00		
	JJ II	Dynamic	30-20	200				10	F	P	No	O	F	Plastic	14	169.00		
	ESC	ES	20-20	4/16				10	F	P	No	O	F	Plastic	14	650.00		
JVC	HAC07	Dynamic	15-22	32	102	100mW		9.8	F	P/A	No	O	A	Foam	2	39.95		
	HAD300	Dynamic	20-20	32	97			9.8	F	P/A	No	O	A	Foam	3	19.95		
	HAD500	Dynamic	10-23	40	102	100mW		9.8	F	P/A	No	O	A	Vinyl	4	39.95		
	HAD600	Dynamic	5-26	32	106	100mW		9.8	F	P/A	No	O	A	Vinyl	4	49.95		
	HAD770	Dynamic	5-25	16	100	100mW		9.8	F	P	No	O	A	Vinyl	8	119.95		
	HAD990	Dynamic	5-27	65	106	100mW		9.8	F	P	No	O	A	Vinyl	9	149.95		
	HASU7	Dynamic	20-18	40	100			16.4	F	P/A	No	O	A	Vinyl	6	90.00	For surround sound.	
KOSS	JCK300	Dynamic	20-20	20							Yes	C	A	Vinyl		274.95	Cordless. As above. †At 100 dB SPL.	
	JCK200	Dynamic	20-20	20							No	C	A	Vinyl	10	159.95		
	PRO/450	Dynamic	10-30	100	102		0.5†	25	C	P/A	No	C	A	Vinyl	15	174.95		
	PRO/99	Dynamic	10-20	100	95		0.5†	10	C	P/A	No	C	A	Vinyl	10	99.95		
	PRO/75	Dynamic	10-20	180	94		0.5†	10	C	P/A	No	C	A	Vinyl	10.8	74.95		
	PRO/4X Plus	Dynamic	10-40	100	100		0.5†	10	C	P/A	No	C	A	Vinyl	8.3	90.00		
	PRO/4AAA Plus	Dynamic	10-22	100	100		0.75†	10	C	P/A	No	C	A	Vinyl	13	70.00		
	HV/1A Plus	Dynamic	15-35	140	95		0.75†	10	F	P/A	No	S/O	A	Foam	9.3	49.95		
	K/40LC Plus	Dynamic	10-22	100	104		1.0†	10	C	P/A	No	C	A	Vinyl	6.7	39.95		
	K/6X Plus	Dynamic	10-22	100	104		1.0†	10	C	P/A	No	C	A	Vinyl	6.3	31.95		
	TNT/86	Dynamic	15-30	60	94.5		0.20†	10	F	P/A	No	C	A	Vinyl	5	89.95		
	TNT/77	Dynamic	15-20	60	91.5		0.20†	10	F	P/A	No	S/O	A	Foam	4.5	69.95		
	TNT/66	Dynamic	15-20	60	93.5		0.20†	10	F	P/A	No	C	A	Vinyl	3	49.95		
	Porta Pro	Dynamic	15-25	60	97		0.20†	6	F	P/A	No	S/O	A/F	Foam	2.3	49.95		
	Porta Pro Jr.	Dynamic	15-25	60	97		0.20†	4 1/2	F	P/A	No	S/O	A/F	Foam	2.3	39.95		
	PRO/4AA	Dynamic	10-22	230	94		0.5†	10	F	P/A	No	C	A	Vinyl	22	99.95		
	TD/60	Dynamic	18-20	27	90		0.5†	10	F	P/A	No	C	A	Vinyl	7.3	19.99		
	TD/50	Dynamic	18-20	100	93		1.0†	10	F	P/A	Yes	S/O	A	Foam	3.5	24.99		
	TD/40	Dynamic	20-20	32	93		1.0†	5 1/2	F	P/A	Yes	S	A	Vinyl	2.35	19.99		
	TD/30	Dynamic	20-20	32	91		1.0†	4 1/2	F	P/A	No	S	A	Vinyl	1.9	15.99		
	TD/20	Dynamic	20-20	32	94		1.5†	3 1/2	F	P/A	No	S/O	A	Foam	2	9.99		
	CS/2	Dynamic	20-20	32	98		1.0†	3	F	M/A	No	I	N		0.43	29.99		
	CS/1	Dynamic	20-20	32	98		1.0†	3	F	M/A	No	I	N		0.43	29.99		
	CR/9	Dynamic	20-20	32	98		1.0†	3	F	M/A	Yes	I	A/F	Foam	0.67	19.99		
CR/8	Dynamic	20-20	32	98		1.0†	3	F	M/A	No	I	A		0.72	14.99			
CR/7	Dynamic	20-20	32	98		1.0†	3	F	M/A	No	I	N/A		0.75	14.99			
CR/6	Dynamic	20-20	32	98		1.0†	3	F	M	No	I	N		0.43	11.99			
MB QUART ELECTRONICS	QuartPhone 15	Dynamic	20-20	100	98	100mW		10	F	P/A	No	C	A	Vinyl	2			
	QuartPhone 30	Dynamic	10-22	240	94	100mW		10	F	P	No	C	C	Vinyl	8.5			
	QuartPhone 50	Dynamic	10-22	240	96	100mW		10	C	P	No	C	C	Vinyl	8.6			
	QuartPhone 70	Dynamic	5-22	240	96	100mW		10	C	P	No	C	C	Vinyl	8.6			
	QuartPhone 85	Dynamic	10-22	600	92	100mW		10	C	P	No	D	A	Vinyl	7			
	QuartPhone 95	Dynamic	15-27	240	92	100mW		10	C	P	No	C	C	Vinyl	9			
MEMOREX	SLS-9	Dynamic	20-20	32	96	1.8V	1	8	F	A	No	O	A	Plastic	4			
	EDM-110	Dynamic	5-25	25	100	1.6V	3	9	F	A	No	O	A	Plastic	6			
	EDM-330	Dynamic	15-22	40	102	2.8V	3	7	C	A	No	S	A		9			
	EDM-550	Dynamic	5-25	60	102	2.5V	3	6	C	A	No	S	A	ABS Plastic	8			
	EDM-770	Dynamic	5-30	70	107	2.6V	3	8	F	A	No	C	A	ABS Plastic	7			
	PSS-100	Dynamic	5-25	25	104	1.6V	3	20	F	P	No	C	A	ABS Plastic	8			
NAKAMICHI	SP-7	Dynamic	20-20	45	98	100		10	F	P	No	O	A	Foam	4.8	100.00	Includes extra earpads.	
ORA ELECTRONICS	GH16RP	ES	20-22	32	105	40mW		3.6	F	M	No	I	N	Foam	0.4	4.99		
	GHT100	ES	12-24	32	105	40mW		3.6	F	M	No	I	N	Foam	0.4	9.99		
	GHT11	ES	40-20	32				3.6	F	P	No	C	A	Foam	1.5	5.99		
PANASONIC	EAH-X250	Dynamic	2-30	55	106	1W		9.8	F	M/A	No	C	A	Plastic	10.6	179.95		
	EAH-X150	Dynamic	5-35	63	107	1W		9.8	F	M/A	No	C	A	Plastic	4.8	129.95		
	EAH-X120	Dynamic	8-33	45	107	1W		9.8	F	M/A	No	C	A	Plastic	4.6	94.95		
	EAH-X80	Dynamic	8-30	45	105	500mW		9.8	F	M/A	No	C	A	Plastic	3.9	54.95		
	EAH-Z9	Dynamic	30-20	16	102	40mW		3.6	F	M	No	I	A		0.7	17.95		
	EAH-S24	Dynamic	20-20	32	100	100mW		4	F	M/A	No	O	A		1.5	19.95		
	EAH-S14	Dynamic	30-20	32	98	100mW		4	F	M/A	No	O	A		1.3	12.95		
PICKERING	CD-5	Dynamic	20-20	35	100	100mW	0.5	7 1/2	C	P	No	O	A	Foam	8.8	79.95	Mono/stereo switch. Two speakers per earpad. Includes extra set of ear cushions. As above.	
	CD-4	Dynamic	20-20	32	105	100mW	0.5	7 1/2	C	P	No	O	A	Foam	3	66.00		
	CD-2	Dynamic	20-20	32	112	100mW	0.5	7 1/2	C	P	No	O	A	Vinyl	5	50.00		
	CD-1	Dynamic	20-20	32	105	100mW	0.5	7	F	M/P	No	O	A	Vinyl	2.5	35.00		
	F-108	Dynamic	20-20	18	105	50mW	0.5	5	F	M/P	Yes	D	A		0.5	45.00		
	F-104	Dynamic	20-20	32	98	50mW	0.5	4	F	M	No	O	A	Foam	0.5	30.00		
	F-102	Dynamic	20-20	32	92	50mW	0.5	5	F	M	No	O	A	Foam	1.1	25.00		
	2+2	Dynamic	10-25	35	106	50mW	0.5	4	C	M/P	No	O	N	Foam	0.42	60.00		
	PC-100	Dynamic	20-18	35	100	50mW	0.5	4	C	M/P	No	O	N	Foam	0.21	20.00		
	PC-60	Dynamic	20-15	35	90	50mW	0.5	4	C	M	No	O	N	Foam	0.21	15.95		
OA-44	Dynamic	20-18	32	90	100mW	0.5	4	C	M	No	O	A	Foam	1.1	3.95			
PIONEER	SE-72	Dynamic	3-28	32	135	1.5W		16.5	F	M/P/A	No	S	A	Foam	4.8	75.00		
	SE-52	Dynamic	10-25	40	100	150mW		8.8	F	M/P/A	No	O	A	Vinyl	3.7	45.00		
	SE-32	Dynamic	12-22	40	96	100mW		8.2	F	M/P/A	No	O	A	Vinyl	3.3	35.00		
	SE-M90	Dynamic	3-50	32		1W		16 1/2	F	A	No	C	A		9	125.00		
	SE-M70	Dynamic	3-50	32		1W		16 1/2	F	A	No	C	A		9	100.00		
	SE-M50	Dynamic	3-50	32		1W		16 1/2	F	A	No	C	A		8.1	70.00		
	SE-205	Dynamic	20-20	10		500mW		8 1/2	F	P	No	C	C	A		16	45.00	



Distributed in Canada by:
LINEAR MARKETING CORP.
2197 Dunwin Drive
Mississauga, Ont. L5L 1X2

NOBODY'S DESIGNED A BETTER PERFORMING CABLE SYSTEM FOR CUSTOM HOME INSTALLATION.

IN FACT, NOBODY'S EVEN TRIED.

A high quality audio/video system custom tailored for you and your home is something that will give you enormous pleasure. A properly designed system requires a lot of attention to detail, especially in an area that is too often overlooked: The cable system.

Until now, installers have been forced to use inadequate products designed simply for "living room" applications. At Esoteric Audio USA, we knew there had to be a better way. After all, finding a better way is our business. It has been since we founded the high-definition, premium cable industry in 1977 with the introduction of the industry's first 12 gauge speaker cable. That's why, when we recognized the problems involved with high-end custom home installations, we knew the solution: Create a whole new breed of cable system. A complete line of audiophile/videophile quality components specifically designed for custom home installations. A line that offers "state-of-the-art" performance, long-term reliability and ease of installation.

Now there is a cable system for high-end, custom home installation worthy of our reputation as the industry leader in innovation, design and engineering excellence. Esoteric Audio USA is the only U.S. audio cable company that manufactures its' own products so you can be sure our passion for quality control and attention to detail is reflected in every part.

So, for high-end, custom home installations, don't do it the "old way" or wait around until our competition finally comes out with unflattering imitations. Instead, use an Esoteric Audio USA cable system. After all, the performance of your system is directly related to the cable system you choose. It just makes sense to choose the best.

**ESOTERIC
AUDIO USA**
THE CABLE SPECIALIST

Esoteric Audio USA, Inc. RR3, Box 262, Winder, GA 30680

Enter No. 45 on Reader Service Card



HEADPHONES

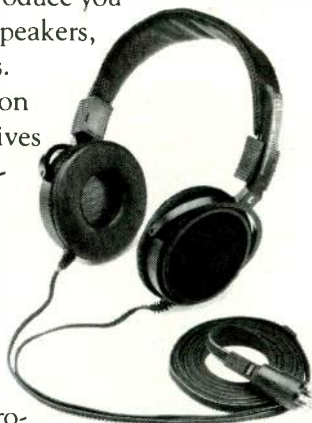
MANUFACTURER	Model	Operating Principle	Frequency Range, Hz to kHz	Impedance - Ohms	Sensitivity, dB SPL for 1 mW Input	Maximum Input, mW	THD at 85 dB SPL, %	Cord Length, Feet	Cord Style: Flat = F, Coiled = C, Round = R	Plug Type: 3.5mm Mini = M, 1/4" Phone = P, Adaptor Included = A	Individual Volume Controls?	Original: A, Sup-Avail = S, Open-Air Design = O, In-Ear = I, Adjustable = A, Folding = N	Cover Material on Ear Cup	Weight, Ounces	Price, \$	Notes	
RECOTON	ST101	Dynamic	20-20	32	98	0.1W	6	4	F	M/A	Yes	S	A/F	Foam	1.25	19.99	
	ST103	Dynamic	20-20	32	98	0.1W	4	4	F	M/A	No	S	A	Foam	0.9	13.99	
	ST104	Dynamic	20-22	32	98	0.1W	25	4	F	M/A	Yes	O	A/F	Foam	1.5	24.99	
	ST105	Dynamic	20-20	32	100	0.1W	4	4	F	M/A	No	S	A/F	Foam	1.5	24.99	
	ST106	Dynamic	20-22	32	100	0.1W	4	4	F	M	No	S	A/F	Foam	1.02	13.99	
	ST107	Dynamic	20-23	40	102	0.1W	6	6	C	P/A	No	C	A	Foam	3.88	39.99	
	ST108	Dynamic	50-22	32	98	0.1W	3	4	F	M	No	I	N	Foam	1.8	9.49	
	ST109	Dynamic	20-20	32	98	0.3W	4	4	F	M	No	C	A	Foam	1.13	22.99	
	ST82	Dynamic	20-20	32	90	0.1W	4	4	F	M	No	S	A	Foam	1.41	8.99	
	ST92	Dynamic	20-20	32	90	0.1W	4	4	F	M	No	S	A	Foam	1.41	8.99	
	ST77	Dynamic	20-25	25	96	50mW	7	5	F	M/A	No	S	A	Foam	1.23	15.99	
	ST93	Dynamic	20-22	32	90	0.1W	5	7	F	M/A	No	S	A	Foam	1.02	11.69	
	ST97	Dynamic	20-23	35	100	0.3W	6	6	F	M/A	No	C	A	Foam	2.8	31.99	
ST98A	Dynamic	50-22	32	102	0.1W	6	6	F	M	No	I	A/F	Foam	1.8	13.99		
ST100	Dynamic	20-20	38	98	0.1W	4	4	F	M	No	I	N	Foam	0.53	20.99		
SANSUI	SS-L55	Dynamic	20-20	100	98	1V	6	6	F	P	No	C	A	Plastic	7 1/2	55.00	
	SS-L33	Dynamic	30-20	60	97	550	6	6	F	P	No	C	A	Plastic	5 1/2	35.00	
SENNHEISER	HD30	Dynamic	50-17	32	96		1.3	4	F	M/A	Opt.	S/O	A	Foam	1.5	39.00	
	PD100	Dynamic	20-18	42	94		1.0	4	F	M/A	Opt.	S/O	A	Foam	1.4	59.00	
	HD50	Dynamic	20-20	42	94		1.0	4	F	M/A	Opt.	S/O	A	Foam	1.4	79.00	
	HD450	Dynamic	20-20	70	94		1	10	F	M/A	Opt.	S/O	A	Foam	4.8	79.00	
	HD480	Dynamic	18-22	70	94		1	10	F	M/A	Opt.	S/O	A	Foam	4.8	99.00	
	HD520	Dynamic	18-22	600	94		0.3	10	F	P	Opt.	C/O	A	Vinyl	7.5	149.00	
	HD540	Dynamic	16-25	600	94		0.4	10	F	P	Opt.	C/O	A	Vinyl	8.8	199.00	
Reference HD250	Dynamic	10-25	600	94		0.2	10	F	P	Opt.	C	A	Vinyl	8.8	199.00	Matched elements.	
Reference HD540	Dynamic	16-25	600	94		0.4	10	F	P	Opt.	C/O	A	Vinyl	8.8	349.00		
SIGNET	TK44	ES	10-25		98		0.3†	10 1/2	F	Spec.	No	C	A	Vinyl	8	300.00	†At 110 dB SPL.
	EP700	Dynamic	20-23	32	92		10	10	F	P	No	C	A	Cloth	8	150.00	
	EP500	Dynamic	20-22	32	92		10	10	F	P	No	C	A	Vinyl	8	125.00	
	EP400	Dynamic	20-22	40	92		10	10	F	P	No	S	A	Cloth	5	100.00	
	EP350	Dynamic	20-25	32	110		10	10	F	M/A	Yes	S	A	Vinyl	6	80.00	
	EP300	Dynamic	20-22	40	112		10	10	F	P/A	No	S	A	Cloth	6	55.00	
	EP100	Dynamic	20-20	32	105		10	10	F	M/A	No	O	A	Cloth	1.7	30.00	
SONY	MDR-CD999	Dynamic	3-30	45	106	1.2V	10	10	F	M/P/A	No	C	A	Foam	10	250.00	Infrared, cordless.
	MDR-CD777	Dynamic	5-30	63	106	1V	10	10	F	M/P/A	No	S	A	Foam	7.8	180.00	
	MDR-CO555	Dynamic	5-27	45	106	1V	10	10	F	M/P/A	No	S	A	Foam	7.5	150.00	
	MDR-IF5K	Dynamic	18-22							M/P/A	Yes	O	A	Foam	3.5	200.00	
	MDR-V6	Dynamic	5-30	63	106	1V	9.8	9.8	F	M/P/A	No	C	A	Foam	7.8	100.00	
	MDR-V4	Dynamic	10-25	45	104	500	9.8	9.8	F	M/P/A	No	S	A/F	Foam	5.4	80.00	
MDR-V2	Dynamic	16-22	45	102	500	6.5	6.5	F	M/P/A	No	S	A	Foam	5.1	50.00		
STANTON	SRS-265	Dynamic	5-22	100	96	100mW	0.5	10	F	P	No	O	A	Vinyl	8.6	135.00	
	SRS-245	Dynamic	10-22	100	94	100mW	0.5	10	F	P	No	O	A	Vinyl	8.5	110.00	
	SRS-225	Dynamic	10-22	100	94	100mW	0.5	10	F	P	No	O	A	Vinyl	8.5	80.00	
	SRS-215	Dynamic	20-20	50	98	100mW	0.5	10	F	M/P	No	O	A	Vinyl	2.1	60.00	
	ST-1	Dynamic	25-20	32	110	100mW	0.5	7 1/2	F	M	No	O	A	Foam	3.2	24.95	
	ST-3.5	Dynamic	20-20	35	103	100mW	0.5	7 1/2	F	P	No	O	A	Foam	8.8	39.95	
	ST-2	Dynamic	20-22	32	100	100mW	0.5	7 1/2	F	P	No	O	A	Vinyl	5	29.95	
	ST-5	Dynamic	20-20	35	100	100mW	0.5	7 1/2	F	P	No	C	A	Foam	8.8	69.95	
	ST-10	Dynamic	10-20	50	98	100mW	0.5	7	F	M/P	No	C	A	Vinyl	9.3	110.00	
	ST-Surround	Dynamic	20-20	32	103	100mW	0.5	7 1/2	F	P	No	O	A	Foam	9.8	69.95	
	LS-1	Dynamic	20-20	32	92	100mW	0.5	5	F	M/P	No	O	A	Foam	1	34.95	
	LS-2	Dynamic	20-20	32	100	100mW	0.5	5	F	M/P	No	O	A	Foam	1	24.95	
	LS-3 Turbo	Dynamic	20-20	18	105	100mW	0.5	5	F	M/P	No	O	N	Foam	0.5	29.95	
	LS-4	Dynamic	20-20	32	102	50mW	0.5	3	F	M/P	No	O	N	Foam	0.25	34.95	
	30M/SR	Dynamic	20-22	100	110	250mW	0.25	12	C	P	No	N	Foam	3.8	49.95		
	35M/HB	Dynamic	20-22	100	110	250mW	0.25	12	C	P	No	N	Foam	3.8	55.00		
45M/MC	Dynamic	20-18	400	96	500mW	0.25	12	F	(2)P	No	C	A	Vinyl	7	125.00	Includes unidirectional mike.	
STAX	SR-34 Pro	ES	20-25	8	95		0.02	7	F	A	No	C/O	A	Vinyl	8	199.95	Includes Model SRD-4 Pro adaptor.
	SR-84 Pro	ES	20-25	8	95		0.02	7	F	A	No	C/O	A	Vinyl	7.5	299.95	As above.
	SR-5NB	ES	15-25	8	97		0.05	7	F	A	No	C/O	A	Vinyl	13	349.95	Includes Model SRD-6SB adaptor.
	SR-Gamma	ES	10-35	8	97		0.05	7	F	A	No	C/O	A	Vinyl	7.5	399.95	As above.
	SR-Gamma Pro	ES	10-35	8	100		0.005	7	F	A	No	C/O	A	Vinyl	7.5	699.95	Includes Model SRD-7 Pro adaptor.
	SR-Lambda	ES	8-35	8	102		0.005	7	F	A	No	C/O	A	Vinyl	15.1	599.95	Includes Model SRD-7SB adaptor.
	SR-Lambda Pro #1	ES	8-35	8	108		0.005	7	F	A	No	C/O	A	Vinyl	15.1	749.95	Includes Model SRD-7 Pro adaptor.
	SR-Lambda Pro #2	ES	8-35	12.5k	108		0.005	7	F	A	Yes	C/O	A	Vinyl	15.1	799.95	Includes Model SRD-P portable adaptor.
SR-Lambda Pro #3	ES	8-35	50k	108		0.005	7	F	A	No	C/O	A	Vinyl	15.1	1199.95	Includes Model SRM-1MK2 Pro Class-A amp.	
SR-Lambda Signature	ES	8-35	50k	108		0.001	7	F	A	No	C/O	A	Vinyl	15.1	1999.95	Includes Model SRM-T1 tube amp.	
STERLING STEREOPHONES	TE400	Dynamic	20-30	40				10	C	P	Yes	C	A	Vinyl	9	69.95	Titanium elements.
	TE200	Dynamic	20-20	40				10	C	P	Yes	O	A	Cloth	8	59.95	As above.
	TE100	Dynamic	15-18	40				10	F	P	No	C	A	Vinyl	9	49.95	As above.
	LM90	Dynamic	18-20	32				10	F	P	Yes	C	A	Vinyl	9	29.95	
LM60	Dynamic	18-20	32				10	F	P	No	O	A	Cloth	8	24.95		
TECHNICS	EAH-X15	Dynamic	15-20	40	105	400	0.01	6 1/2	F	M/P/A	No	S	A	Foam		119.00	
	EAH-T6	Dynamic	20-20	40	98	100		4 1/2	F	M/P/A	No	O	A	Foam	1 1/4	39.00	
YAMAHA	YHD-1	Orthodyn.	20-20	45	100	1W		8	F	P/A	No	O	A/F	Screen	5.1	80.00	
	YHD-2	Orthodyn.	20-20	125	97	700mW		8	F	P/A	No	O	A/F	Screen	4.7	60.00	
	YHD-3	Orthodyn.	20-20	125	97	500mW		8	F	P/A	No	O	A/F	Screen	4.2	40.00	

Evolve to Electrostatics.

STAX would like to introduce you to the world's finest earspeakers, the STAX electrostatics.

The STAX reputation for incredible sound derives from decades of commitment to refining the electrostatic principle, which claims many advantages over conventional technology. The film diaphragm which replaces an electromagnetic driver is so light that it can respond accurately and instantaneously to the tiniest signal fluctuations. Electrostatics are free from magnetic hysteresis distortion, since the system contains no magnets or voice coils. The electrostatic drive unit ensures uniform excursion over the entire diaphragm surface, eliminating the partial vibration and cone breakup of dynamic headphones.

Recently refined, the STAX SR-84 Professional



accommodates every audiophile's needs . . . offering the precise, transparent, and natural sound of an electrostatic system at an extremely affordable price.

The Professional designation refers to the new ultra-low-mass diaphragm, a mere 4 microns thick. Just connect the companion adaptor between your amplifier or receiver, and your speakers, select the earspeaker mode, and enjoy sound unequalled by most any loudspeaker system.

STAX's entry-level earspeaker is the model SR-34 Professional, which features the same improvements found in the new SR-84 Pro. Clearly, our least-expensive system opens up a whole new world of musical enjoyment to the music lover on a budget.

As with their sound, STAX earspeakers have earned a reputation for reliability and customer loyalty which is the envy of the audio industry.

Treat yourself to an audition of a pair of STAX Professionals. Like so many STAX owners, what you once considered an accessory might well become a necessity.

Where to buy STAX Earspeakers:

AK Pyramid Audio, Anchorage • **AL** Audition, Birmingham • **AZ** Hi Fi Sales, Mesa • **CA** Absolute Audio, Adray Mart, Orange • Audible Difference, Palo Alto • Audio By Design, Newport Beach • Beverly Hills Audio, Beverly Hills • Century Stereo, San Jose • Dimensions in Stereo, Torrance • Lasers Edge, Burbank, Woodland Hills • GNP Audio Video, Pasadena • Paris Audio, Los Angeles, Woodland Hills • Performance Audio, San Francisco • Sound Goods, Mountain View • Sound Quest, Irvine • Sounding Board, Berkeley • Stereo Plus, San Francisco • The PX Audio/Video, Huntington Beach • **CO** Listen Up, Denver • **CT** Carston Stereo, Danbury • Take 5 Audio, New Haven • **DE** Bryn Mawr Stereo, Wilmington • **FL** Audio By Caruso, Miami • Audio Center, Fort Lauderdale • Exotic Sound, Miami • Sound Ideas, Gainesville • **GA** Hi Fi Buys, Smyrna • **IA** Audio Labs, Des Moines • **ID** Stereo Shoppe, Boise • **IL** Audio Consultants, Evanston • **MA** Q Audio, Cambridge • **MD** Absolutely Sound, Rockville • J. S. Audio, Burtonsville • The Gramophone, Ellicott City, Lutherville • **MI** Almas HiFi, Dearborn, Farmington Hills • Audio Advisor, Inc., Classic Stereo, Grand Rapids • Court Street Listening Room, Saginaw • HiFi Buys, Ann Arbor, Lansing • The Gramophone, Birmingham • **MN** Audio Perfection, Minneapolis • **MO** Best Sound, St. Louis • **NC** Higher Fidelity, Pineville • Sound Systems, Fayetteville • **NH** R. E. Sound/Cookin, Nashua • **NJ** Bryn Mawr Stereo, Maple Shade • CSA Audio, Upper Merion • Harvey Electronics,

Leonard Radio, Paramus • Pro Audio Consultants, Chester, Millburn • Sound City, Kinnelon • Woodbridge Stereo, Princeton, Woodbridge • **NY** Altair Audio, Albany • Audio Breakthroughs, Huntington Station, Manhasset, Manhattan • Audio Den, Lake Grove • Avtronics, Hicksville • Clark Music, Latham, Syracuse • Continental Sound, Rego Park • Designatron's Stereo Store, Port Jefferson Station • Ear Drum, Manuet • Electronic Workshop, New York • Grand Central Radio, New York • Harvey Electronics, New York, Westbury, White Plains • Innovative Audio, Brooklyn • JSG Audio, Binghamton • Leonard Radio, Woodside, New York • Listening Room, Scarsdale • Longplayer Stereo, Goshin • Lyric Hi Fi, Park Avenue Audio, Sound By Singer, New York • Sound Stage, Fresh Meadows, Woodside • Stereo Exchange, New York • The Sound Mill, Mount Kisco • **OR** Audio Unlimited, La Grande • **PA** Bryn Mawr Stereo, Bryn Mawr, Camp Hill, Frazer, Harrisburg, Jenkintown, King of Prussia, Langhorne, Montgomeryville, Philadelphia, Quakertown, Whitehall • David Mann Audio, Philadelphia • Sassafra Audio, Bryn Mawr, Feasterville, Montgomeryville, Philadelphia, Whitehall • Soundex Electronics, Willow Grove • **RI** Ocean State Audio, Providence • **SC** Sound Advice, Columbia • **TX** Audio Concepts, Austin, Dallas, Houston • Hillcrest High Fidelity, Dallas • Houston Audio Concepts, Houston • **VA** High C Stereo, Leesburg • **WI** Sound Seller, Marinette • Specialized Sound, Madison



Pictured top: SR-34 Professional earspeaker.

Bottom: SR-84 Professional earspeaker and SRD-4 adaptor.

For a full-line brochure, please send \$5.00 to:

Stax Kogyo, Inc. 940 East Dominguez St., Carson, CA 90746.

Enter No. 124 on Reader Service Card

STAX®

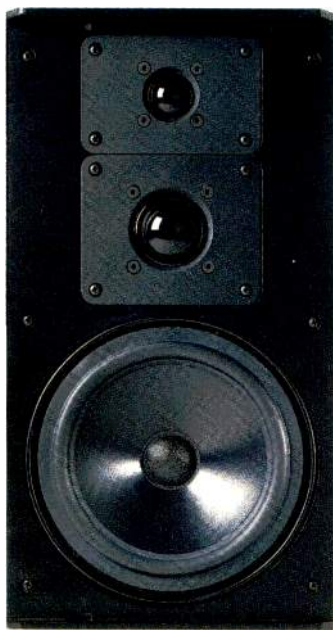
After four years at Hewlett-Packard, we w

In 1983, Dr. Godehard Guenther, President of a/d/s/, issued an injunction to our engineers and designers. "Guys," he said, "somebody's got to come up with a new loudspeaker standard. Let's make sure it's us."

Understand: he wasn't suggesting our existing loudspeakers weren't good. Rather, he was challenging us to address the shortcomings present even in the very best speakers, ours included. Shortcomings made all the more apparent by the sonic demands of the compact disc.

What we sought to build were speakers that didn't sound like a set of drivers stuffed in a box. Our goal was to create speakers characterized by a stable sound stage, pinpoint imaging and sound that seemed to emanate from free space.

It was a tall order. But the technology that has resulted—Unison™ . . . of one voice—is the kind other speaker makers will be emulating for years to come.



At a/d/s/, we make our own drivers. Our high definition woofers feature new cones, magnets, baskets and voice coil assemblies—painstakingly crafted to eliminate coloration.

We finally had the tools to be as critical as we were inclined to be.

Our first task was to take a long, hard look at the limitations inherent in loudspeaker drivers. That required a powerful "microscope." And, fortunately, we had one—a high-resolution, super-fast computer from Hewlett-Packard, supported by a sophisticated mathematical program of our own devise.

Housed in a specially designed a/d/s/ acoustics laboratory, the computer gave us the ability to generate and analyze driver performance data with an accuracy, thoroughness and detail never attainable before.

High technology enclosure materials enable us to make the new CM7 (left) and CM5 extremely compact without sacrificing interior volume. How compact? Consider that the CM5 measures a mere 9⁵/₈" x 5³/₄" x 6⁷/₈".

Unison is a trademark of Analog and Digital Systems, Inc

In this veritable mountain of information, acoustic truths resided.



The CM7's 4th-order, 24dB/octave crossover network. Complex, sophisticated and expensive to manufacture, it's a major reason why the speaker produces such a stable image.

If the drivers aren't flawless, no amount of camouflaging will hide the flaws.

One fact was obvious: the traditional materials used to construct woofers, tweeters and midranges—polypropylene, metal, cellulose compounds—were simply inadequate. So we set about to discover new ones ideally suited at the molecular level to the jobs they're required to do.

For the domes of our tweeters, we selected a proprietary copolymer that's exceedingly rigid, yet has superb internal damping and freedom from ringing. For the voice coil formers in our midranges, we adopted stainless

the keyboard of a ere ready for a Steinway.

steel. Strong and non-magnetic, it enabled us to produce a motor quick enough to resolve the finest detail, even at the highest volume level. And so our research went, until our drivers were as perfect as the laws of physics allow.

The crossover network. You don't see it. You shouldn't hear it, either.

When most speaker makers design crossover networks, their primary concern is the interaction of the drivers. We were more ambitious. We sought crossovers that optimize the relationship between the drivers and their

enclosure, even with the room in which the system is played.

And we had an advantage: the excellence of our drivers allowed us to use *ideal* crossover points. Using these points, all the fundamental tones of the human voice can be reproduced by a single driver. With the computer, we evaluated countless prototypes of crossovers. A 4th-order network of the Linkwitz-Riley type proved the most appropriate. This type alone yields the response that satisfied our requirements for neutrality and realistic imaging. On a frequency response plot, the crossover points aren't even detectable.

How good it ultimately sounds depends on the box you put it in.

That's why we employed a polymer material filled with an



With its stainless steel coil former and copolymer cone, the Unisōn midrange does something a cone midrange has never done before: span the fundamental range of the human voice—from 200 to 2,000 Hz.



Our tweeters' domes are made of yet another proprietary copolymer, giving them the unique ability to provide smooth, detailed, high frequency response at even the highest levels.

extremely high mass compound to produce the rigid, aurally "invisible" enclosures of our Compact Monitor Series. You'll be amazed by the weight of these little beauties—they're heavy. You'll be floored by the sound.

To our ears, our new speakers—the M Series and compact CM Series—offer convincing proof that Unisōn technology does indeed define a new era in speaker performance.



The M12 is the instrument on the right.

a/d/s/

EQUALIZERS

MANUFACTURER	Model (RI) = Remote Included (RO) = Remote Optional	Number of Channels	Number of Bands per Channel	Bandwidth, Octaves	Switched Tap EQ?	Unity Gain Control?	Rated Output, rms V	THD at Rated Output, %	S/N, -dB, at Rated Output, %	Variable Center Frequencies?	Boost/Cut Range, ±dB	Real-Time or Spectrum Analyzer?	Test Generator? Pink Noise = 2, Warble Tone = W	With Calibrated Mikes?	Number of Memories	Subsonic Filter?	Video Inputs?	Price, \$	Notes			
ACCUPHASE	G-18	2	33	1/3	No	No	2	0.002	110	No	No	12	No	No	No	0	0	No	No	5450.00		
ADC	SS90 SS110 SS310 SS325X SS525X(RI)	2 2 2 2 2	10 10 10 12 12	1 1 1 1 1	Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes	4 4 4 4 4	0.03 0.003 0.003 0.01 0.01	100 100 100 100 100	No No No No No	No No No No No	12 12 12 12 12	Yes Yes Yes Yes Yes	No No Yes Yes Yes	No No Yes Yes Yes	0 0 0 4 4	1 1 2 2 2	No No Yes Yes Yes	No No No No No	99.99 149.95 219.95 399.95 599.95		
AUDIO CONTROL	Octave Ten Series Two Ten Plus Series Two C-101 Series Two Richter Scale Series III	2 2 2 2 2	10 10 10 10 6	1 1 1 1 1/2	Yes Yes Yes Yes Yes		7.5 7.5 7.5 7.0 8.0	0.008 0.005 0.005 0.009 0.005	118 120 120 116 120	No No No No No	No No No Yes No	12 15 15 15 12	No No Yes Yes Yes	No No W P W	No No Yes Yes Yes	0 0 0 0 0	1 1 1 1 1	Yes Yes Yes Yes Yes	No Yes No No No	159.00 229.00 329.00 429.00 349.00	Stepped warble generator; 0-dB indicator. SPL display; rumble reducer. Includes 24 dB/octave crossover and bridging adaptor.	
AUDIOSOURCE	EQ Eight/II EQ Nine EQ Ten	2 2 2	10 12 12	1 1 1	Yes Yes Yes	Yes Yes Yes	11 12 12	0.03 0.008 0.008	85 99.7 99.7	No No No	Yes Yes Yes	12 12 12	Yes Yes Yes	No No No	No No No	0 4 4	1 2 2	Yes Yes Yes	Yes No No	159.95 299.95 429.95	Auto EQ; remote controlled; reverse EQ.	
BIAMP SYSTEMS	EQ 290 EQ 220 EQ 230	1 2 2	29 10 15	1/3 1 1/3	No No Yes	Yes Yes Yes	† † †	0.005 0.005 0.005	†† †† ††	No No No	No No No	12 15 12	No No No			0 0 0	0 0 1	Yes No No	No No No	599.00 599.00 599.00	†1.23 V at +4 dBm. ††-94 dB, from 0 Hz to 30 kHz.	
CARVIN	EQ2029	1	29	1/3	No	Yes		0.01				15	No	No	No	0	0	Yes	No	299.00		
CELLO	Audio Palette	2	6																	10,500.	Specs available on request.	
CERWIN-VEGA	DB-10B	2	1				2	0.025				10				1	Yes			59.95	Operates at 30 Hz with subsonic filter below 20 Hz.	
DB SYSTEMS	DB-5	2	6				4	.0008	108	Yes		15								380.00	Model DB-2A power supply or DBP-1 cable required.	
DENON	DE-70B	2	12	1	Yes	Yes	1	0.003	100	No	No	12	No	No	No	0	2	No	No	500.00	Built-in dynamic processor.	
DISTECH	EQ 1 EQ 2	2 2			No No	No No	8 8	0.001 .0005	100 100	No No	No No	+6 +6	No No	No No	No No	0 0	0 0	Yes Yes	No No	950.00 1600.00	Bass alignment filter, operates from 20 to 100 Hz; for B & W 801 Matrix speaker. Version available for B & W 802, operates from 30 to 100 Hz. Dual mono; as above.	
ESOTERIC SOUND	Re-Equalizer	2	2	10	No	No	3.5	0.02	85	No	No	16	No	No	No	36	0	No	No	255.00	For replay of early LPs, 78s, and transcriptions.	
FOSTEX	3030	2	10		No	No		0.03	90	No	No	12	No	No	No	0	0	No	No	250.00		
HARMAN KARDON	EQ8	2	10	1/3	Yes	Yes	2	0.02	†	No		12	No	No	No		1	††	No	329.00	†105 dB re: 0.5 V out. ††Variable subsonic filter.	
JRM	Remote Unit	2	6	1	Yes	Yes	7	0.01	110	No	No	8						Yes	Yes	350.00	JRM preamp or 3BPB crossover required; continuously variable loudness.	
JVC	SEAM770BK (RI)	2	7		Yes	No	1	0.03	100	No	No	12	Yes				12	1	No	No	400.00	
KENWOOD	GE-5010 GE-1100	2 2	7 12		Yes Yes	Yes Yes	3.7 9	0.006 0.005	100 105			12/6 12	Yes Yes				10 1	1 2			249.00 449.00	
KLARK-TEKNIK	DN 360 DN 332 DN 300 DN 410 DN 405	2 2 1 2 1	30 16 30 5 5	1/3 2/3 1/3 0.8-2 0.8-2	No No No No No	Yes Yes Yes Yes Yes	† † † † †	0.01 0.01 0.01 0.01 0.01	†† †† †† †† ††	No No No Yes Yes	No No No Yes Yes	12 12 12 +15, -25 +15, -25	No No No No No	No No No No No	No No No No No	0 0 0 0 0	0 0 0 0 0	Yes Yes Yes Yes Yes	No No No No No	1695.00 1095.00 1050.00 1095.00 695.00	† +4 dBm. ††-90 dBm, unweighted. Parametric EQ. As above.	
LUXMAN	G-111	2	10	1	Yes	Yes	0.15	.0035	112	No	No	12	No	No	No	0	1	No	No	250.00		
LYDKRAFT	PE-1B ME-1A	1 1	1 3		No No		15 15	1 1	116 111	Yes Yes	Yes No	14 10	No No	No No	No No	0 0	0 0	No No	No No			



The Definition of Excellence. In Sight and Sound.

Introducing Proton's new big screen 31" monitor/receiver with Aphex Aural Exciter.®

Proton has always set the industry standard for breathtaking video performance. And our big new 31" picture follows in that tradition. But this time, the picture isn't all we've expanded.

By incorporating the Aphex Aural Exciter circuitry, we've achieved a new level of audio clarity and transparency. So harmonics are restored, highs more natural, and vocals more vivid. And, at the touch of a button, our Expander provides vastly superior stereo imaging.

With our SD-1000 Enhanced Surround Decoder, your enjoyment will be even greater. This Aphex innovation starts where Dolby® leaves off, creating an expanded listening area that wraps you in pure listening pleasure.



Unmatched by many professional systems, the Dolby compatible SD-1000 offers dynamic surround sound from any stereo source.

We took the industry's best and brightest picture. And added the most advanced sound. Proton. The new definition of excellence.

For a free brochure and the Proton retailer nearest you, call (800) 772-0172. In California, (800) 428-1006. Or write to 5630 Cerritos Ave., Cypress, CA 90630.

PROTON®
CLEARLY THE BEST

Enter No. 80 on Reader Service Card

EQUALIZERS

MANUFACTURER	Model (RI) = Remote Included, (RO) = Remote Optional	Number of Channels	Number of Bands per Channel	Bandwidth, Octaves	Switched Tap EQ?	Unity Gain Control?	Rated Output, rms V	THD at Rated Output, %	S/N, -dB, at Rated Output, "A" Wtd.	Variable Center Frequencies?	Boost/Cut Range, ±dB	Real Time or Spectrum Analyzer?	Tag Genie? Fine Tune = P, Wave Tone = W	With Calibrated Mike?	Number of Memories	Subsonic Filter?	Video Inputs?	Price, \$	Notes		
MARANTZ	EQ 551	2	10		Yes	Yes			No	No	12	Yes	P	Yes	1	No	No	249.00	Built-in surround-sound processor; amplification for rear channels (25 watts x 2); separate EQ for front and rear.		
	EQ 130	2	10		Yes	Yes			No	No	12	No	No	No	1	No	No	129.00			
	EQ 2292	2	7		Yes	No		100	No	No	12	No	No	No	1	No	No	89.95			
	EQ 2293	2	10		Yes	No			No	No	12	No	No	No	1	No	No	149.95			
	EQ 2294	2	10		No	No			No	No	12	No	No	No	1	No	Yes	229.95			
NIKKO	EQ-600	2	10	1/3	Yes	No	1	0.01	100	Yes	No	12	Yes	P	Yes	0	1	No	359.95		
	EQ-30M	1	32	1/3	No	Yes	7	0.005	110	Yes	No	10	No	No	Yes	0	0	No	399.95		
ONKYO	EQ-140	2	7	1	Yes	No	0.15	0.01	100	No	No	12	No	No	0	1	No	No	150.00		
	EQ-240	2	7	1	Yes	No	0.15	0.01	100	No	No	12	Yes	No	0	1	No	No	240.00		
	Integra EQ-35	2	12	1	Yes	Yes	0.15	0.01	100	No	No	12/6	No	P	0	2	No	No	330.00		
	Integra EQ-540	2	12	1	Yes	Yes	0.15	0.01	100	No	No	12/6	Yes	W	Yes	0	2	No	No		400.00
PAC	C.P.R. EQ-1	2			No	No	10	0.01		No	No	+7		No	No			Yes	895.00	Low-frequency alignment filter for B & W 801 Matrix speaker. As above but for 802 Matrix.	
	C.P.R. EQ-2	2			No	No	10	0.01		No	No	+7		No	No			Yes	895.00		
PIONEER	GR-777	2	10			Yes	0.02	110							5	1		370.00			
	GR-555	2	7			Yes	0.03	104							1			225.00			
	GR-470	2	7			Yes	0.03	106							1			120.00			
PLEXUS AUDIO SYSTEMS	ABE-2	2			Yes		4	0.02	95		+12				1	Yes		150.00	Active EQ for Plexus SWS-2 subwoofer or other speakers.		
SAE	E101	2	16	1/3	Yes	Yes	2.5	0.02	100	Yes	Yes	16	No	No	No	20	1	Yes	No	650.00	Parametric EQ.
	E102	2	10	1	Yes	Yes							Yes			1					
SANSUI	SE-3000	2	10	1	No	No	5	0.008	110	No	No	12	Yes	No	No	0	0	No	No	290.00	
	SE-2000	2	7	1	No	No	5	0.03	95	No	No	12	No	No	No	0	0	No	No	120.00	
	SE-1000	2	7	1	No	No	5	0.03	75	No	No	12	No	No	No	0	0	No	No	90.00	
SCOTT	EQ 400	2	10		Yes			0.009		Yes						2					
SESCOM	PO-40	1	5	1	No	No	5	0.1	79	No	No	12	No	No	No	0	0	No	No	71.40	Requires PO-1 power supply, \$71.40.
SHERWOOD	EQ-1330	2	9		Yes	Yes	1	0.025	95	Yes	No	12	No	No	No	0	1	No	No	129.95	
SOUNDCRAFTSMEN	AE2000	2	10	1	Yes	Yes	10	0.01	114			15	Yes	Yes	Yes	1			849.00	Differential comparator system; auto scan. Differential comparator system; C-MOS; includes test record; also available with 17-inch-wide front panel. Includes test record; true inductor-coil circuitry. Differential comparator system; C-MOS; includes test record; also available with 17-inch-wide front panel.	
	PRO-EQ 22	2	10	1	Yes	Yes	10	0.01	114			15				1			349.00		
	DC2215	2	10	1	Yes	Yes	10	0.01	114			15				1			449.00		
	PRO-EQ 44	2	21	1/3-2/3	Yes	Yes	10	0.01	114			15				1			549.00		
SOUND ENGINEERING	PFM-8	2	3	Adj.	Yes	Yes	17	0.03	118	Yes	Yes	+4, -12	No	P	No	0	3	Sel.	No	1750.00	Tilt control; peak/average level meters.
SYMETRIX	SX201	1	3	.05-3.3	No	Yes	†	0.02	101	Yes	Yes	+15, -30	No	No	No	0	0	No	No	239.00	†15.8 V (+24 dBm into 600 ohms). Parametric EQ/preamp.
TEAC	EQA-3	2	10	1	Yes	No		0.03	70	No	No	12	No	No	No	0	1	No	No	99.95	
	EQA-6	2	10	1	Yes	No		0.03	70	No	No	12	No	No	No	0	1	No	No	119.95	
	EQA-22	2	10	1	Yes	No		0.01	90	No	No	12	Yes	No	No	0	1	No	No	169.95	
TECHNICS	SH-8075	2	36	1/3	Yes	No	1	0.002	110	No	No	3/12	No	No	No	0	1	Yes	No	899.00	
	SH-8066	2	12	1	Yes	No	1	0.003	107	No	No	12	No	P	Yes	8	2	Yes	No	599.00	
	SH-8058	2	7	1 1/3	Yes	No	1	0.003	107	No	No	12	Yes	No	No	6	1	No	No	219.00	
	SH-8038	2	7	1 1/3	Yes	No	1	0.005	107	No	No	12	No	No	No	0	1	No	No	119.00	
	SH-8017	2	7	1 1/3	Yes	No	1	0.005	107	No	No	12	No	No	No	0	1	No	No	89.00	
VECTOR RESEARCH	VQ-115	2	10	1	Yes	Yes	1	0.009	109	No	No	12	No	No	Opt.	1	2	Yes	No	129.95	
	VQ-125	2	10	1	Yes	Yes	1	0.009	109	No	No	12	No	Yes	Opt.	1	2	Yes	No	249.95	
YAMAHA	EQ-1100U(RI)	2	10	1	Yes	No	1	0.006	107	No	No	12	Yes	P	Yes	†	2	Yes	No	599.00	†Three curves factory-set, four curves user-set. †Four curves factory-set, four curves user-set. †As above.
	EQ-630(RI)	2	10	1	Yes	No	1	0.006	105	No	No	12	Yes	No	No	†	1	No	No	469.00	
	EQ-500U	2	10	1	Yes	Yes	1	0.005	105	No	No	12	Yes	P	Yes	0	1	Yes	No	399.00	
	EQ-330	2	10	1	Yes	Yes	1	0.005	105	No	No	12	Yes	No	Yes	0	1	Yes	No	179.00	
	YST EQ-90M	2	7		No	No	8	0.005	105	No	No	12	Yes	No	No	†	0	No	No	360.00	



The Home As Theater



Place EQ/Amb. S/S Processor/
Sign. Process/Cross here

Serious Tools For An Indescribable Experience

Escape to new worlds of wonder and realism with Shure HTS Theater Reference Components. You'll experience all the exhilarating energy of your favorite music and the intensity and drama of motion pictures, with a spatial realism as you've never experienced before.

The award-winning HTS5300 Acra-Vector® Logic Decoder is the heart of the Home Theater. Its exclusive Acra-Vector circuitry delivers precise re-creation of directional cues, and smooth, accurate imaging over a wide dynamic range. The HTS5300's Acoustic Space Generator provides excellent ambience recovery and uncanny surround channel reproduction. It is truly the world standard.

The Home Theater springs to life with HTS Loudspeakers, including the HTS50CF Center Front, HTS50LRS Left-Right-Surround, and the HTS50SW Subwoofer. Designed to outperform conventional loudspeakers, the HTS Loudspeakers provide superior sound within the multi-channel format while assuring the broad spatial directionality, and well-controlled off-axis frequency response that leads to Virtual-Imaging™.

The HTS50SPA Signal Processing Amplifier is designed to handle the dramatic sound level requirements for both music and movies. Special HTS speaker modes, selectable for each channel, program the amplifier to match the loudspeaker design parameters such as power handling, cross-over equalization, diffraction equalization and excursion limits for optimum performance. This makes the HTS50SPA a uniquely "intelligent" amplifier unlike any other.

Continued on Next Page





Critical Commentary



Audio/Video Specialists

Stereo Review/ *William Livingstone*

"I Give It Five Stars... When the sound of a home theater system is this good, you can consider video a further dimension of audio... I am impressed by the Shure system, by its flexibility, by its ease of operation... Friends who came to watch and listen with me were reluctant to go home... (With music material) I was flooded by extraordinarily clean sounds from deep bass to crystalline highs and the first words out of my mouth were, 'It sure beats stereo.'"

High Fidelity/ *David Ranada*

"Stunning New Home Theater Reference System... almost precisely the gear needed to equip an actual movie theater for surround sound playback... As a complete solution to movie-sound playback, it's one of a kind and unlikely to be equaled, let alone surpassed, in the near future."

Stereophile/ *Bill Sommerwerck*

"The Shure HTS5300 simply wipes up the floor with the other decoders; the competition isn't even close. The 5300 is so much more transparent and detailed that you can even hear the difference on voices!... Broadly speaking, the Shure has the best crosstalk cancellation and logic action of these decoders, and by a wide margin... when the source is first-rate, the superior sound of the Shure HTS5300 is instantly apparent and preferable. If the sound of the Shure had to be summed up in two words, they would be 'clear' and 'open.'"

Video Review/ *Ron Goldberg*

"The aural perception of 'being there' was so convincingly reproduced that it was almost disconcerting—a lot of movie theaters can't boast a sound system this good... How does it sound? In a word, breathtaking... For those who are looking for the ultimate audio upgrade, it's hard to think of a more potent system than the Shure HTS... the Shure HTS is as close to "state of the art" as you're likely to see for a while."

Chicago Tribune/ *Rich Warren*

"The Home Theater Reference System makes your mouth water for HDTV. After experiencing movies with Shure's surround system, you'll hate to go back to the movie theater. Most theaters just don't have sound this good. You'll be impatient for home picture quality to equal the HTS sound quality. HTS is to sound what HDTV is to video."

Audio/ *Howard Roberson*

"(The entire Theater Reference System) is truly the result of a system design approach. It is not a collection of already available components stuck together just to have all the parts... Ben Hur gave an emphatic demonstration of what is possible with a good source and a good decoder... The Shure HTS5300 provided the best localization of dialog and effects for movies, in any format, of all surround processors to date."

Video/ *Lancelot Braithwaite*

"Shure's HTS Theater Reference System offers perfectly matched components... The HTS was designed to mimic sound at theater-like volumes... We recommend it highly as the only system geared toward studio movie sound."

Visit your local Shure HTS audio/video specialist for the indescribable theater experience

- ALABAMA
Audition, Birmingham
- ALASKA
Shimeks & Co., Anchorage
- ARIZONA
Hi Fi Sales, Mesa • Audiotronix, Phoenix • Buzz Jensen's Sound Advice, Phoenix • Audiotronix, Tucson
- CALIFORNIA
Jonas Miller Sound Inc., Brentwood • Future Sound, Burlingame • Stereo Vision, Encinitas • Catania Sound, Greenbrae • Havens & Hardesty Audio Systems, Huntington Beach • Christopher Hansen Ltd., Los Angeles • Audio Command Systems, Los Angeles • Henry Radio, Los Angeles • GNP Audio Video, Pasadena • Hermary's Inc., San Carlos • Ultimate Sound, San Francisco • R Squared, Santa Monica • Catania Sound, Santa Rosa • Chuskin's Camera Corner, Inc., Stockton • Dimensions in Stereo, Torrance • Audio Den, Van Nuys • Wilson Audio Video Entertainment, Woodland Hills
- COLORADO
Listen Up Audio Video, Boulder • Listen Up Audio Video, Denver • Custom Audio Video, Minturn
- FLORIDA
Boss Audio Video, Altamonte Springs • Sound Plus Wood, Boca Raton • Sound Design & Engineering, Ft. Lauderdale • Stereo World, Ft. Meyers • Spectrum Home Theater Systems, Jacksonville • Sound Gallery, Melbourne • Stereo World, Naples • All Pro Sound, Pensacola • Cooper Radio Company, Pinellas Park • Kuban's, Sarasota • Select Audio Video, Vero Beach
- GEORGIA
Stereo & Video Designs, Atlanta • Audio Video Design Consultants, Penbrooke • Downtown Records Unlimited, Savannah
- HAWAII
Yafuso T.V. & Appliance, Hilo • Video Life Hawaii, Honolulu • Honolulu Audio & Video, Honolulu • Sound Specialties of Kona, Kailua Kona
- ILLINOIS
Columbia Audio Video, Arlington Hts. • Glenn Poor's Audio Video, Champaign • Victor's Stereo, Chicago • Mills Recording Company, Chicago • Columbia Audio Video, Highland Park • Sound Interiors, Inc., Hinsdale • Greyan Enterprises, Inc., Homewood • Sound Incorporated, Naperville • ISR, Inc., Naperville • Gill Custom House, Inc., Palos Hills • Columbia Audio Video, Rockford
- INDIANA
Audio Workshop, Indianapolis • Stereo Crafters, Terre Haute
- IOWA
Stereo Sound Studios, Des Moines • Golden Ears Audio Video, Fairfield • D.B. Acoustics, Marion • John's Hi Fi, Marshalltown
- KANSAS
ESP Industrial Communications, Overland Park • Accent Sound, Overland Park • Custom Sound, Wichita
- KENTUCKY
Sound Gallery of Louisville, Louisville • Audio Video by Design, Louisville
- LOUISIANA
Sound Electronics, Lafayette
- MARYLAND
Audio Buys, Gaithersburg
- MICHIGAN
Almas Hi Fi Stereo, Birmingham • Almas Hi Fi Stereo, Dearborn • Almas Hi Fi Stereo, Farmington Hills • City Animation, Grand Rapids • City Animation, Troy • Vitex Inc., Walled Lake • Future Sound & Communication, Ypsilanti
- MINNESOTA
Hi Fi Sound Electronics Inc., Minneapolis
- MISSOURI
Stereo One, Inc., Cape Girardeau • Antech Labs, St. Louis
- NEBRASKA
Custom Electronics, Omaha
- NEVADA
Audio Video Den, Carson City
- NEW JERSEY
Hi Fi Haven, Brunswick • Conklin's, Wykoff
- NEW MEXICO
Sound Ideas, Albuquerque
- NEW YORK
Theater Design Assoc., Inc., Brooklyn • Visual Environments, Jamaica • Audio Den, Lake Grove • Audio Breakthroughs, Manhasset • Lyric Hi Fi, New York • Stereo Exchange, New York • Altair Audio, Inc., New York • P & D Sound Insights, Oceanside • Gala Sound, Rochester • Audio Breakthroughs, Woodbury
- NORTH CAROLINA
Taylor House, Denver • Taylor House, Sherrill's Ford
- OHIO
Audio Videos Plus, Cincinnati • Paragon Sound, Toledo • Atlantis Home Entertainment, University Heights
- OKLAHOMA
Spectrum Electronics Inc., Oklahoma City
- OREGON
Chelsea Audio, Beaverton • Chelsea Audio, Portland
- PENNSYLVANIA
Hi Fi Center, McKeesport
- SOUTH CAROLINA
Laser Experience, Columbia
- TENNESSEE
Soundroom, Johnson City • Hi Fi House, Inc., Knoxville • Nicholsons High Fidelity, Nashville • Cumberland Audio, Nashville
- TEXAS
Don's Hi Fi, Amarillo • Tap Advanced Communications Group, Arlington • La Frontera, Brownsville • Preston Trail Audio, Dallas • Labute Professional Sound, Dallas • Dallas Audio Concepts, Dallas • Howell Electronics, Inc., El Paso • Groove Audio Video, Houston • Houston Audio Concepts, Inc., Houston • Metex International Corp., Laredo
- UTAH
Intermountain Video, Salt Lake City • Audioworks, Salt Lake City
- VIRGINIA
Audio Buys, Falls Church • Audio Buys, Manassas • Ambassador Enterprises, Inc., Portsmouth
- WASHINGTON
Home Entertainment by Design, Bellevue • Pro Comm, Lynnwood
- WISCONSIN
Sound World, Appleton • E.M.E. Audio Systems, Eau Claire • Sound World, LaCrosse • Audio Emporium, Milwaukee
- CANADA
Epic Audio, Vancouver • Associated Audio, Ottawa • Stereo Factory, Thornhill • Wizards Stereo, Thunder Bay • Hi Fidelity Shop, Toronto • Bay Bloor Radio, Toronto • Whitty Audio, Whitty • Audio Warehouse, Regina • Ace Audio, Saskatoon

Note: More dealers are being added regularly. If you do not find a listing for your area, call

800-257-4873

In Illinois call 800-624-8522



To obtain a copy of our Comprehensive Reference Brochure, see your Shure HTS Audio/Video Specialist, or call, FAX or write:
Shure HTS, 222 Hartrey Ave., Evanston, IL 60202-3696
(312) 866-2608 FAX (312) 866-2279

High Resolution Products for Home Theater and Professional Applications

© 1989 Shure HTS

AMBIENCE & SURROUND SOUND PROCESSORS

MANUFACTURER	UNIT TYPE										DELAY FUNCTIONS										Notes														
	Model	Matrix	Time	Other Manipulation Techniques	Frequency Shaping	Phase Manipulation	Number and Use of Outputs	Delay Time	Number of Hall Room Simulations	Hall Room Adjustments	Shape	Depth	Width	Ratio	Channel Separation	Stereo Simulation?	Number of Tape Monitors	Video Inputs?	Price, \$																
MATRIX CODE		UNIT TYPE		DELAY FUNCTIONS		OUTPUT CODE																													
A—Ambisonics D—Dolby Surround DP—Dolby Pro-Logic H—Haller Dynaquad QS—QS SQ—SQ O—Other		Model = Remote Included, (RI) = Remote Optional		Matrix—See Code		Time Manipulation: Delay = D, Reverb = R		Other Manipulation Techniques: F, Comb Filter = C, Frequency Shaping = F, Other = O		Phase Manipulation = P, Other = O		Number and Use of Outputs—See Code		Delay Time, ms		Number of Hall Room Simulations		Hall Room Adjustments: Volume = V, Shape, Depth, Width Ratio = S		Continuous Amp Power, Watts		THD, %		S/N Ratio: A' Wtd., -dB		Channel Separation, dB		Stereo Simulation?		Number of Tape Monitors		Video Inputs?		Price, \$	
AUDIOSOURCE	SS One/II	D/O	D	F/P/D	2B	10-30				30 x 2	0.01	85	60	Yes	1	No	199.95	100-Hz and 10-kHz boost; front/rear fader; master volume.																	
	SS Two(RI)	D/O	D	F/P/D	2B	10-30				30 x 2	0.01	85	60	Yes	1	No	249.95	As above.																	
DENON	AVC-2000(RI)	DP	D		3F, 2B	15, 20, 30	2			†	0.08, 0.4, 2.0			Yes	3	7	1000.00	†Five-channel amp (front, 75 watts x 2; center, 25 watts x 1; rear, 25 watts x 2). Digital delay; video detail and sharpness controls; S-video inputs and outputs.																	
	AVC-700(RI)	DP	D		2F, 2B	15, 20, 30	1			55 x 2, 18 x 2	0.4, 2.0			Yes	1	5	600.00	Digital delay; S-video inputs and outputs; five-channel preamp outputs.																	
FISHER	CAV-875	D/D	D	P/D	2F, 2B	10-50	5			30 x 2	0.5	85	70	Yes	3	5	399.95	Includes speakers.																	
	CAV-975	DP/D	D	F/P/D	2F, 2B	10-30	5			20 x 3	0.4	85	70	Yes	3	5	499.95	As above.																	
FOSGATE-AUDIONICS	3606 Pro-Plus	D/D		F/C/P/D	3F, 2B, SW		3			40 x 2	0.10	90	60	Yes	1	No	629.00	Logic steering; Class-A audio circuitry.																	
	3608 Pro-Plus(RI)	D/D	D	F/C/P/D	3F, 2B, SW	16-32	3	V		40 x 2	0.10	90	60	Yes	1	No	999.00	As above.																	
	3610 Pro-Plus(RI)	D/D	D	F/C/P/D	3F, 2B, 2S, SW	16-32	3	V			0.10	90	60	Yes	1	Yes	1429.00	As above.																	
GC-THORSEN	30-8700	O	D	C/P	2F, 2B	10-30	4	V		12 x 1	†	††	43	Yes			160.55	†Front, 0.08%; rear, 0.5%. ††Front, 70 dB; rear, 60 dB.																	
JVC	XPA1010TN (RI)	O	D/R	F/O	4F, 2B	0-200	40	V/S			0.002	110		No	1	No	1200.00																		
	SUA30	D/O	D	F/P	2F, 2B	15-30	2			10 x 2	0.5	85		Yes	1		235.00																		
	SUA400(RI)	D/O	D	F/P	2F, 2B	15-30	2			10 x 2	0.5	85		Yes	1		305.00																		
LEXICON	CP-1	D/DP/O	D/R	F/C/P/D	3F, 2B, 2S, SW	†	21	V/S			0.05	85	40	Yes	1	No	1295.00	†D mS to 14 S. True digital decoding; auto azimuth; auto input balance.																	
	CP-2	D/DP/O	D	F/D	3F, 2B, SW	0-32	0				0.05	85	40	Yes	0	No	895.00	As above.																	
LIRPA LABS	U8-IT	D/O/D W/O/P	D†	O	3F, 2F, 2B, 3B	†	††			Var.	50.3	2.5	1/2	Var.	1/2	No	99.95	†15 mins. inbound, 20 outbound (25 on L.I.E.). ††Presets include "Concert Hall, Coughs" and "Jazz Club, Drunks at Bar."																	
LUXMAN	F-105(RI)	D/O	D	O	3F, 2B	10-35	0	V		25 x 2	0.05	64		Yes	2	Yes	600.00	Serves as system remote and switching center.																	
MARANTZ	SQ 2294	O			2F, 2B					25 x 2					1	Yes	229.95	Amplification for rear channels only; independent EQ settings for front and rear channels.																	
MEMOREX	DSS-100		D		2F, 2B	20				5 x 4, 10 x 2				Yes	1	No																			
NEC	Renaissance AVD-700(RI)	D/D	D	F/P	3F, 2B, 2S, SW	1-92					0.005	100	60	No	†	Yes	729.00	Digital delay.																	
	Renaissance PLD-910(RI)	DP/O	D/R		3F, 2B, 2S, SW	1-94					0.005	100		No			999.00	As above; independent delay for left and right speakers.																	
	AV-210(RI)	D/O	D	F/P	3F, 2B, SW	20				20 x 2	0.3	98		No		Yes	299.00	Digital delay.																	
	PLD-310(RI)	DP	D		3F, 2B, SW	20	1	V			0.01			No		No	449.00	As above.																	
	Renaissance PLA-710(RI)	DP/O	O		3F, 2B, SW	Var.	3	V		30 x 2, 60 x 1	0.008	105		No	1	Yes	699.00	As above; built-in test tone; motorized volume control; S terminals.																	
Renaissance PLD-710(RI)	DP/O	D		3F, 2B, SW	Var.	3	V			0.015	90		No	1	Yes	599.00	As above.																		
PHILIPS	RV450 Pro	DP	D	P	4F, 4B	20				15	0.3	72				No	379.00																		
PIONEER	VSP-555(RI)	D/O								30 x 2	0.05	90		Yes		Yes	375.00	Dolby, stadium, and simulated surround.																	
	SP-700D	DP	D	F/P	3F, 2B, 2S, SW	1-50	32	V/S			90		Yes		No		700.00																		
	SP-91D	DP	D	F/P	3F, 2B, 2S, SW	1-50	32	V/S			95		Yes		No		1000.00	18-bit D/A conversion.																	
	SR-60		R	O	2F						0.003	114		No	1	No	225.00	Reverb amplifier.																	

PARTICIPATING LOCATIONS

ARIZONA
HI FI SALES, MESA

ARKANSAS
AUDIO WORLD, LITTLE ROCK, NO. LITTLE ROCK

CALIFORNIA
BOOTS CAMERA, FRESNO—CREATIVE STEREO, SANTA BARBARA, SANTA MARIA, THOUSAND OAKS, VENTURA—DAVID RUTLEGE AUDIO, PALM SPRINGS—dB AUDIO, BERKELEY—DOW STEREO, EL CAJON, ESCONDIDO, CHULLA VISTA, VISTA, SAN DIEGO—EBER ELECTRONICS, MENLO PARK, SAN FRANCISCO—EUREKA AUDIO, EUREKA—THE GOLDEN EAR, CHICO—MARCONI RADIO, GLENDALE—PARIS AUDIO, WEST LOS ANGELES, WOODLAND HILLS—ROGERSOUND LABS, CANOGA PARK, EL TORO, PASADENA, SANTA MONICA, TORRANCE, WESTMINSTER, VAN NUYS, SHERMAN OAKS CAMERA & STEREO, SHERMAN OAKS—SOUND GOODS, CAMPBELL, MOUNTAIN VIEW—TURNTABLES UNLIMITED, SACRAMENTO—WATER STREET STEREO, SANTA CRUZ—WILSHIRE TV, LOS ANGELES

COLORADO
LISTEN UP, BOULDER, DENVER—SOUND SHOP, COLORADO SPRINGS

CONNECTICUT
AUDIO ETC., NEW HAVEN

DELAWARE
HI FI HOUSE OF DELAWARE, WILMINGTON

FLORIDA
THE CONSUMER CENTER, TAMPA—ELECTRONIC CREATIONS, ALTAMONTE SPRINGS—HOYT HI FI, JACKSONVILLE—SALON OF MUSIC, WEST PALM BEACH—SOUND ADVICE, ALTAMONTE SPRINGS, BOCA RATON, CLEARWATER, CORAL GABLES, FT. LAUDERDALE, HIALEAH, HOLLYWOOD, MIAMI, NO. MIAMI BEACH, ORLANDO, SARASOTA, ST. PETERSBURG, SUNRISE, TAMPA, WEST PALM BEACH—TVC, TEQUESTA—TV & MUSIC CENTER, ST. PETERSBURG

GEORGIA
AUDIO WAREHOUSE, SAVANNAH—HI FI BUYS, ATHENS, ATLANTA, DULUTH, KENNESAW, MORROW, NORCROSS, RIVERDALE, TUCKER

ILLINOIS
GOOD VIBES, CHAMPAIGN—MILLS RECORDING, CHICAGO—STEREO SYSTEMS, AURORA, JOLIET, NAPERVILLE—UNITED AUDIO CENTERS, AURORA, CHICAGO, DEERFIELD, NILES, SCHAMBERG, VERNON HILLS

INDIANA
GOOD VIBES, LAFAYETTE—HJS SOUND, NEW HAVEN

KANSAS
RED BARON, WICHITA

LOUISIANA
ALTERMAN AUDIO, METAIRIE, NEW ORLEANS

MAINE
NEW ENGLAND MUSIC, SCARBOROUGH

MARYLAND
AUDIO BUYS, GAITHERSBURG—THE GRAMOPHONE LTD., ELLICOTT CITY, LUTHERVILLE

MASSACHUSETTS
MUSIC BOX, WELLESLEY—Q AUDIO, CAMBRIDGE—SOUND & MUSIC, NORTHAMPTON

MICHIGAN
AUDIOVISION, WEST BLOOMFIELD—POINTE ELECTRONICS, GROSSE POINTE WOODS—THE STEREO SHOPPE, ANN ARBOR, EAST LANSING, LANSING, SAGINAW, TRAVERSE CITY

MINNESOTA
AUDIO KING, BROOKLYN CENTER, BURNSVILLE, EDINA, MANKATO, MINNEAPOLIS, MINNETONKA, ROCHESTER, ROSEVILLE, ST. CLOUD, ST. PAUL

MISSISSIPPI
McLELLAND TV, HATTISBURG

MISSOURI
SOUND ENTERPRISES, KANSAS CITY—STEREO ONE, CAPE GIRARDEAU

NEBRASKA
STEREO WEST, LINCOLN, OMAHA

NEW JERSEY
HARVEY ELECTRONICS, PARAMUS—MONMOUTH STEREO, SHREWSBURY—RECORD SHOP, CHERRY HILL—ROUTE ELECTRONICS, PARAMUS, TOTOWA

NEW MEXICO
HUDSON'S AUDIO CENTER, ALBUQUERQUE

NEW YORK
GRAND CENTRAL RADIO, MANHATTAN—HARVEY ELECTRONICS, MANHATTAN, WHITE PLAINS—LISTENING ROOM, SCARSDALE—LYRIC HI FI, MANHATTAN, WHITE PLAINS—RABSONS AUDIO/VIDEO, MANHATTAN, GARDEN CITY—SQUARE DEAL, PATCHOGUE—STEREO CHAMBER, ORCHARD PARK, THE NEW STEREO EXCHANGE, MANHATTAN

NORTH CAROLINA
AUDIO BUYS, RALEIGH—SOUNDHAUS, DURHAM

OHIO
ALAMO ELECTRONICS, CINCINNATI—B&B, EUCLID, MIDDLEBURG HEIGHTS—GOLDEN GRAMOPHONE, AKRON—JAMIESON'S, TOLEDO—STEREO LAB, CINCINNATI, COLUMBUS

OREGON
BRADFORD'S HIGH FIDELITY, EUGENE—FRED'S SOUND OF MUSIC, GRESHAM, PORTLAND

PENNSYLVANIA
AUDIO INSIGHT, WEXFORD—STEREO BARN, EPHRATA, LANCASTER

RHODE ISLAND
STEREO DISCOUNT CENTER, PROVIDENCE

SOUTH CAROLINA
READ BROTHERS, CHARLESTON—STEREO VIDEO, GREENVILLE

SOUTH DAKOTA
AUDIO KING, SIOUX FALLS

TENNESSEE
HI FI BUYS, MURFREESBORO, NASHVILLE

TEXAS
BJORN'S AUDIO/VIDEO, SAN ANTONIO—DIGITAL CENTER, DALLAS—GROOVE AUDIO VIDEO, HOUSTON—HAROLD'S ELECTRONICS, MIDLAND, ODESSA—METEX INTERNATIONAL, LAREDO, McALLEN—OMNI SOUND, DALLAS—SOUTHWEST RECORD & TAPE, HOUSTON—STEREO VIDEO CENTER, TYLER

UTAH
STANDARD AUDIO, SALT LAKE CITY

VIRGINIA
AUDIO ART, RICHMOND—AUDIO BUYS, BAILEY'S CROSSROADS, MANASSAS—THE AUDIO CENTER, ROANOKE—DIGITAL SOUND, VIRGINIA BEACH

WASHINGTON
ADVANCED AUDIO, TACOMA—DEFINITIVE AUDIO, SEATTLE—HUPPINS HI FI, SPOKANE—MAGNOLIA HI FI & VIDEO, BELLEVUE, LYNNWOOD, SEATTLE, TACOMA

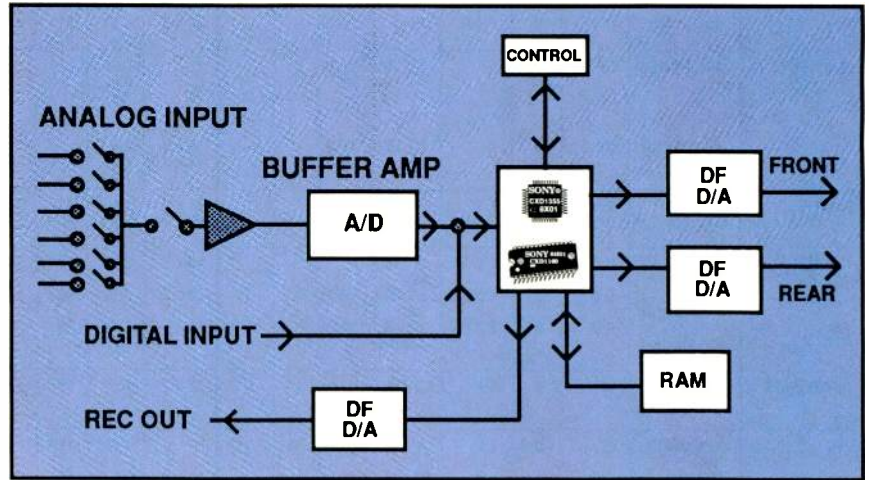
WISCONSIN
HI FI HEAVEN, GREEN BAY—SOUND STAGE, MILWAUKEE

Announcing!

TECHNOLOGY #6 UPDATE

A MAJOR BREAKTHROUGH IN DIGITAL AUDIO

Digital Signal Processing (DSP) A Leap Forward in the World of Digital Sound



The Sony DSP Circuit incorporates two ICs which digitally process all signals for equalization, filtering, surround sound and dynamic range compression and expansion.

Audio signals can now be digitally processed in three major areas: equalization; compression and expansion; sound field effects (including surround sound)! The distortion associated with analog equalizers is eliminated and the integrity of the original signal maintained.

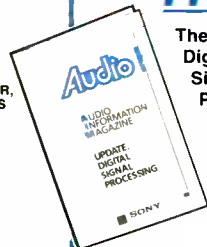
Audio Information Magazine (AIM) now tells you all about it in displays at the audio specialty dealers listed here. There's free literature, too—thanks to this cooperative effort of Audio Magazine and Sony®.

UPDATE: DIGITAL SIGNAL PROCESSING

- ▶ Why it's a breakthrough
- ▶ What it does for you
- ▶ How it works

FREE!

The story of
Digital
Signal
Processing.



Audio



SONY

THE LEADER IN DIGITAL AUDIO™



FOSGATE

Surround Systems

The Luxury of Choice

SURROUND PROCESSORS

• AMPLIFIERS

• ARCHITECTURAL SPEAKERS

FOSGATE
AUDIOLOGICS

P.O. Box 70, Heber City, UT 84032 • Tel: 801-654-4046 • Fax: 801-654-4112

Enter No. 47 on Reader Service Card

AMBIENCE & SURROUND SOUND PROCESSORS

MANUFACTURER	UNIT TYPE										DELAY FUNCTIONS					Price, \$	Notes	
	Model (RI) = Remote Included, (RO) = Remote Optional	Matrix—See Code	Time Manipulation: Delay=D, Reverb=R	Other Manipulation techniques: Frequency Shaping, F; Cope Filter=C; Phase Manipulation=P; Other=O	Number and Use of Outputs—See Code	Delay Time, ms	Number of Hall/Room Simulations	Hall/Room Adjustment Volume=V, Shape (Height:width ratio)=S	Continuous Amp Power, Watts	THD, %	SN Ratio, "A" Wtd., -dB	Channel Separation, dB	Stereo Simulation?	Number of Tape Monitors	Video Inputs?			
PROTON	SD-1000(RI)	O				3F, 3B, 2S, SW				0.008	80	58	Yes	1	Yes	999.00	Cinema/music/bypass selector; dialog scatter reduction; mute function.	
SANSUI	DS-77	QS/O	D	P		3B	20	3	V	10 x 2	0.09	90	Yes	1	Yes	400.00		
SHARP	SM-A75(RI)	D/O	D	O		2F, 2B	0-92	14	V/S	35 x 2, 25 x 4	0.8	82	No	†	4	599.95	†Two VHS, one audio tape.	
SHERWOOD	ES-1280	D/O	D			2B	15-30	4	V	20 x 2	0.3	86	Yes	1	No	199.95		
SHURE HTS	HTS3300(RI)	DP	D	O		3F, 2B, SW	16-36				0.1	90	Yes	1	No	1250.00	Logic steering; digital delay.	
SDNY ES	SDP-777ES (RI)	DP/O	D	D		3F, 2B, SW	0.1-80	3			0.008	90	Yes	1	4	850.00		
	TA-E1000ESD (RI)	DP/O	D/R	F/O		3F, 2B, SW	0.1-2500	20	V/S		0.003	110	Yes	2	5	1000.00	Digital preamp/surround processor (see also "Preamplifiers").	
SOUND CONCEPTS	SSD550	D	D/R			2F, 2B	5-100		V		0.1	92	Yes		No	869.00	Music/film mode switching.	
SSI SURROUND SOUND	System 1000	D	D			3F, 2B, SW	10-30	0		20 x 2	0.05	85	Yes	1	No	199.00	With speakers, \$249.00.	
	System 4000I(RI)	D/O	D			3F, 2B, SW	10-30	0		45 x 2	0.03	95	Yes	4	4	699.00	Logic steering; amp switchable for center channel or surround channels.	
	System 4500(RI)	D/O	D			3F, 2B, 4S, SW	10-30	0			0.03	95	Yes	4	4	799.00	Logic steering; adjustable center-channel balance.	
SYNERGEX	HS-1	O				2B				15 x 2	0.1	83	No	2	No	499.00	Logic steering; automatic dialog balance.	
	HS-7(RI)	O				4F, 2B, 2SW					0.2	83	†	1	Yes	895.00	†25 to 50 dB. Logic steering.	
TECHNICS	SU-AV55(RI)	D/O	D/R	P		3F, 2B	1-50			55 x 2, 10 x 2, 20 x 2	0.2	90	Yes	2	Yes	729.00		
	SH-AV40	D/O	D/R	P		3F, 2B	15-30	2			0.8	90	Yes	2	Yes	219.00	Amplification for rear channels only.	
TOSHIBA	XB-1000(RI)	D/O	D/R	F		2F, 2B	1-99	7/5		50 x 4	0.009				4	999.00	Amp bridges to 120 watts x 2; includes dual D/A converters; see also "Amplifiers."	
VECTOR RESEARCH	VRX-9200R (RI)	D/H	D/R	C/P		3F, 2B, SW	20	1		120 x 2, 40 x 4	0.03	85	60	No	1	Yes	849.99	
YAMAHA	DSP-3000(RI)	D/O	D	O		5F, 3B, 2S, SW	1-150	35	V/S		†	110	No	1	Yes	1899.00	†Main channels, 0.002%; effects channels, 0.005%.	
	QSR-100 PRO(RI)	DP	D			3F, 2B	20 or 30				0.003	90	No	1	No	599.00		
	DSP-100U(RI)	D/O	D	O		4F, 2B, SW	1-150	†	V/S		††	100	No	1	Yes	699.00	††12 simulations with 21 variations. ††Main channels, 0.002%; effects channels, 0.015%.	
	AVC-50(RI)	D/O	D	C		2F or 2B	10-30	5		45 x 2, 100 x 2, 20 x 2	0.05	103	65	Yes	2	4	569.00	
	AVC-30(RI)	D/O	D	C		2F, 2B	20†	3		20 x 2, 25 x 2, 65 x 2, 14 x 2	0.05	100	60	No	2	2	469.00	†For Dolby Surround.
	SR-50B	D/O	D	C		2B	10-30	5			0.03	103	47	Yes	1	No	349.00	
	AVX-100U (RI)	D/O	D	P		2F, 2B (or 3F only)	10-30	8			0.01	120	65	Yes	2	6	699.00	Digital surround; three-channel operation; video enhancer.
	AVC-70(RI)	D/O	D	P		2F, 2B		4			0.005	96	Yes	2	5	529.00	Digital surround.	
	AVS-90M	D/O	D			2B		2		15 x 2	0.4	70	No	0	5	400.00	Amplification for rear channels only.	

OUTPUT CODE
 2F—Left & Right Front
 3F—Left, Center, & Right Front
 2B—Left & Right Back
 3B—Left, Center, & Right Back
 2S—Left & Right Sides
 SW—Subwoofer

A World Of Difference!

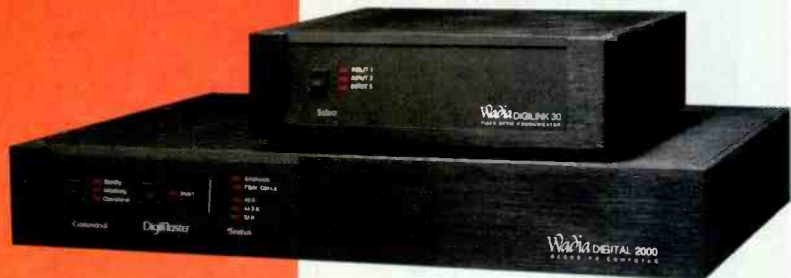
The Wadia Digital 2000 Decoding Computer

There is indeed a world of difference between conventional D/A processors and the time-domain-optimized Decoding Computers by Wadia.

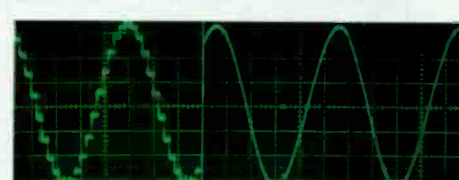
The difference begins with four high-speed AT&T DSP chips operating in parallel at 36 MegaHz in a powerful CPU that provides 72 million instructions per second capability — equivalent to 100 PCs!

But this is just the beginning

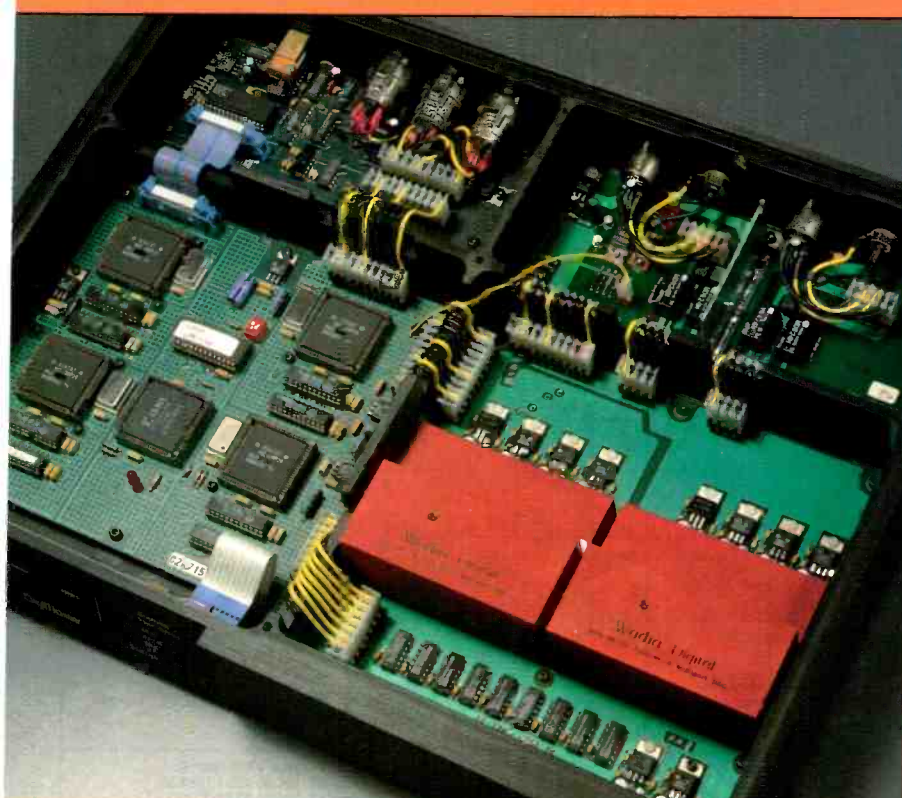
Wadia's revolutionary new *DigiMaster™* software is augmented by the Spline — the only decoding polynomial known that regenerates the slope of the signal as it moves through the sample points. It is two generations beyond conventional brickwall digital filtering in performance. It is optimized in the time-domain — not the frequency-domain — therefore, the impulse response is clean, the intertransient silence is absolute.



The photo on the left shows Wadia's internal circuitry, the two large red modules are proprietary 18-bit transversal, multipole DACs. They have been called "BOSS DACs" in the press. This is in sharp contrast to finger-nail sized off-the-shelf commercial DACs, that cannot handle 2.8-million conversions per second (64X oversampling), nor can they produce the dynamic Wadia Sound!



4X VS. 64X OVERSAMPLING. The left trace is the DAC output of a 4X oversampled CD player. The signal is an 8 KHz sine wave. Notice that there are 22 steps per cycle. The right-hand trace is the output of the Wadia DAC utilizing 64X oversampling. Notice the smoothness due to the fact that there are 353 steps per 8 KHz cycle.



Wadia's new *Sledgehammer™* output buffer provides 400mA of peak current drive with a 1300 Volts/microsec slew rate for a sound that is rich and solid.

The Wadia DigiMaster Decoding Computer

The Wadia enclosures are machined from solid aluminum and heavy plate metal. The integrity and homogeneity of the enclosure is a subtle but important factor in performance. Any cross section of an electronic enclosure is a complex maze of eddy current, ground current and thermodynamic flows.



A World of Difference? A prominent recording engineer said it all — "With the Wadia, CDs have the musicality of the best analog sound, but with the added punch and impact, wide dynamic range, extended bass response, and freedom from noise that makes digital recording so attractive."

Enter No. 128 on Reader Service Card

Wadia
DIGITAL CORPORATION

511 Second Street
Hudson, WI 54016
715-386-8100
FAX 715-386-8116

SIGNAL PROCESSORS

MANUFACTURER	Model (RI) = Remote Included, (RD) = Remote Optional	Type of Processing	Function: Closed Loop = C, Open Loop = O, Trivalent = T	Application: Tape Rec. = R, Phono = P, FM = F, Video = V, Universal = U	Simultaneous Encode/Decode?	Degree of Noise Reduction, dB @ Hz	Record = R, Play = P, Both = RP	THD, %	Frequency Response, Hz to kHz, ± dB	Price, \$	Notes
ACE AUDIO	4000	Subsonic Filter		R/P/F	No	†	RP	0.002	20-20 +0,-3	98.50	†18 dB/octave slope below 20 Hz. †Low, 18 dB/octave slope; high, 12 dB/octave. †Low, 24 dB/octave slope. †Low, 24 dB/octave slope; high, 12 dB/octave.
	4100	Infra/Ultrasonic Filter		R/P/F	No	†	RP	0.002	20-20 +0,-3	108.50	
	4000-X24 4100-X24	Infra/Ultrasonic Filter		R/P/F	No	†	RP	0.002	20-20 +0,-3	142.00	
ATHENA	ML-1 PolyPhasor	Group Delay/ Phase	T	U			RP		0.1-40	575.00	Works on all line-level sources.
	ML-5 PolyPhasor	Group Delay/ Phase	T	U			RP		0.1-40	800.00	For CD players only.
	ML-10 PolyPhasor	Group Delay/ Phase	T	U			RP		0.1-40	1100.00	Works on all line-level sources.
AUDIO CONTROL	Phase Coupled Activator	Proprietary	O	U	No		RP	0.005	25-20 ± 0.5	259.00	Restores lower frequencies; includes programmable crossover.
BBE SOUND	1002	†		U	Yes	85 @ 1k	RP	0.05	20-20 ± 1	189.00	†High-frequency detail enhancement.
CARVER	H-9AV	Sonic Hologram Generator	O	U			P	0.01	1-60 +0,-0.3	299.95	Independent outputs for L - R and L + R.
	ECS-U	Sonic Hologram Generator, Sub-Bass Restoration, EQ	O	U			P	0.01	1-60 +0,-0.3	299.95	
DBX	3BX-DS	Dynamic Range Controller	C	R/P/F			RP	0.15	20-20 ± 0.5	499.00	
	1BX-DS	Dynamic Range Controller	C	R/P/F			RP	0.15	20-20 ± 0.5	279.00	
	120X-DS	Subharmonic Synthesizer	C	R/P/R			RP	0.05	25-20 ± 0.1	299.00	
	SNR-1 224X-DS	Single-Ended NR dbx Type II NR for Tape	C C	R/P/F R/P/F	Yes	40 dB Max. 40 dB Max.	RP RP	0.1 0.05	20-20 ± 0.5 40-20 ± 0.05	279.00 299.00	
ESOTERIC SOUND	Connector	Signal Routing	O	R/P/F			RP			225.00	Adds seven processor/recorder loops; stereo/mono switching.
FOSTEX	3180	Reverb	O	R			RP	0.02	20-20	400.00	
MARCHAM	WM8	Bass Correction	O				P	0.01	2-20	345.00	For use with subwoofers and full- range speakers.
NEC	AVX-910(RI)			R/V			RP			699.00	Ten audio inputs, five video inputs; digital freeze frame and noise reduction.
PACKBURN	323 A	Transient, Dynamic NR	O/T	U	No	Varies	RP	0.05	Sel.	2650.00	Mono/stereo; has three NR processors.
PIONEER	EX-9000	Dynamic Expander	O	U		Varies	RP		20-20	270.00	Center frequencies at 50, 500, and 5000 Hz.
SOUND CONCEPTS	IR2100(RI)	Image Enhancer	O	U			RP	0.01	20-25 ± 0.1	300.00	Includes wired remote. Kit, Model KIR-1, \$95.00. Kit, Model KVSP-1, \$90.00.
	IR2200	Image Enhancer	O	U			RP	0.01	20-20 ± 0.3	189.00	
	VSP-1	Stereo Synthesizer	O	U			RP	0.01	20-20 ± 0.3	169.00	
SYMETRIX	501	Limiters/ Compressor		U			RP	0.035	20-20 +0,-1	279.00	Two processors, rms compressor and peak limiter. Two processors per channel, program-controlled compressor/ limiter and expander/noise gate. Four independent channels; switchable between expansion and gating. Expander has dynamic filter.
	525	Dual-Gated Limiters/ Compressor		U			RP	0.035	20-20 +0,-1	495.00	
	544	Expander/ Noise Gate		U			RP	0.035	20-20 +0,-1	649.00	
	511A	Single-Ended NR, Downward Expander		U		30 dB Max.	RP	0.035	20-20 +0,-1	629.00	



—Leonard Feather, Celebrated Jazz Critic for the L.A. Times, Washington Post News Service and Author of many books including "The Jazz Years—Earwitness to an Era."

"BBE made my audio system sound better than I ever dreamed possible!"

"Listening to music has been my vocation and avocation for a lifetime. I've spent countless hours sitting in front of bandstands while some of the world's greatest musicians mesmerized me with their artistry.

"Listening to recorded music, of course, falls short of the delights of listening to a live performance. I was therefore skeptical when told that BBE could make a dramatic improvement to virtually all audio systems and I had to hear it for myself.

"I was amazed at how much better the BBE 1002 made my music system sound! There was a presence, a *being there* sense of excitement. The rich textures of the instrumental sounds, the subtle nuances and details in the music come through with clarity and authenticity.

"BBE is clearly one of the most important advances in the electronic reproduction of music to come along in my lifetime. Bravo, BBE! Encore!"

The Great Professional Music Magazines Love BBE

"The difference in processed audio and non-processed audio is like the difference between high-fidelity speakers with and without pillows placed in front of them."

—Radio World

"There was no doubt the BBE processor added more spatial quality, more transients and more clean highs. This is the first black box that actually helped make my

music sound the way that I *knew* it should. The effect is shattering!"

—Music Technology

BBE Really Fits In

Measuring 16½" x 9" x 1¾", BBE fits perfectly into your audio rack. Then just plug it into your wall socket and standard tape loop.

Full Money-Back Guarantee

If you're not completely satisfied with the BBE 1002, return it within 30 days. We'll refund your money. No questions asked.

Full Warranty

All BBE products are backed by a full year's warranty on all parts and labor—and by our reputation for innovation and leadership in the audio and electronics industries.

Easy to Order

It's as easy as one, two, or three.

1. Call us. Toll free. 1-800-233-8346. In California, 1-800-558-3963.
2. Or, complete and send us the coupon at right.
3. Or, if you're in New York, New Jersey, Connecticut, Pennsylvania, Delaware, Maryland, District of Columbia, Atlanta, Houston, New Orleans, Birmingham, Miami or Dallas, pick up your BBE 1002 in any **MACY's** audio department.

BBE[™] Sound Inc.

5500 Bolsa Ave., Suite 245, Huntington Beach, CA 92649, (714) 897-6766. (800) 233-8346. In California, (800) 558-3963. In Canada, contact Daymen Audio, 3241 Kennedy Road, #22, Scarborough, Ontario M1V2J9 or call (416) 298-9644. BBE is a trademark of BBE Sound, Inc.

Send me _____ BBE 1002 unit(s) at \$189 each. (U.S. currency only. California residents add applicable tax. Price includes UPS ground shipping charges. For UPS overnight shipping, add \$18. For UPS 2nd day shipping, add \$8.50. Canadian residents: please write or call for additional information.)

Enclosed is a check for \$ _____
Or please charge to my:

- Visa MasterCard
 American Express

Card #

Exp. Date

Signature

Name (print)

Address

City/State/Zip

Area Code/Phone No. (To facilitate shipping)

5500 Bolsa Ave., Suite 245, Huntington Beach, CA 92649, (714) 897-6766. (800) 233-8346. In California, (800) 558-3963.

A10

CROSSOVERS

MANUFACTURER	Model	Type: Active = A, Passive = P, Combined Active & Passive = C, Mono = M, Stereo = S, Stereo with Mono Subwoofer Output = X, Other = O				Number of Frequency Bands per Channel	Crossover Frequencies, Hz		Independent High- and Low-Pass Frequency Selection?		Variable = V, Plug-in Modules = P	Subwoofer Outputs: Stereo = S, Switchable = S, Mono = M, Integrated for Mono Bridging = B		Level Controls: High Pass = H, Midrange = M, Low Pass = L (Or total Number of Controls)	S/N Ratio, -dB	Distortion, %	Nominal Input Level, V	Input Impedance, Ohms	Output Impedance, Ohms	Price, \$	Notes
		Type	Configuration	Channels	Subwoofers		Yes	No	H/M/L	Yes		No									
ACCPHASE	F-15L	A	S	3	20-20k	Yes	P	S	H/M/L	100	0.003	†	20k	100	4200.00	†8 V maximum. Balanced and unbalanced inputs and outputs (specs shown are unbalanced).					
ACE AUDIO	6500-DSB	A	M/S/X	2	30-200	Yes	P	S/M	H or L	90	0.002	1.0	100k	100	175.00	Optional subsonic filter, \$25.00.					
	6000 6000-6	A C	S S	2 2	200-15k 30-18k	Yes Yes	P P	S/M S/M	H or L H or L	90 90	0.002 0.002	1.0 1.0	100k 100k	100 100	175.00 204.00	As above. As above; transient-perfect filter.					
ANALOG RESEARCH	Custom	A	S	2	Custom	Yes	F	S		90	0.01		10k	100	600.00	External power supply required.					
APOGEE ACOUSTICS	DAX	A	S	2	330	No	F	No	H/L	100	0.003	1	47k	8	3995.00	For Apogee Diva, Duetta Signature, and Caliper Signature.					
ATC	EC23	A	S	3	Custom	Yes	P	No	H/L			1.0	10k	47k	1800.00	Balanced inputs and outputs; adjustable delay on low and high bands; switchable mid-band polarity inversion; adjustable active gain limiting.					
ATHENA	DF-10	A	S	2	15-15k	No	V	S	H/L	96	0.001	1.0	100k	560	1800.00	Custom order. As above.					
	DF-100	A	S	3	15-15k	Yes	V	S	H/M/L	96	0.001	1	100k	560	4000.00						
	DF-1000	A	S	4	15-15k	Yes	V	S	H/M/L 4	96	0.001	1	100k	560	6000.00						
AUDIO CONTROL	Phase Coupled Activator Richter Scale Series III	A	S	2	20-20k		P	S	L	118	0.005	1.0	100k	150	259.00	Proprietary bass restoration circuits; subsonic filter.					
		A	S	2	20-20k		P	S/M/B	L	120	0.005	1.0	100k	150	349.00	Linkwitz-Riley alignment; 1/2-octave bass EQ and analyzer (see also "Equalizers").					
BIAMP SYSTEMS	SX23	A	M/S	†	100-1k, 1k-10k	No	V	No	H/L	85	0.015	.775	10k	150	499.00	†Usable as stereo 2-way or mono 3-way.					
BRYSTON	10B	A	M/S	†	70, 100, 140, 200, 300, 400, 700, 1k, 1.4k, 2k, 3k, 4.5k	Yes	S		H	90	0.005	1	20k	100	995.00	†Usable as stereo 2-way, mono 2-way, or mono 3-way. With optional balanced inputs and outputs, \$1195.00.					
CARVER	AV-64	A	M	2	75	No	P	M	H/L	110	0.05	0.75	10k	100	759.95	Includes amplifier, 60 watts x 4 or 60 watts x 2 plus 120 watts x 1.					
CROWN INTERNATIONAL	FFX-2	A	X	2	20-20k	Yes	S	M		100	0.05		20k	600	345.00						
CSI	LE-1	A	M/O	1	30-200	Yes	S/P	M	L	92	0.02	0.50	300k	1k	690.00	ELF system; low-pass only. ELF system. As above.					
	HLE-1	A	M/O	2	30-200	Yes	S/P	M/B	6	92	0.02	0.50	10k	600	1390.00						
	HLE-2	A	S/O	2	30-200	Yes	S/P	S/M/B	12	92	0.02	0.50	10k	600	1990.00						
DB SYSTEMS	DB-3-18	A	S/X	2, 3	Optional	Yes	F	S/M/B	H/M/L	100	0.0008	1	90k	1.4k	From 400.00	18-dB/octave slope; 6 or 12 dB available. Linkwitz-Riley alignment. 36-dB/octave slope.					
	DB-3-24	A	S/X	2	Optional	Yes	F	S/M/B	H/L	100	0.0008	1	90k	1.4k	575.00						
	DB-3-36	A	S/X	2	Optional	Yes	F	S/M/B	H/L	100	0.0008	1	90k	1.4k	650.00						
DeCOURSEY	120-B4	A	M/S/X	2	Optional	Yes	P	S/M/B	Opt.	90	0.002	1	100k	100	167.50	Optional rack and panel; optional summing circuit and subsonic filters. As above. As above.					
	120-T8	A	M/S/X	3	Optional	Yes	P	S/M/B	Opt.	90	0.002	1	100k	100	262.50						
	120-Q8	A	M/S/X	4	Optional	Yes	P	S/M/B	Opt.	90	0.002	1	100k	100	352.50						
DYNAMIC ELECTRO ACOUSTICS	Music Box	A	S		35	No	F	No	No	95	0.008	0.75	28k	400	199.00						
EXPOSURE	V-2	A	S	2	Custom		F		H/L						1175.00	Requires power supply. As above.					
	V-3	A	S	3	Custom		F		H/M/L						1175.00						
FM ACOUSTICS	236-X100	A	S	2	60-16k	Yes	P	S	H/L	110	0.008	0.75	60k	1	5880.00	Linear phase, Class A; 36-dB/octave slope. As above. As above. As above.					
	236-X100B	A	S	2	60-16k	Yes	P	S	H/L	110	0.008	0.75	60k	1	6840.00						
	236/4-4	A	M	4	60-16k	Yes	P		6	110	0.008	0.75	60k	1	5980.00						
	236/4-3	A	M	3	60-16k	Yes	P		H/M/L	110	0.008	0.75	60k	1	5280.00						
GOLD SOUND	GS224	A	S	2	40-4.2k	No	V	S	6	102	0.02	0.75	20k	300	324.00	24-dB/octave slope. As above; fixed bass EQ and subsonic filter. †Usable as stereo 2-way or four channel 2-way. With fixed bass EQ and subsonic filter, Model GS424EQ, \$484.00.					
	GS224EQ	A	S	2	40-4.2k	No	V	S/M	6	102	0.02	0.75	20k	300	384.00						
	GS424	A	S/O	†	40-9k	No	V	S	12	102	0.02	0.75	20k	300	424.00						


DON'T BUY ONE OF THESE UNTIL YOU TAKE A HEARING TEST.

Warning: If you read this ad you'll wind up at your Sherwood dealer.

Why? Well, it won't be the fact that our current line of home components is the finest we've ever built. Or because our engineers didn't cut corners to assure excellent, long lasting performance. Or because you'll have enough jacks to handle an entire home entertainment center.

No, the reason you'll see your Sherwood dealer is to listen to these components for yourself. Because putting our sensibly priced components to the test is a heck of a lot more important than anything you'll find in an ad.

If you think they sound good now, wait until you hear them.

 **Sherwood**
LIVE PERFORMANCE SOUND™

13845 ARTESIA BLVD. CERRITOS, CA 90701 • IN CANADA: NORESKO CANADA INC., TORONTO, ONTARIO © 1989 INKEL CORPORATION

Enter No. 84 on Reader Service Card

CROSSOVERS

MANUFACTURER	Model	Type				Number of Frequency Bands per Channel	Crossover Frequencies, Hz				Independent High- and Low-Pass Frequency Selection?				Subwoofer Outputs Stereo = S, Mono = M, Inverted for Mono Bridging = B				Level Controls: High-Pass = H, Midrange = M, Low-Pass = L (for Total Number of Controls)				S/N Ratio, -dB	Distortion, %	Nominal Input Level, V		Output Impedance, Ohms		Price, \$	Notes
		Active	Passive	Combined Active & Passive	Other		None	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes								
JANIS	Interphase 1A Interphase 3/A	A A	X X	2 2	100 100	No No	F F	M M	L L	98 96	0.01 0.02	0.60 0.60	200k 200k	100 100	750.00 †	Integral 100-watt bass amp. †Included with Model 3/A subwoofer. As above but 50 watts.														
JBL	BX63A	C	X		63-125		V	M/B	L	90	0.01			180	379.00	Amp bridging capability; woofer impedance matching.														
JRM	3BPB/X8 3BPB/X4	A A	O O	4 2	75-600, 180-1.5k, 1.2k-10k Optional	Yes Yes	P P	S/M/B S/M/B	8† 4†	110 110	0.01 0.01	Sel. Sel.	20k 20k	100 100	750.00 450.00	†0.5-dB steps. Cascaded 18-dB/octave filters; stereo and bridging outputs for all sections; infrasonic and ultrasonic filters; low-frequency EQ optional. †As above.														
KINETIC AUDIO	Three-Point Four-Point	P P	M M	† †	60/90/180 60/90/180/350	Yes Yes	S S	M M	H/M H/M	95 95	0.01 0.01		8 8	Var. Var.	150.00 150.00	†High-pass only. †Low-pass only.														
KRELL	KRX-2 KRX-3	A A	S/M S/M	3 2	Variable Variable	Yes Yes	S P	S S	H/M/L H/L	120 120	0.001 0.001	0.5 0.5	100k 100k	10 10	3000.00 2000.00	For specific speakers.														
LEGACY	Signature Electronic Crossover	A	S	2	20-5k	No	V	S	H/L	100	0.01	0.75	50k	100	796.00	24-dB/octave slope; Linkwitz-Riley alignment; digital frequency display.														
MARK LEVINSON	LNC-2	A	M/S	†	20-20k	Yes	P	S	H/M/L	102	0.002		10k		3500.00	†Usable as stereo 2-way or mono 3-way.														
LINN HI-FI	Aktiv	A	S	3	375, 3k	No	F								1995.00	For Linn DMS.														
MADISOUND	24CX-2 24CX-4	A A	M/S M/S	† †	60-7k 60-700, 600-7k	No No	V V	S/M S/M	H/L H/M/L	108 108	0.01 0.01	1.95 1.95	20k 20k	300 300	499.00 599.00	†Usable as stereo 2-way or mono 3-way. Linkwitz-Riley alignment. †Usable as stereo 3-way, mono 5-way, or four channel 2-way. Alignment as above.														
MARCHAND	XM6 XM1	A A	S/X M	2 2	20-5k 53-5k	No No	V P	S/M/B S/M/B	H/L H/L	110 110	0.01 0.01	4.0 8.0	50k 100k	20 100	495.00 23.95	24-dB/octave slope. As above.														
M & K	LP-1S VF-100	P P	S S	† †	100 100	No No	F F	S S	H/L S						325.00 75.00	†High-pass only, to match low-pass filter in M & K powered subwoofers. Line level. As above.														
MUSIC REFERENCE	RM-3	A	S	2	20-20k	Yes	P	S	H/L	100	0.001	0.5	100k	600	1200.00	Selectable filter slopes.														
NAIM AUDIO	NAX03-6 NAX02-4	A A	S S	3 2	Custom Custom	Yes Yes	F F		H/M/L H/L	90 90	0.1 0.1	1 1	20k 20k	47 47	995.00 995.00	Requires power supply. As above.														
NELSON-REED	AC 1204	C	S	2	65		F	S/M	L	118	0.907	1	22k	100	620.00	For Nelson-Reed 1204 or Tower subwoofers.														
NESTOROVIC LABS	NL12A	A	S	2	200	No	F	S	H/L	90	0.01	1	50k	100	850.00															
PAC	C.P.R.	C	S	2	50-250	Yes	V	S/M	L	100	0.01	.775	50k	100	1295.00															
ROGERS	AF510	A	M												599.00															
SESCOM	PD-51	A	M	3	20-20k	Yes	P	No	No	87	0.01	0.75	100k	100	133.10	Requires PD-1 power supply, \$71.40.														
SONOGRAPHE	SX-1	A	S	2	110	No	F	S/M	L			0.75			495.00															
SOUND ENGINEERING	PFM-9	A	X	3	40-160, 400-3.2k	No	S/V	S/M	L/†	118	0.03	Var.	20k	50	1750.00	†Subwoofer.														
SUMO	Delilah	A	S/X	2	50, 63, 80, 100, 125	Yes	S	S/B	L	95	0.007	2	50k	100	549.00															
THRESHOLD	PCX PCX x10	A A	S/X S/X	2 2	75-1.6k 750-16k	No No	P P	S/M/B S/M/B	H/L H/L	98 98	0.01 0.01		20k 20k	1.5k 1.5k	1600.00 1600.00	18-dB/octave slopes sum flat without phase inversion. As above.														
VINTEC ACOUSTICS	Vertex	P	S	2	90		F	S							400.00	Computer-aided filter design.														
WESTLAKE AUDIO	HR-X/1X/7X, SM-1X MRX-2	A A	S S	4 2	Custom, 50-10k Custom, 50-10k	No Yes	F P		5 H/L	106 105	0.004 0.01	0.77 0.77	10k 10k	100 1k	To 8573.00 To 3600.00															

NATURAL BEAUTY.



Model OCD-100

Our natural oak cabinets are a beautiful solution for home storage of CDs or cassettes. These quality cabinets feature sturdy inserts which align discs or cassettes individually. Music collections stay clean, organized and easy to access in these handsome storage units. Sold at fine audio and record stores everywhere. From Case Logic, the quality leader!

CASE LOGIC

Case Logic, Inc., 6930 Winchester Circle / Boulder, Colorado 80301 / Phone 800-447-4848 / FAX 303-530-3822

Enter No. 32 on Reader Service Card

At Altec Lansing, we think it's time you had a hand in what you hear. That's the idea behind the new Altec 511 Tower, the first loudspeaker that gives you total control of amplification, tonal balance and imaging for each midrange, tweeter, upper bass and woofer. The result is a sound system that lets you mold the music precisely to your taste, so everything from Mozart to Motown will sound exactly the way you want it.

Five years in the making, this towering achievement lets the discriminating audiophile choose between single, bi, tri or quad amplification and an impressive range of tonal balance levels, all through a simple control panel. So now, you can tell the philharmonic how to conduct itself.

The remarkable 511 Tower is one of twelve new Altec Lansing speakers, all designed to reproduce sound with unheard-of accuracy.

If the new 511 sounds good, call 1-800-Altec 88 for the dealer nearest you. Then take a pair home and tell them what you want to hear.

**AN UNHEARD OF
ADVANCE IN
AUDIO TECHNOLOGY.**

**SPEAKERS
THAT LISTEN
TO YOU.**



**ALTEC
LANSING**

**LOUDSPEAKERS FOR THE
WELL TRAINED EAR.**



Place HIFI VCR's
tab here

Enter No. 16 on Reader Service Card

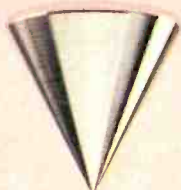
© 1989 Altec Lansing Consumer Products, Milford, PA 18337

HI-FI VCRs

MANUFACTURER	Model	Format	S	Standard Audio Tracks: Mono = M, Stereo = S, Stereo with Dolby M = D		Frequency Response, Hz to kHz, ±dB	Audio S/N Ratio, -dB, re: 0 dB	THD, %	Separation, dB, at 1 kHz	Simultaneous Recording?	Dynamic Range, dB	Wow & Flutter, Wtd. Peak, %	Stere TV (M/S S/P) Capability: Switch into Tuner = B, Decoder Jack = J	Programmability: Number of Days/Number of Events	Audio Dubbing?	Phone Jack?	Volume Control on Phone Jack?	Number of Tape Spreads, Record/Play	Price, \$
				20-20 ±3	75 dBA														
AIWA	HV-90	VHS HQ	S	20-20 ±3	75 dBA	0.55	60	Yes	85	0.005	B	14/6		Yes	Yes	3/3	699.00		
BANG & OLUFSEN	Beocord VX5000	S-VHS HQ	S	20-20 ±3	80	0.5	55	Yes	80	0.005	B	365/8	Yes	Yes	No	2/3	1995.00		
FISHER	FVH-Z1	S-VHS HQ	M	20-20 ±3	90 dBA	0.3	50	Yes	90	0.005	B	365/6	Yes	Yes	Yes	3/3	1299.95		
	FVH-S6800	S-VHS	M	20-20 ±3	90 dBA	0.4	45	Yes	90	0.005	B	365/6	Yes	Yes	Yes	3/3	899.95		
	FVH-6600	VHS	M	20-20 ±3	90 dBA	0.4	45	Yes	90	0.005	B	21/6	Yes	No		3/3	499.95		
GRUNDIG	VS-9500	VHS HQ	D	20-20 +0,-3	90 dBA	0.005	60	Yes	90	0.02	B	31/8	Yes	Yes	No	3/3	799.00		
	VS-900	VHS HQ	D	20-20 +0,-3	90 dBA	0.005	60	Yes	90	0.02	B	31/8	No	No		3/3	549.00		
HITACHI	VT-3800A	S-VHS HQ	M	20-20 ±3	70	0.3	60	Yes	90	0.005	B	365/8	Yes	Yes	Yes	2/3	1299.95		
	VT-S730A	S-VHS HQ	M	20-20 ±3	70	0.3	60	Yes	90	0.005	B	365/8	Yes	Yes	Yes	2/3	1099.95		
	VT-F430A	VHS HQ	M	20-20 ±3	70	0.3	60	Yes	90	0.005	B	365/8	Yes	Yes	Yes	3/3	699.95		
	VT-F330A	VHS HQ	M	20-20 ±3	70	0.3	60	Yes	90	0.005	B	365/8	No	Yes	Yes	3/3	549.95		
JVC	HR-S5500U	S-VHS HQ	S	20-20 +0,-3	75 dBA	0.4	60	Yes	90	0.005	B	14/8	Yes	Yes	Yes	2/3	1299.00		
	HR-S6600U	S-VHS HQ	S	20-20 +0,-3	75 dBA	0.4	60	Yes	90	0.005	B	14/8	Yes	Yes	Yes	2/3	1499.00		
	HR-S10000U	S-VHS HQ	S	20-20 +0,-3	75 dBA	0.4	60	Yes	90	0.005	B	14/8	Yes	Yes	Yes	2/3			
	HR-S8000U	S-VHS HQ	S	20-20 +0,-3	75 dBA	0.4	60	Yes	90	0.005	B	14/8	Yes	Yes	Yes	2/3	1599.00		
	HR-S5000U	S-VHS HQ	S	20-20 +0,-3	75 dBA	0.4	60	Yes	90	0.005	B	14/8	Yes	Yes	Yes	2/3	1299.00		
	HR-D850U	VHS HQ	S	20-20 +0,-3	75 dBA	0.4	60	Yes	90	0.005	B	14/8	No	Yes	Yes	2/3	899.00		
	HR-D840U	VHS HQ	S	20-20 +0,-3	75 dBA	0.4	60	Yes	90	0.005	B	14/8	No	Yes	Yes	2/3	849.00		
MINOLTA	MV-160S	S-VHS HQ	M	20-20				Yes	80	0.005	B	365/8	Yes	Yes	Yes	3/3	1530.00		
	MV-140S	VHS HQ	M	20-20							B	365/8	No	Yes	Yes	3/3	835.00		
MITSUBISHI	HS-U51	VHS HQ	M	20-20	78	0.3	60	No	90	0.005	B	31/8	No	No	Yes	2/3	599.00		
	HS-U61	S-VHS HQ	M	20-20	82	0.3	60	No	90	0.005	B	31/8	No	Yes	Yes	2/3	899.00		
	HS-U71	S-VHS HQ	M	20-20	82	0.3	60	No	90	0.005	B	31/8	Yes	Yes	Yes	2/3	1199.00		
	HS-U80	S-VHS HQ	M	20-20	82		60	Yes	90	0.005	B	31/8	Yes	Yes	Yes	2/3	1699.00		
NEC	DS8000U Mark II	S-VHS HQ	M	20-20	90	1	70	Yes	90	0.01	B	21/8	No	Yes	Yes	2/3	1499.00		
	N979U	VHS HQ	M	20-20	90	1	70	Yes	90	0.01	B	21/8	No	Yes	Yes	3/3	899.00		
	N959U	VHS HQ	M	20-20	90	1	70	Yes	90	0.01	B	14/4	No	No	Yes	3/3	699.00		
PANASONIC	PV-4960	VHS HQ	S	20-20				Yes	90	0.005	B	30/8	Yes	Yes	Yes	3/3	579.00		
	PV-4970	VHS HQ	S	20-20				Yes	90	0.005	B	30/8	Yes	Yes	Yes	3/3	799.00		
	PV-S4980	S-VHS HQ	S	20-20				Yes	90	0.005	B	30/8	Yes	Yes	Yes	3/3	899.00		
	PV-S4990	S-VHS	S	20-20				Yes	90	0.005	B	30/8	Yes	Yes	Yes	3/3	1599.00		
PHILIPS	VR6595	VHS HQ	S	20-20	70	0.3	60	No	90	0.015	B	31/8	No	No		2/3	549.00		
	VR6695	VHS HQ	S	20-20	70	0.3	60	Yes	90	0.015	B	31/8	No	No		2/3	599.00		
	VR6895	S-VHS HQ	S	20-20	70	0.3	60	Yes	90	0.015	B	31/8	Yes	Yes	Yes	3/3	1099.00		
	VR6995	S-VHS HQ	S	20-20	70	0.3	60	Yes	90	0.015	B	31/8	Yes	Yes	Yes	3/3	1799.00		
PIONEER	VH-930SD	S-VHS HQ	S	20-20			60	Yes	90		B	21/8	Yes	Yes	Yes	3/3	1500.00		
SANYO	VHR9500	VHS HQ	M	8-52 +0,-3	78 dBA	0.57	72	Yes	80	0.032	B	21/6	No	No		3/3	429.95		
	VHR9600	VHS HQ	M	8-52 +0,-3	78 dBA	0.57	72	Yes	80	0.032	B	21/6	No	No		3/3	499.95		
SHARP	VC-G980UA	VHS HQ	M	20-20	90			Yes	90	0.005	B	365/8	No	Yes	Yes	3/3	649.95		
	VC-G990UA	S-VHS HQ	M	20-20	90			Yes	90	0.005	B	365/8	No	Yes	Yes	2/2	999.95		
	VC-H857U	VHS HQ	M	20-20	47	0.5		Yes	90	0.005	B	365/8	No	Yes	Yes	3/3			
	VC-H860U	VHS HQ	M	20-20	47			Yes	90	0.005	B	365/8	No	No		3/3			
SONY	SLV-757	VHS HQ	M	20-20	40	0.005		No	90		B	31/8	Yes	Yes	Yes	2/3	1200.00		
	SLV-555	VHS HQ	M	20-20	40	0.005		No	90		B	31/8	No	Yes	Yes	2/3	750.00		
	SL-HF870D	Super Beta	M	20-20	40	0.005		No	90		B	7/6	No	Yes	Yes	2/3	1100.00		
SYMPHONIC	8800	VHS	M	20-20	80	1.0	55	Yes	80	0.01	B	14/6	Yes	Yes	Yes	3/3	549.95		
TEAC	MV-550	VHS HQ	S	20-20	80			Yes			B	14/6		Yes	Yes	3/3	550.00		
TOSHIBA	M-9485	VHS HQ	S	20-20 +0,-3	60	0.005	65	Yes	90	0.005	B	14/4	Yes	Yes	Yes	2/3	599.00		
	SV-970	S-VHS HQ	S	20-20 +0,-3	60	0.005	66	Yes	90	0.005	B	14/8	Yes	Yes	Yes	2/3	1199.00		
	SV-F990	S-VHS HQ	S	20-20 +0,-3	63	0.005	68	Yes	90	0.005	B	14/8	Yes	Yes	Yes	2/3	1999.00		
VECTOR RESEARCH	V-6040D	VHS HQ	S	20-20 ±2	90	0.005	65	Yes	90	0.005	B	14/4	No	Yes	Yes	2/3	999.99		
ZENITH	VRF300HF	VHS HQ	M	20-20 +0,-3	40	0.08	60	Yes	80	0.008	B	14/8	No	No		2/3	499.00		
	VRF510HF	VHS HQ	M	20-20 +0,-3	40	0.08	60	Yes	80	0.008	B	14/8	No	No		2/3	599.00		
	VRF610HF	VHS HQ	M	20-20 +0,-3	40	0.08	60	Yes	80	0.008	B	14/8	No	No		2/3	699.00		
	VRE550HF	S-VHS HQ	M	20-20 +0,-3	40	0.08	60	Yes	90	0.008	B	14/8	Yes	No		2/3	999.00		

Place HI-FI VCR's
tab here

THE MOD SQUAD'S APPROACH TO EXCELLENCE



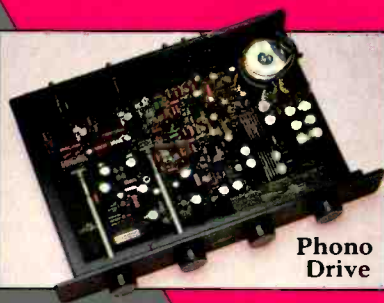
Tiptoes



Signature Line Drive



Line Drive



Phono
Drive



Prism CD Player



Deluxe Line Drive



Duet Preamplifier

***F**irst as a modification service, now as an established manufacturer, The Mod Squad continues to pursue a modern, modular approach to excellence. We combine innovative*

designs and original construction concepts with painstaking parts selection and skilled handcrafting. We attend to every detail. We design by ear. We build by hand. We are

*The
Mod Squad*

Hear the extraordinary musicality our approach produces at your local Mod Squad Dealer. For product information and a dealer list, contact

The Mod Squad, Inc.

Dept. A, 542 North Highway 101, Leucadia, CA 92024 • (619) 436-7666.

Place Speakers
tab here

Write or call for a brochure and the name of your nearest dealer.

VANDERSTEEN AUDIO



VANDERSTEEN AUDIO
116 West Fourth Street
Hanford, California 93230
(209) 582-0324

DIMENSIONAL PURITY

Enter No. 94 on Reader Service Card

LOUDSPEAKERS

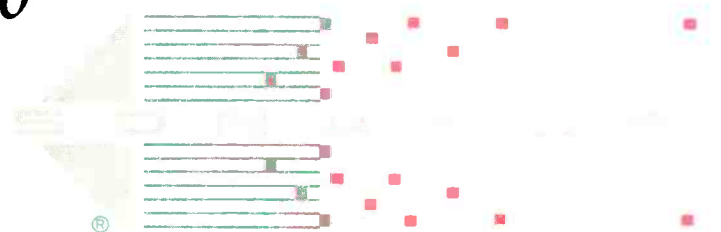
MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Separate Level Controls? Woofer = W, Midrange = M, Tweeter = T, Subwoofer = ST		Angular Frequency Response, Hz to kHz, ±dB		SPL, 1 Watt/1 Meter, dB		Recommended Min. Amp Power, Watts		Impedance, Ohms: Nominal/Minimum		Dimensions, Inches (To Nearest Inch)		Finish	Grille Color and Material	Weight, Lbs.	Price, \$
ACOUSTAT	Spectra 11	ES	8				ES		45-20 ±3	75	250	8/3	72 x 15 x 3	Opt.	Opt.							999.00 Pair		
	Spectra 44	ES					ES		28-20 ±3	100		4/3	94 x 23 x 4	Opt.	Opt.							220 Pair		
	Spectra 66	ES							26-20 ±3	100		6/3	94 x 33 x 4	Opt.	Opt.							294 Pair		
	Spectra 22	ES							30-20 ±3	100		4/3	66 x 22 x 2	Opt.	Opt.							165 Pair		
	Spectra 33	ES							30-20 ±3	100		4/3	66 x 33 x 2	Opt.	Opt.							205 Pair		
	SP Woofer	Vented Subwoof.	(4)6½						30-20 ±2	100	100				Opt.	Opt.							55 Pair	
	One + One	ES Sat. & Subwoof. ES	10					T	30-18 ±3	75	160	4/3	Three Pieces	Opt.	Opt.								180 Sys.	
ACOUSTIC INTERFACE	Angstrom	Ac. Sus.	6½			1	Dome		78-20 ±2.5	90	15	5k	8/6	13 x 7 x 6	Black Enam.	Black Cloth	10					125.00		
	Tremor	Vented Subwoof.	2(12)				M,T		29-200 ±2.5	95	15	100	8/6	62 x 26 x 16	Oiled Wal.	Black Cloth	150					1090.00		
	Shadow	Ac. Sus.	8			1	Dome		69-20 ±2.5	91	15	5k	8/6	25 x 9 x 9	Black Wal.	Black Cloth	18					190.00		
	Intimate	Ac. Sus.	10			1	Dome	T	49-20 ±2.5	93	15	5k	8/6	19 x 12 x 12	Black Cloth	Black Cloth	29					290.00		
	Transcendant	Vented	12	1¼	Dome	1¼	Dome	M,T	38-20 ±2.5	94	15	1.9k	8/6	24 x 16 x 14	Oiled Oak	Black Cloth	51					490.00		
	Professional Series II	Vented	12	2	Dome	1	Dome	M,T	29-20 ±2.5	95	15	800,6.6k	8/6	36 x 16 x 19	Oiled Wal.	Black Cloth	80					890.00		
	Studio Reference	Vented	12	4x15	Horn	2x5½	Horn	M,T	22-20 ±2.5	98	15	880,5k	8/6	48 x 16 x 19	Oiled Oak	Black Cloth	102					1590.00		
	Sound Portal	Horn	24x32	24	Horn	5x6	Horn	M,T	15-20 ±2.5	101	15	800,5k	8/6	72 x 26 x 24	Oiled Wal.	Black Cloth	175					5000.00		
	Sound Prism	Triamped, Horn	24x52	26	Horn	3x7¼	Horn	M,T	10-20 ±1	105	100,300,1.5k Inc.	550,5k	8/6	80 x 27 x 36	Oiled Oak	Black Cloth	1000 Pair					30,000.00		
ADC	SS3010	Pas. Rad.	4			½	Dome		85-24 ±3	88	10	5k	6/	11 x 7 x 6	Gray Plast.	Black Knit	5½					269.95 Pair		
	SS3015	Subwoof.	8						41-165 ±3	88		110	4/	11 x 8 x 17	Black Vinyl	Gray Plast.	15½					229.95		
	SS3025	Sat. & Subwoof.	4,8			½	Dome		41-24 ±3	88		110,5k	6/4	Three Pieces	Gray Plast., Black Vinyl	Black Knit, Gray Plast.	26½ Sys.					499.95 Sys.		
A/D/S/	M9	Ac. Sus.	8½	1½	Dome	1	Dome		38-22 ±3	88	15	700,6k	4/	31 x 10 x 12	Opt.	Metal	40 Pair					1100.00 Pair		
	M12	Ac. Sus.	(2)8½	5⅞	Cone	1	Dome		34-22 ±3	87	15	200,2k	4/	41 x 11 x 14	Opt.	Metal	83 Pair					1600.00 Pair		
	M15	Ac. Sus.	(2)10	5⅞	Cone	1	Dome		26-22 ±3	87	15	200,2k	4/	48 x 12 x 16	Opt.	Metal	110 Pair					2600.00 Pair		
	SW2	Tuned Port Subwoof.	10						28-85 ±3		35	85		9 x 14 x 28	Gray	None						400.00		
	SW4	Tuned Port Subwoof.	10						28-85 ±3		35	85		18 x 14 x 16	Opt.	None	49					600.00		
	SW5	Powered Ac. Sus. Subwoof.	12						24-125 ±3		Inc.	125		18 x 14 x 16	Opt.	Metal	63					1000.00		
	CM5	Ac. Sus.	5			1	Dome		60-20 ±3	86	15	2k	4/	10 x 6 x 7	Gray	Metal	14					650.00 Pair		
	CM6	Ac. Sus.	6			1	Dome		50-20 ±3	87	15	2k	4/	13 x 8 x 9	Gray	Metal	22					900.00 Pair		
	CM7	Ac. Sus.	8	1½	Dome	1	Dome		40-20 ±3	87	15	700,2k	4/	17 x 9 x 11	Gray	Metal	38					1400.00 Pair		
	L7e	Ac. Sus.	7			1	Dome						4/	17 x 10 x 9	Opt., Vinyl	Metal	23					500.00 Pair		
	L8e	Ac. Sus.	8			1	Dome						4/	20 x 12 x 10	Opt., Vinyl	Metal	28					600.00 Pair		
	L9e	Ac. Sus.	8	1½	Dome	1	Dome						4/	22 x 11 x 10	Opt., Vinyl	Metal	35					800.00 Pair		
	L200cc	Ac. Sus.	4			1	Dome		85-20 ±3	88	5	2.5k		5 x 6 x 5	Opt.	Metal	12 Pair							
	L300cc	Ac. Sus.	5¼			1	Dome		68-20 ±3	90	5	2.5k		6 x 9 x 6	Opt.	Metal	19 Pair							
300i	In-Wall Inf. Baf.	5¼			1	Dome		50-20 ±3	90	5	2.5k	4/	7 x 9	Opt.	Metal	10 Pair								
400i	In-Wall Inf. Baf.	6			1	Dome		42-20 ±3	91	5	1.6k		7 x 11	Opt.	Metal	19 Pair								
ADVANCED AKUSTIC	RC 201 Compact Monitor	Aperiodic	7			¾	Dome	No	45-40 ±2	86	50	3.15k	8/6	14 x 9 x 10	Opt., Wood	Black Knit	25					925.00 Pair		
	RC 401 Akustic Monitor	Aperiodic	(2)7			¾	Dome	No	40-40 ±2	90	50	3.15k	4/3	36 x 9 x 10	Dpt., Wood	Black Knit	45					1575.00 Pair		
	RC 701 Reference Monitor	QB3 Vented	9			1½	Dome	No	35-22 ±2	89	50	1.75k	8/6	40 x 10 x 12	Opt., Wood	Black Knit	60					1975.00 Pair		
	RC 1001 Akustic Reference Monitor	QB3 Vented Aperiodic	(2)12	(2)7	Cones	¾	Dome	No	25-40 ±2	90	50	125,3.15k	4/3	72 x 16 x 22	Opt., Wood	Black Knit	150					4500.00 Pair		

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Enclosure or System Type	Woofer Diameter, Inches			Midrange Diameter, Inches			Tweeter Diameter, Inches			Separate Low Crossover? Woofer, W. Midrange = M, Tweeter = T, Super Tweeter = ST			Absolute Frequency Response, SPL, 1 Watt/1 Meter, dB			Recommended Min. Amp Power, Watts			Impedance Ohms: Nominal/Minimum			Dimensions, Inches (To Nearest Inch)			Finish	Grille Color and Material	Weight, Lbs.	Price, \$
				Woofer	Midrange	Tweeter	Woofer	Midrange	Tweeter	Woofer	Midrange	Tweeter	Woofer	Midrange	Tweeter	Woofer	Midrange	Tweeter	Woofer	Midrange	Tweeter	Woofer	Midrange	Tweeter	Woofer	Midrange	Tweeter				
ADVANCED ELECTRO-DYNAMIC SYSTEMS	Cybele DLS-73	Inf. Baf.	12			2x6	Cyl.	No	30-20 ± 3	87	40	1.5k	8/7	15 x 10 x 44	Cloth	Dpt., Knit	60	2195.00	Pair												
ADVANCED SOUND	By-Polar Amplified	Bipolar & Powered Subwoof.	(2)8, (2)10	4 1/2	Cone	3 1/2	Dome		30-22 ± 2	94	100 Inc.	1k,6k	6/4	Two Pieces Per Side	Dpt., Wood	Dpt., Knit	400 Side	2700.00	Pair												
	Zagurat	Tuned Port	10	4 1/2	Cone	3	Dome	No	32-20	91	100	1k,6k	8/6	17 x 15 x 40	Dpt., Wood	Dpt., Knit	155	1800.00	Pair												
	Campanile	Port Tuned	(2)8	4 1/2	Cone	3	Dome	No	45-22	92		1k,6k	6/4	13 x 13 x 36	Dpt., Wood	Dpt., Knit	70	1200.00	Pair												
	Monolith Amplified	Port Powered Tuned Subwoof.	10						32-150	91	100 Inc.	150	6/4	20 x 20 x 22	Dpt., Wood	Dpt., Knit	70	985.00	Pair												
ADVENT	Mini Advent	Ac. Sus.	5 1/4			1/2	Dome		110-21 ± 3	88		4.5k	6/4	11 x 6 x 5	Oiled Pecan	Brown Knit	10	199.95	Pair												
	Mini Advent Subwoofer	Ac. Sus.	(2)5 1/4						60-220 ± 3	91	220	6/4	7 x 12 x 7	Black Vinyl		11	179.95	Pair													
	Baby II	Ac. Sus.	6 1/2			1/2	Dome		60-21 ± 3	89	4.5k	6/4	17 x 11 x 6	Black/Pecan	Brown Knit	13	249.95	Pair													
	Prodigy Tower	Ac. Sus.	8			3/4	Dome		45-23 ± 3	89	3k	6/4	28 x 10 x 8	Oiled Pecan	Brown Knit	25 1/4	349.95	Pair													
	Legacy	Ac. Sus.	10			1	Dome		42-23 ± 3	88	2k	8/6	28 x 16 x 10	Black/Pecan	Brown Knit	46 1/2	449.95	Pair													
	Maestro	Ac. Sus.	10	2	Dome	1	Dome		42-23 ± 3	90	900,4.5k	6/4	33 x 16 x 10	Black/Pecan	Brown Knit	50	699.95	Pair													
	Indoor/Outdoor Mini Prodigy II	Ac. Sus.	8			3/4	Dome		110-21 ± 3	88	4.5k	6/4	11 x 6 x 5	Black	Brown Knit	10	199.95	Pair													
ALLISON ACOUSTICS	IC-20 (With remote control)	Ac. Sus.	(2)10	(4)3 1/2	Inv. Cones	(4)1	Inv. Cones			87	30	350,3.75k	8/5.5	48 x 21 x 12	Dpt., Wood	Black Cloth	100	4900.00	Pair												
	CD 9	Ac. Sus.	10	3 1/2	Inv. Cone	1	Inv. Cone	M, T		87	30	350,3.75k	4/3.5	37 x 13 x 11	Dpt., Wood	Black Plast.	55 1/2	650.00	Pair												
	CD 8	Ac. Sus.	8	3 1/2	Inv. Cone	1	Inv. Cone	M, T		87	30	450,3.75k	4/3.5	29 x 11 x 11	Dpt., Wood	Black Plast.	35 1/2	475.00	Pair												
	CD 7	Ac. Sus.	8			1	Inv. Cone			87	15	2k	4/3.5	28 x 10 x 10	Dpt., Wood	Black Plast.	22	300.00	Pair												
	CD 6	Ac. Sus.	8			1	Inv. Cone			87	15	2k	4/3.5	11 x 11 x 11	Dpt., Wood	Black Plast.	17	230.00	Pair												
	LC 110	Ac. Sus.	8			1	Inv. Cone			87	15	2k	4/3.5	18 x 12 x 8	Dpt., Vinyl	Black Cloth	16 1/2	145.00	Pair												
	LC 120	Ac. Sus.	8			1	Inv. Cone			87	15	2k	4/3.5	22 x 14 x 8	Wal. Vinyl	Black Cloth	21 1/4	175.00	Pair												
	LC 145	Ac. Sus.	8			1	Inv. Cone			87	15	2k	4/3.5	25 x 16 x 8	Wal. Vinyl	Black Cloth	25	210.00	Pair												
	Mini 2	Ac. Sus.	4			1	Inv. Cone Dome			87	10	2k	6/4.5	7 x 5 x 4	Vinyl Black Enam.	Black Mesh	5	198.00	Pair												
	Mini 1SW	Ac. Sus.	8							87	10	150	4/3.5	11 x 11 x 11	Black Enam.	Black Plast.	16 1/2	289.00	Pair												
	Mini 2/SW	Ac. Sus. Sat. & Subwoof.	8	(2)4	Cones	(2)1	Domes			87	10	150,2k	4/3.5	Three Pieces	Black Enam.	Black Mesh	26 1/2 Sys.	459.00	Pair												
	Mini 2P	Ac. Sus. Powered	4			1	Dome				Inc.	2k		7 x 5 x 4	Black Enam.	Black Mesh	13 Pair	359.00	Pair												
	AL 105	Ac. Sus.	6 1/2			1	Dome			87	15	2.5k	6/4	15 x 10 x 8	Dpt., Vinyl	Black Knit	13	120.00	Pair												
	AL 110	Ac. Sus.	6 1/2			1	Inv. Cone			87	15	2k	6/4	16 x 10 x 9	Dpt., Vinyl	Black Knit	16	170.00	Pair												
	AL 115	Ac. Sus.	8			1	Inv. Cone			87	15	2k	6/4	20 x 11 x 10	Dpt., Vinyl	Black Knit	22	220.00	Pair												
AL 120	Ac. Sus.	(2)6 1/2			1	Inv. Cone			87	15	100,2k	6/4	24 x 11 x 11	Dpt., Vinyl	Black Knit	33	300.00	Pair													
AL 125	Ac. Sus.	(2)6 1/2	3 1/2	Inv. Cone	1	Inv. Cone			87	15	450,4k	6/4	31 x 11 x 12	Dpt., Vinyl	Black Knit	40	450.00	Pair													
AL 130	Ac. Sus.	(2)8	3 1/2	Inv. Cone	1	Inv. Cone			87	15	450,4k	6/4	38 x 13 x 14	Dpt., Vinyl	Black Knit	57	550.00	Pair													
MS 205	Ac. Sus.	8	(2)4	Cones	(2)1	Cones			87	10	150,2.5k	4/3.5	Three Pieces	Dpt., Vinyl Enam.	Black Knit	28 Sys.	499.00	Pair													
ALTA	Allamate	Ported	6 1/2			1	Dome		40-22 ± 3	90	20	3.8k	4/3.6	9 Dia. x 20	Dpt.	Dpt., Cloth	12	498.00	Pair												
	7	Ported	8			1	Dome		35-22 ± 2	92	30	2.8k	4/3.2	12 Dia. x 50	Dpt.	Dpt., Cloth	24	850.00	Pair												
	6	Ported	8	4 1/2	Cone	1 1/4	Dome		32-26 ± 2	90	40	240,6.8k	4/3.2	12 Dia. x 58	Dpt.	Dpt., Cloth	27	1198.00	Pair												
	5	Ported	(2)8	(2)4 1/2	Cones	1 1/4	Dome		28-26 ± 2	91	50	240,6.8k	4/3.2	14 Dia. x 91	Dpt.	Dpt., Cloth	53	1898.00	Pair												
	Entre FS2	Ported	8			3/4	Dome		42-20 ± 3	89	20	3.3k	4/3.6	12 x 12 x 46	Black	Black Cloth		450.00	Pair												
	Entre C2	Ported	6 1/2			3/4	Dome		48-20 ± 3	89	20	4.2k	4/3.6	9 Dia. x 27	Black	Black Cloth		358.00	Pair												
	Entre DSW	Ported Subwoof.	8						30-150 ± 3	88	40	90	8/6.5	12 x 12 x 40	Dpt.	Black Cloth		339.00	Pair												
ALTEC LANSING	Bias 550		(2)10, 8	6	Cone	1	Dome	W, M, T	20-22 ± 2	90				71 x 19 x 24	Wal. Ven.	Black Steel	437	1200.00	Pair												
	512		(2)10	6 1/2, 2	Domes	1	Dome		20-22 ± 3	90	75	180,1.5k		57 x 13 x 14	Black Steel	Black Steel	125	4500.00	Pair												
	511		(2)10	2	Dome	1	Dome		20-22 ± 3	92		180,1.5k, 3.5k		57 x 13 x 14	Dpt.	Black Steel	110	3000.00	Pair												



*The Leader
in "Architectural Audio"*



A DIVISION OF DANA INNOVATIONS



M30 – Like the rest of the Sonance family, high fidelity and low profile blend into the small M30. The small size allows it to fit into tight locations between moldings, around windows, or next to mirrors. The top quality components and petite size provide superior imaging and that great Sonance sound.

Frequency response . . . 70 Hz to 20 KHz \pm 2 dB
 Power requirement 5 to 75 watts
 Efficiency 86 dB 1W/1M
 Dimensions
 External frame 6½" \times 9½"
 Retrofit Cut-Out 5½" \times 8½"
 Depth 2½" from finished wall



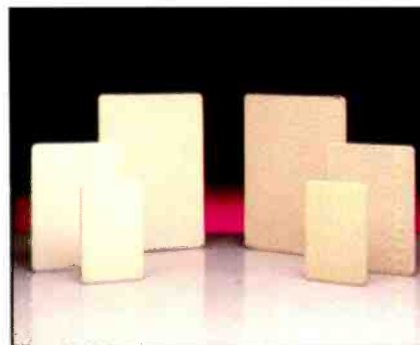
Sonance IA – Being cost effective, the Sonance IA extends the quality of the Sonance line to a new level. Capturing the beauty of the Sonance models II and III, the Sonance IA's affordability encourages you to enjoy music in areas previously overlooked.

Frequency response . . . 85 Hz to 12 KHz \pm 5 dB
 Power requirement 3 to 35 watts
 Efficiency 90 dB 1W/1M
 Dimensions
 External frame 9" \times 12"
 Retrofit Cut-Out 7½" \times 10½"
 Depth 3" will fit in "2 \times 4" wall



Sonance II – The Sonance II was created as the best value speaker in the Sonance line, offering exceptional performance in all applications. The Sonance II allows you to enjoy great sound at a reasonable price. Combining sonic quality with innovative design makes the Sonance II an outstanding value.

Frequency response . . . 55 Hz to 20 KHz \pm 3 dB
 Power requirement 5 to 50 watts
 Efficiency 90 dB 1W/1M
 Dimensions
 External frame 9" \times 12"
 Retrofit Cut-Out 7½" \times 10½"
 Depth 3¼" will fit in "2 \times 4" wall



GRILLES – There is a choice of two Sonance grille types, cloth or metal. Cloth for a softer style, and metal for a more conventional look. Both grill types are paintable. To blend with a wallpapered area, a matching fabric can replace the cloth grille.

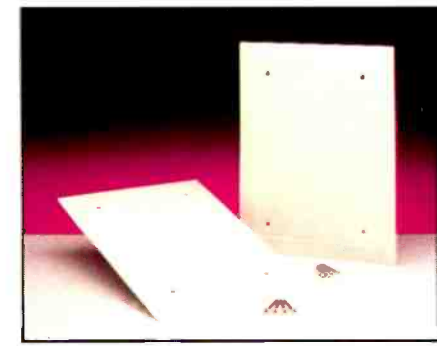


VC50B & ABB1 – Sonance provides a volume control (VC50B) and AB switch (ABB1) in an attractive table top/under counter version, expanding the applications of Sonance's controls. Sonance keeps the architectural audio customer in mind.



AT2, 4, 8 & 12 – Sonance Audio Terminals (ATs) provide a convenient connecting point for speaker/amplifier wires entering or exiting walls. Our ATs have gold plated 5-way binding posts, screw to connect terminals inside the wall, and accept 22 to 14 gauge wire. The ATs are available in white, ivory, brown, stainless steel and brass. There are audio terminals for one speaker (AT2), two speakers (AT4), four speakers (AT8) and six speakers (AT12).

COVERPLATES (Space Saver) – Sonance coverplates economically reserve space for speaker installation at the new construction phase, when it is less expensive to place wiring, prepare walls and install brackets. The coverplate may be painted or wallpapered and then later removed to allow speaker installations. (Fits IA, II, III brackets)





Sonance III – The Sonance III was the first speaker to bring high fidelity music reproduction to in-wall installations. The Sonance III was designed to answer the need for speakers that are accurate and dynamic, yet unobtrusive to the listening environment. The current Sonance III has been continuously improved since its introduction in 1985, and remains a leader of performance in "Architectural Audio" speakers.

Frequency response 45 Hz to 20 KHz \pm 2 dB
 Power requirement 5 to 75 watts
 Efficiency 89 dB 1W/1M
 Dimensions
 External frame 9" \times 12"
 Retrofit Cut-Out 7 7/8" \times 10 7/8"
 Depth 3 3/4" will fit in "2 \times 4" wall



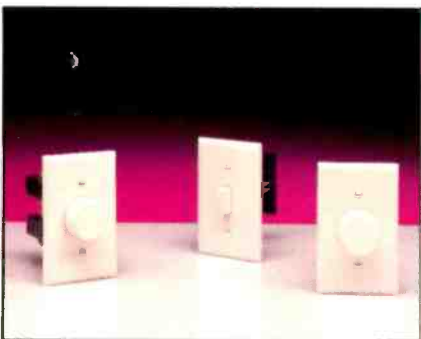
Sonance IV – The Sonance IV provides the highest level of sonic performance of any in-wall speaker available. Engineered to fit into your walls and ceilings, the Sonance IV is designed to let the music be the main attraction with the acoustic ability to recreate the most breathtaking musical passages.

Frequency response 35 Hz to 22 KHz \pm 2 dB
 Power requirement 5 to 100 watts
 Efficiency 90 dB 1W/1M
 Dimensions
 External frame 12 1/8" \times 16 1/8"
 Retrofit Cut-Out 10 3/8" \times 14 3/8"
 Depth 3 3/4" will fit in "2 \times 4" wall



PSW2 – Rich deep tones emanate from a hidden source: The PSW2 built-in Subwoofer, a second generation of an original idea, is an improvement on the past. The PSW2 was developed to complement our full line of high fidelity speakers. The purpose of our PSW2 Subwoofer is to provide full, rich, distinct bass performance in your music – without visual effect on your environment.

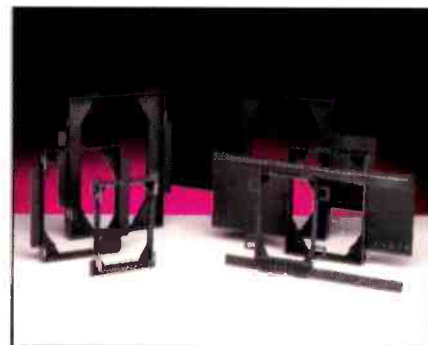
Frequency response 30 Hz to 125 Hz \pm 3 dB
 Efficiency 87 dB 1W/1M
 Dimensions
 External frame 12 1/8" \times 16 1/8"
 Retrofit Cut-Out 10 3/8" \times 14 3/8"
 Depth 3 3/4" will fit in "2 \times 4" wall



VC50, VC100, & ABW1 – Sonance has created 50 watt and 100 watt volume controls, plus an A/B source or speaker selector switch with high-power handling capacity. All have modular construction, terminal block connectors and are mounted on P.C. boards. The Sonance VC50, VC100 & ABW1 feature alignment capabilities and can be easily grouped into standard gang wall mounts. They use standard light switch wall plates and can virtually match any decor.

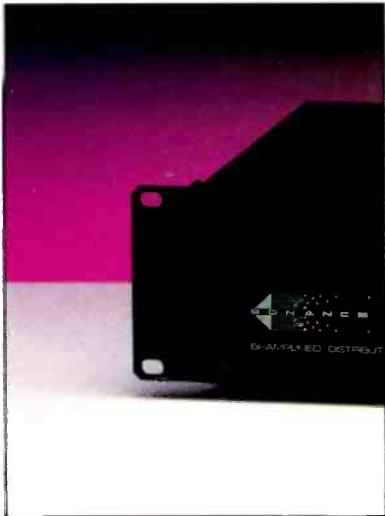


Active Subwoofer System – The VCA1 is a 60 watt three channel integrated amplifier with the third channel dedicated to bass frequencies. The VCA1 features active bass boost circuitry, three selectable roll off frequencies, and a unique amplifier protection system. The Sonance VCA1 can power one or two 8" ASW1 flush mount bass modules, one or two pairs of satellite speakers and is governed by a local wall-mount volume control.



B#ACKETS – Sonance's patented bracket systems allow speaker installation in an existing building or during construction. "Retrofit brackets" for a home or office already built, or "new construction brackets" for a home in the design or building stage.

The Leader in "Architectural Audio"



RACK EARS – Sonance provides "Rack Ears" as an optional method of installing the VCA1 amplifier.



WALLPLATES – The "One Stop Shop" is another convenience of Sonance. We offer Leviton™ wallplates in white, ivory, brown, brass and stainless steel. Also available are our knobs and buttons in matching colors.



SHELF MOUNT WINGS – Sonance provides "Shelf Wings" as an optional method of installing the VC50B and ABB1.

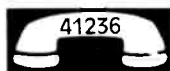


In 1981, **Sonance** developed the world's first high fidelity in-wall speaker system. Since then, **Sonance** has become the only architectural audio manufacturer to offer a complete line of built-in speakers and accessories.

Sonance products are renowned for exceptional sound reproduction, ease of installation, and decorative ability.

Whether you are building a new home or adding a high fidelity system to your existing residence, **Sonance** provides the products necessary for all applications. We take pride in responding to the ideas of our customers by developing products that serve their needs.

For More Information



Call 1-800-553-4355



32992 Calle Perfecto, San Juan Capistrano
California 92675 (714) 661-7558
Outside CA (800) 582-7777 FAX (714) 240-4995

Canadian Distributor: Aralex Acoustics Ltd., 33 W. 8th Ave.
Vancouver, B.C. V5Y 1M8, (604) 873-4475

Enter No. 2 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches			Midrange Diameter, Inches		Tweeter Diameter, Inches		Separate Level Controls? Woofer=W, Tweeter=T, Subwoofer=ST	Midrange Hz to kHz, ±dB	Anechoic Frequency Response, SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Impedance, Ohms:		Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Woofer	Midrange	Midrange Type	Tweeter Type	Nominal	Minimum												
ALTEC LANSING (Continued)	510		(2)10	2	Dome	1	Dome		20-22 ±3	92	550,3.5k		49 x 12 x 14	Opt.	Black Steel	100	1600.00			
	508		(2)8	2	Dome	1	Dome		24-22 ±3	90.5	550,3.5k		40 x 11 x 11	Opt.	Black Steel	63	110.00			
	505		10	3½	Dome	1	Dome		28-22 ±3	92	250,3.5k		34 x 12 x 4	Opt.	Black Steel	54	850.00			
	305		10	2	Dome	1	Dome		28-22 ±3	93	550,3.5k		27 x 15 x 12	Opt.	Black Steel	50	800.00			
	205		8	3½	Dome	1	Dome		33-22 ±3	91	250,3.5k		22 x 12 x 9	Opt.	Black Steel	35	600.00			
	105		6			1			40-22 ±3	91	2.5k		17 x 10 x 9	Opt.	Black Steel	40	375.00			
	95		8	4	Dome	¾	Dome		33-21 ±3	91	350,3.5k		22 x 12 x 9	Opt., Vinyl	Black Steel	28	300.00			
	85		6½			¾	Dome		40-21 ±3	91	3.5k		17 x 10 x 9	Opt., Vinyl	Black Steel	35	200.00			
	55		4			¾	Dome		50-22 ±3	85	3.5k		9 x 7 x 5	Opt., Vinyl	Black Steel	11	250.00			
AMBLÉ	Bravo	Tuned Port	6½			1	Dome			92	10 3.2k	8/	16 x 10 x 8	Oak	Black Knit	17	295.00			
	Encore	Tuned Port	8			1	Dome			90	10 2.5k	8/	19 x 12 x 11	Oak	Black Knit	28	395.00			
	SW 1200	Subwoof.	12							90	20 100	8/	18 x 19 x 18	Oak	Black Knit	54	375.00			
AMBRIA	System 2000	Inf. Baf. Sat. & Subwoof.	(6)5¼	4	Cone	¾	Dome		30-20 ±3	92	20 120,3k	8/6	Five Pieces	Opt., Lacq.	Metal	68 Sys.	1750.00			
	System 1000	Inf. Baf. Sat. & Subwoof.	(4)5¼	4	Cone	¾	Dome		35-20 ±3	92	20 120,3k	8/6	Three Pieces	Opt., Lacq.	Metal	40 Sys.	900.00			
	S-150	Inf. Baf.	4			¾	Dome		85-20 ±3	90	20 3k	8/6	7 x 5 x 7	Opt.	Metal	18	495.00			
	S-100	Inf. Baf.	4			¾	Dome		110-20 ±3	90	20 3k	8/6	7 x 5 x 3	Opt.	Metal	6	335.00			
	C300	In-Wall Inf. Baf.	6			1	Dome		45-20 ±3	90	15 2.5k	/8	12 x 9 x 4	White	White Metal	11	315.00			
	C200	In-Wall Inf. Baf.	5½			¾	Dome		60-20 ±3	89	10 3k	/4	11 x 8 x 3	White	White Metal	8	315.00			
	S-100F	In-Wall Inf. Baf.	4			¾	Dome		110-20 ±3	90	20 3k	8/6	7 x 5 x 2	White	White Metal	5	315.00			
AMERICAN ACOUSTICS	D2550		6½				Dome		65-22	91.5	3k	4/8	13 x 10 x 7	Opt., Wood	Opt., Knit	12	229.95			
	D3550		8				Dome		60-22	94.5	3k	4/8	18 x 11 x 8	Opt., Wood	Opt., Knit	19	279.95			
	D4550		10	5	Cone		Dome		45-22	95.5	2.7k,6k	4/8	24 x 15 x 10	Opt., Wood	Opt., Knit	34	209.95			
	D5550		12	5	Cone	1,3	Dome, Cone		43-22	96.5	1.7k,6k	4/8	27 x 15 x 10	Opt., Wood	Opt., Knit	40	259.95			
	D8550		15	5	Cone		Dome		37-22	98.5	700,5k	4/8	31 x 18 x 14	Opt., Wood	Opt., Knit	62	374.95			
	D9550		12	(2)5	Cones	1,3	Dome, Cone		32-22	99.5	1.7k,6k		41 x 16 x 15	Opt., Wood	Opt., Knit	76	439.95			
	AAL 62	Vented	6½			¾	Cone	Piezo	90-20 ±3	90		4/	13 x 9 x 7	Opt., Wood	Opt., Knit		199.90			
	AAL 83	Vented	8	3	Cone	¾	Piezo		75-20 ±3	92			18 x 11 x 8	Oak	Black Knit		229.90			
	AAL 103	Vented	10	4	Cone	¾	Piezo		55-20 ±3	91.5			24 x 15 x 10	Oak	Black Knit		179.95			
	AAL 124	Vented	12	3,4	Cones	¾	Piezo		50-20 ±3	90			27 x 15 x 11	Oak	Black Knit		199.95			
	AAL 154	Vented	15	3,4	Cones	¾	Piezo		40-20 ±3	92			29 x 18 x 15	Oak	Black Knit		249.95			
	DS66	Bass Ref.	(2)6			1	Dome		42-22 ±3	93	550,3.5k	4/	21 x 10 x 11	Black Ash	Black Knit		149.95			
	DS88	Bass Ref.	(2)8			1	Dome		38-22 ±3	93	400,1.8k	4/	26 x 12 x 13	Black Ash	Black Knit		249.95			
	OS1010	Bass Ref.	(2)10	5		1	Dome		34-22 ±3	94	650,3.7k	4/	37 x 14 x 15	Black Ash	Black Knit		374.95			
	DS1212	Bass Ref.	(2)12	6½		1	Dome		23-22 ±3	95	350,2.8k	4/	44 x 15 x 18	Black Ash	Black Knit		499.95			
ANALOG ONE	Monitor 1	Inf. Baf.	(2)6	(2)3	Domes	(2)1	Domes	No	60-32	89	(2) 700,4k	8/6	36 x 9 x 9	Oak	None	20	1800.00			
	Monitor 2	Dipole		(2)9	Cones	1	Dome	M, T	80-32	90	(4) 1k	8/6	14 x 33 x 5	Black	Knit	14	950.00			
	Monitor 3	Dipole		(4)9	Cones	(2)1	Domes	M, T	80-32	90	(4) 1k	8/6	14 x 37 x 5	Black	Knit	16	1150.00			
	Super Sub	Dipole Subwoof.	12					W	22-125	91	50 80-125	8/6	30 x 40 x 5	Black	Knit	23	1015.00			
	Audio Mirrors	Dipole	12	(3)9	Cones	(3)1	Domes	W, M, T	22-32	90	(3) 125,1k	8/6	Three Pieces	Black	Knit	54 Sys.	3800.00			

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches			Midrange Diameter, Inches			Tweeter Diameter, Inches		Separate Low Crossover? Woofer = W, Midrange = M, Tweeter = T, Superwoofer = ST	Anechoic Frequency Response, SPL - 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			12x53	2x53	Ribbon	0.5x53	Ribbon	Tweeter Type	30-20	100										
APOGEE ACUSTICS	Scintilla	Ribbon Dipole	12x53	2x53	Ribbon	0.5x53	Ribbon				30-20	100	500,5k	1, 4/	29 x 57 x 3	Opt.	Fbgls	290 Pair	4395.00 Pair; West, 4545.00 Pair	
	Duetta Signature	Ribbon Dipole	12x47			0.8x47	Ribbon	T			30-20	100	600	4/3	25 x 57 x 3	Opt.	Fbgls	225 Pair	3840.00 Pair; West, 3735.00 Pair	
	Caliper Signature	Ribbon Dipole	12x37			0.8x47	Ribbon				30-20	100	600	4/3	24 x 48 x 2	Opt.	Fbgls	140 Pair	2850.00 Pair; West, 2745.00 Pair	
	Diva	Ribbon Dipole	12x67	0.9x67	Ribbon	0.2x67	Ribbon	W, M, T			30-25	100	500,10k	4/3	31 x 73 x 3	Opt.	Fbgls	300 Pair	8400.00 Pair; West, 8250.00 Pair	
	Stage	Ribbon Dipole	12x26			0.7x26	Ribbon	T			35-20	50	600	4/3	26 x 37 x 2	Fabric & Wood	Fbgls	120 Pair	1995.00 Pair	
AR	Spirit 112	Ac. Sus.	6			1	Dome/Cone	W, T			65-25 ±3	90	10	8/	14 x 8 x 7	Opt., Wood Vinyl	Black Knit	9¼	289.90 Pair	
	Spirit 122	Ac. Sus.	6			1	Dome/Cone	W, T			62-25 ±3	90	10	8/	15 x 8 x 9	Opt., Wood Vinyl	Black Knit	11¼	349.90 Pair	
	Spirit 132	Ac. Sus.	8			1	Dome	W, M, T			55-22 ±3	90	10	8/	18 x 9 x 10	Opt., Wood Vinyl	Black Knit	157/8	499.90 Pair	
	Spirit 142	Ac. Sus.	8	6	Cone	1	Dome/Cone	W, M, T			52-25 ±3	90	10	4/	26 x 9 x 11	Opt., Wood Vinyl	Black Knit	23¾	799.90 Pair	
	Spirit 162	Ac. Sus.	(2)8	6	Cone	1	Dome	(2)W, M, T			45-22 ±3	91	10	4/	37 x 9 x 14	Opt., Wood Vinyl	Black Knit	43¾	1199.90 Pair	
	Fun Partner		4			1	Dome	W, T			90-25 ±3	91	7	4k	4/3		Opt., Cloth	4	200.00 Pair	
	Pro Partner	Powered Ac. Sus.	8			1¼	Cone	W, T			55-22 ±3	Inc.	2k			Black Vinyl	Black Cloth	17	470.00 Pair	
	TSW 215-A	Ac. Sus.	5¼			¾	Dome	(2)W, T			72-40 ±3	88	10	5k	6/	20 x 10 x 8	Black Vinyl	Black Cloth	17	430.00 Pair
	TSW 415-A	Ac. Sus.	8			¾	Dome	(2)W, T			44-40 ±3	90.5	10	3.8k	6/	30 x 12 x 12	Black Vinyl	Black Cloth	31½	360.00 Pair
	TSW 115P-A	Powered Ac. Sus.	4			¾	Dome					Inc.			11 x 7 x 7	Black Vinyl	Black Knit	11	400.00 Pair	
	TSW 315-A	Ac. Sus.	(2)6½			¾	Dome				48-40 ±3	89	10	400,5k	4/3.6	23 x 12 x 12	Black Vinyl	Black Knit	30½	550.00 Pair
	TSW 710-A	Ac. Sus.	(2)8	6½	Cone	¾	Dome				40-40 ±3	90	15	250,5k	4/2.9	39 x 14 x 13	Black Vinyl	Black Knit	46	1300.00 Pair
	Active Partner	Powered Ac. Sus.	4			2	Cone					Inc.			6 x 11 x 8	Opt., Vinyl	Opt., Knit		270.00 Pair	
	STC 660 Subwoofer System	Ac. Sus. Sat. & Series-Tuned Cavity Subwoof.	6	4	Cone	¾	Dome								Three Pieces	Black Vinyl	Black Knit	39 Sys.	645.00 Sys.	
	TSW 110-A	Ac. Sus.	6½			¾	Dome				68-40 ±3	88	10	5k	8/5	15 x 10 x 8	Black Vinyl	Black Knit	14	280.00 Pair
	TSW 210-A	Ac. Sus.	8			¾	Dome				54-40 ±3	87	10	5k	8/6	17 x 10 x 8	Black Vinyl	Black Knit	15	380.00 Pair
	TSW 310-A	Ac. Sus.	10			¾	Dome				45-40 ±3	89	10	3.8k	6/4	28 x 12 x 12	Black Vinyl	Black Knit	35½	540.00 Pair
	TSW 410-A	Ac. Sus.	8	6½	Cone	¾	Dome				46-40 ±3	86	10	450,3.8k	4/3	24 x 12 x 12	Black Vinyl	Black Knit	30½	600.00 Pair
	TSW 510-A	Ac. Sus.	10	6½	Cone	¾	Dome				44-40 ±3	87	15	700,5k	4/3.6	30 x 14 x 13	Black Vinyl	Black Knit	49	800.00 Pair
	TSW 610-A	Ac. Sus.	12	6½	Cone	¾	Dome				40-40 ±3	87	15	700,5k	4/3.6	33 x 14 x 13	Black Vinyl	Black Knit	57	1000.00 Pair
	TSW 810-A	Ac. Sus.	(2)10	(2)6½	Cones	1	Dome				33-32 ±3	87	25	350,4k	4/2.8	42 x 16 x 19	Black Vinyl	Black Knit	95	1900.00 Pair
	TSW 910-A	Ac. Sus.	(2)12	8, (2)6½	Cones	1	Dome				28-32 ±3	87	35	200,550, 5.5k	4/3.2	53 x 16 x 19	Black Vinyl	Black Knit	140	2200.00 Pair
	Powered Partner	Powered Ac. Sus.	4			1	Cone	W			50-25 ±3	Inc.			6 x 11 x 8	Black Alum.	Black Knit	7	400.00 Pair	
Rock Partner	Ac. Sus.	8			1¼	Cone				65-22 ±3	88	10	2k	8/	15 x 10 x 9	Black Vinyl	Black Knit	15	300.00 Pair	
Environmental Partner	Ac. Sus.	4			1	Cone				95-25 ±3	88	7	3k	6/4	6 x 11 x 8	Black Alum.	Black Plast.	6	300.00 Pair	
ARANT	A-60	Vented	6½			1	Dome				49-22 ±3	89	12	2.5k	8/5	Oiled Wal.	Black Knit		285.00 Pair	
	A-80	Vented	8			1	Dome				38-22 ±3	91	12	2k	6/4	Oiled Wal.	Black Knit		490.00 Pair	
	A-140	Pas. Rad.	6½			1	Dome				32-22 ±4	93	12	2.7k	8/5	Oiled Wal.	Black Knit		550.00 Pair	
	A-200	Vented	10	4½	Dome	1	Dome				34-22 ±3	92	15	800,3.5k	6/4	Oiled Wal.	Black Knit		770.00 Pair	

*Classic Beauty
in Sight and Sound*



Dedication to research . . . discovery . . . invention . . .
bring even further improvements in sound.

The new TSW-A series . . .

A product line that embodies the very latest in
design and engineering technology.

From the company that has always stood for
natural, clear, and detailed listening.



TIMELESS INNOVATION

TELEDYNE ACOUSTIC RESEARCH

Enter No. 7 on Reader Service Card

The Orchestra.



The Conductor.

You're looking at something unusual in the audio spectrum: a series of high-end components and an integrated remote that truly work in concert. Introducing the Mitsubishi® E-5200 audio system. A system designed so that the amp, tuner/preamp, graphic equalizer, dual cassette deck, CD changer and speakers on the left are under total and complete control by the programmable remote on the right. In fact, we call it a "responding" remote, because unlike other remotes ours features an LCD that not only shows you what the system is actually doing but also confirms that the tuner/preamp has executed your commands. So you and your orchestra are always in perfect harmony.



The LCD readout is instantly updated with a signal from the tuner/preamp, giving you a complete visual report at all times.

Program your 5-disc CD changer with digital optical output and 4X oversampling.

You have control of 360 degrees of Dolby Surround™ sound. Because you can adjust the volume of two 4-way speakers with laminated drivers up front, plus the two speakers in the rear.

You can even make adjustments to your seven-band graphic equalizer.

Turn on a 150-watt-per-channel* amplifier.

Have complete control of a dual auto-reverse cassette deck featuring Dolby® B, C, HX Pro™ and full logic controls.

It's also compatible with all Mitsubishi video products, so you can program your VCR here.

© 1989 Mitsubishi Electric Sales America, Inc. Dolby, Dolby Surround and HX Pro are trademarks of Dolby Laboratories Licensing Corp. *150-watts per channel minimum RMS, both channels driven into 8 ohms from 20Hz-20kHz with no more than 0.08% total harmonic distortion. For the name of your authorized dealer, call (800) 527-8888 ext. 245.

MITSUBISHI ELECTRONICS
TECHNICALLY, ANYTHING IS POSSIBLE™

Enter No. 64 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Controls Midrange = W, Tweeter = T, Super-tweeter = ST	Aperiodic Frequency Response Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
ARCAM	One +	Bass Ref.	8			1	Dome	35-20	89	30	2.5k	8/6	10 x 13 x 20	Wal.	Black Foam	28	799.95	
	Two +	Bass Ref.	8			¾	Dome	42-20	88	30	3k	8/6	9 x 11 x 15	Wal.	Black Foam	18	599.95	
	Three +	Bass Ref.	5¼			½	Dome	47-20	88	25	3.5k	8/5	7 x 10 x 13	Vinyl	Black Foam	11	349.95	
ARISTON	"Q"	Bass Ref.	6			1¾	Dome	38-20 ±3	85	30		8/	14 x 10 x 10	Black	Black Foam	19	650.00	
	Image MKII	Bass Ref.	6¾			¾	Dome	45-20 ±3	88	20		6/	16 x 8 x 10	Black Vinyl	Black Foam	15	440.00	
ASB	AB-150	Ac. Sus.	6			1	Dome	70-20 ±3	88	20	2k	8/6		Oiled Wal.	Black Knit	30	250.00	
	AB-250	Ac. Sus.	6			1	Dome	60-20 ±3	90	20	2k	8/6	8 x 12 x 7	Oiled Wal.	Black Knit	34	400.00	
	AB-650	Ac. Sus.	6			1	Dome	45-20 ±3	90	20	2k	8/6	10 x 16 x 8	Oiled Wal.	Black Knit	60	800.00	
	AB-750	Ac. Sus.	8	4½	Cone	1	Dome	38-20 ±3	90	30	100,2k	8/6	14 x 25 x 12	Oiled Wal.	Black Knit	80	1000.00	
	SR-I	Trans. Line	(2)6	2	Dome	1	Dome	32-20 ±3	90	40	400,5k	8/6	12 x 44 x 14	Oiled Wal.	Black Knit	80	2800.00	
	SR-II	Trans. Line	(2)8	(2)2	Domes	1	Dome	28-20 ±3	91	40	400,5k	8/6	12 x 60 x 16	Oiled Wal.	Black Knit	90	4500.00	
A & S SPEAKERS	AP-52	Inf. Baf.	5¼			1	Dome	90-20 ±3	86	20	3.5k	8/6	10 x 6 x 5	Oak	Opt.	10	250.00	
	Dyno-Monitor	Inf. Baf.	6½			1½	Dome	70-22 ±3	88	30	2.5k	8/6	14 x 11 x 10	Opt.	Opt.	18	485.00	
	Ken's Ten	Bass Ref.	10	5¼	Cone	1	Dome	39-22 ±3	90	40	400,4k	8/7	25 x 15 x 12	Opt.	Opt.	43	540.00	
	Baby-Boomer	Ac. Sus. Subwoof.	12					37-150 ±3	90	40	Set.	6/5	16 x 18 x 19	Opt.	Opt.	42	299.95	
	Power-Tower	Ac. Sus.	12	5¼	Cone	1	Dome	42-19 ±3	90	50	300,3k	8/7	37 x 15 x 11	Opt.	Opt.	53	660.00	
	Tower-D	Ac. Sus.	12	3	Dome	1½, ¾	Domes	42-30 ±3	91	50	500,4k, 10k	8/6	37 x 15 x 11	Opt.	Opt.	57	1200.00	
	Dynaudio SW-3.5	Bass Ref. Subwoof.	12					29-150 ±3	90	40	Set.		28 x 18 x 15	Opt.	Opt.	58	375.00	
ATC	SCM50	Ported	9	3	Dome	1	Dome	30-20	85	50	400,4k	8/6	28 x 16 x 12	Opt.	Black Knit	85	6000.00	
	SCM100	Ported	12	3	Dome	1	Dome	25-20	88	50	350,4k	8/6	33 x 19 x 16	Opt.	Black Knit	115	8000.00	
	SCM50A	Triamped	9	3	Dome	1	Dome	30-20		350 Inc.	380,3.8k	10k	28 x 16 x 12	Opt.	Black Knit	95	9000.00	
	SCM100A	Triamped	12	3	Dome	1	Dome	25-20		350 Inc.	380,3.8k	10k	33 x 19 x 16	Opt.	Black Knit	125	11,000.00	
	SCM200	Triamped, Ported	(2)12	3	Dome	1¼	Dome	20-20	91	1k	Adj.		33 x 39 x 16	Opt.	Black Knit	300	7000.00	
	SCM400	Triamped, Ported	(4)12	3	Dome	1¼	Dome	20-20	94	1.6k	Adj.		67 x 39 x 16	Opt.	Opt.	450	9000.00	
	SCM500	Triamped, Ported	(2)15	3	Dome	1¼	Dome	20-20	94	1.2k	Adj.		54 x 35 x 22	Opt.	Opt.	400	8000.00	
A + T ELECTRO-ACOUSTIC	TMR-220	Trans. Line	(2)10	6	Cone	(2)1½, 1	Domes, Ribbon	15-45	89	40	150,1k, 5k, 20k	5/2	63 x 17 x 21	Black Oak	Black Knit	165	11,000.00	
	TMR-160	Trans. Line	(2)10	6	Cone	1½, 1	Domes	18-35	85	40	200,1k, 6k	5/2	48 x 16 x 19	Oak	Black Knit	121	5000.00	
	TMR-120	Trans. Line	10	5	Cone	1½, 1	Domes	22-35	86	40	200,900, 4k	5/2	41 x 14 x 16	Oak	Black Knit	82	3000.00	
	TMR-80	Trans. Line	8	1½	Dome	1	Dome	25-35	88	40	900,5k	5/2	36 x 12 x 14	Wal.	Black Knit	55	2000.00	
	TMR-60	Trans. Line	8	4	Cone	1	Dome	30-30	88	40	700,3.5k	5/2	31 x 10 x 12	Mahog	Black Knit	38	1500.00	
	P-30	Line Tuned Port	10	4	Cone	1	Dome	20-30	90	40	350,3k	6/2	22 x 12 x 13	Oak	Black Knit	38	1700.00	
AUDIO CONCEPTS	S2	Aperiodic	7			1	Dome	65-20 ±3	88	30	2.8k	8/6	16 x 10 x 8	Opt., Unfin. Wood	Black Knit	16	219.90	
	C2	Aperiodic	8			1	Dome	48-20 ±3	89	30	2.8k	8/6	19 x 12 x 11	Opt., Unfin. Wood	Black Knit	27	269.90	
	Compact Monitor	Aperiodic	7			1	Dome	43-20 ±3	87	40	2.8k	8/6	16 x 10 x 8	Opt., Unfin. Wood	Black Knit	19	419.90	
	G2	Aperiodic	10	4	Cone	1	Dome	36-20 ±3	89	40	900,6k	8/6	29 x 15 x 13	Opt., Unfin. Wood	Black Knit	44	469.90	
	Laser	Aperiodic	(2)8			1	Dome	48-20 ±3	93	20	3k	4/3	36 x 10 x 13	Unfin. Oak	Black Knit	50	439.90	
	M2	Aperiodic	12	4	Cone	1	Dome	30-20 ±3	89.5	45	900,6k	8/6	36 x 14 x 12	Unfin. Oak	Black Knit	59	599.90	
	Super Titan	Aperiodic	(2)12	7	Cone	1	Dome	30-20 ±3	92.5	50	275,5k	4/3	37 x 17 x 17	Opt., Unfin. Wood	Black Knit	110	1099.90	
	Pulse	Subwoof.	(2)10					34-400 ±3	87	75	150 (Opt.)	4/3	19 x 15 x 17	Opt., Unfin. Wood	Black Knit	60	449.90	
	Saturn	Slot Loaded Subwoof.	(2)12					22-200 ±3	88	75	150 (Opt.)	4/3	44 x 13 x 13	Opt., Unfin. Wood	Black Knit	85	639.90	

THE CUTTING EDGE OF AUDIO
INTRODUCES THE BEST CUT OF ALL.



THE SURPRISINGLY AFFORDABLE NEW SPEAKER FROM APOGEE.

WE'VE DELIVERED THE EXTRAORDINARY APOGEE SOUND IN A SPEAKER PRICED AT \$1955 PER PAIR. THE APOGEE STAGE. WHEN WE SET OUT TO DEVELOP AFFORDABLE SPEAKERS, THE QUALITY OF SOUND WAS NEVER A POINT FOR NEGOTIATION. THERE IS NO COMPROMISE. THIS IS WHY APOGEE CONTINUES TO BE JUDGED "BEST SOUND" AT AUDIO SHOWS WORLD WIDE. THE NEW APOGEE STAGE WILL ADVANCE THE CUTTING EDGE OF AUDIO. BUT BEYOND THAT, ITS TRULY DEMOCRATIC PRICE IS THE RESULT OF AN EXTRAORDINARY SOUND PHILOSOPHY, AND THAT'S THE BEST CUT OF ALL.

~~APOGEE~~ACOUSTICS

APOGEE ACOUSTICS, INC., 35 YORK INDUSTRIAL PARK, RANDOLPH, MA 02368 · (617) 963-0124

CONTACT APOGEE FOR THE DEALER NEAREST YOU.
Enter No. 19 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Separate Level Controls? Woofer = W, Midrange = M, Tweeter = T, Superwoofer = ST		Angular Frequency Response, Hz to kHz, ±dB		SPL, 1 Watt 1 Meter, dB		Recommended Min. Amp Power, Watts		Crossover Frequencies, Hz		Impedance, Ohms: Nominal/Minimum		Dimensions, Inches (To Nearest Inch)		Finish	Grille Color and Material	Weight, Lbs.	Price, \$
AUDIO CONCEPTS (Continued)	Sapphire	Aperiodic	7			1	Inv. Dome		65-20 ±3	90	50	2k	6/4	35 x 13 x 13	Opt., Unfin. Wood	Black Knit	42	849.90						Pair		
	Orion	Slotted	12	5 1/4	Cone	1	Inv. Dome		35-20 ±3	89	50	200,4.5k	4.3	56 x 14 x 13	Opt., Unfin. Wood	Black Knit	125	1199.90						Pair		
	JR1 Wall Speaker	In-Wall	7			1	Dome		55-20 ±3	89	30	2.8k	8/6	16 x 10 x 3	Opt., Unfin. Wood	Black Knit	7	299.90						Pair		
AUDIODATA	Bijou	Pas. Rad.	7			3/4	Dome		48-20 ±2	91	20		8.5.5	10 x 20 x 40	Opt., Wood	Dpt.	61	2950.00						Pair		
	Petite	Pas. Rad. Sat.	7			3/4	Dome		75-20 ±2	86	15		8/7	11 x 12 x 14	Opt., Wood	Opt.	23	1495.00						Pair		
AUDIO EXKLUSIV	P3	ES							48-20 ±4	103			4.4	13 x 79 x 3	Opt.	Dpt.	80	5995.00						Pair		
	Tubular Bell	Pas. Rad.	7			2			25-20 ±4				8.4	10 x 33 x 10	Opt., Mrbl.	Opt.	45	1595.00						Pair		
AUDIO PRO	B1-45	Powered Subwoof.	10						30-200 ±1.5	102	Inc.	Var.		20 x 15 x 15	Opt.		48	985.00								
	B2-70	Powered Subwoof.	(2)8						20-200 ±1.5	103	Inc.	Var.		24 x 22 x 18	Opt.	Black Cloth Foam	90	1450.00								
	A4-14 MKII	Powered	(2)5	4 1/2	Cone	1	Dome		30-20 ±1.5	113	Inc.	300,2.5k		20 x 12 x 10	Opt.		82	1950.00						Pair		
AUDIOSOURCE	LS One	Inf. Baf.	4			1	Dome		80-20	87	10	2.5k	4/3	7 x 5 x 5	Black Metal White	Black Metal White	5 1/4	199.95						Pair		
	LS One W/T	Inf. Baf.	4			1	Dome		80-20	87	10	2.5k	4/3	7 x 5 x 5		Black Metal White	5 1/2	219.95						Pair		
	LS One Walnut/Oak	Inf. Baf.	4			1	Dome		70-20	87	10	2.5k	4/3	8 x 5 x 5	Opt., Wood	Black Metal	5 1/4	229.95						Pair		
	LS Eleven	Inf. Baf.	(2)4	4	Cone	1	Dome		60-20	89	10	600,3k	4/3	15 x 5 x 6	Opt.	Black Metal	8 3/4	229.95						Pair		
	LS Twelve	Inf. Baf.	6 1/2			1	Dome		40-20	93	10	3k	4/3	23 x 9 x 8	Opt.	Black Metal	17 1/2	359.95						Pair		
	LS Two	Inf. Baf.	5 1/2			1	Dome		60-20	89	10	2.5k	6/4	9 x 6 x 5	Opt.	Black Metal Opt., Metal	5 3/4	259.95						Pair		
AUDIRE	Image I	Planar Ribbon							30-20 ±3	92	50		2/2	72 x 36 x 3	Oiled Wal.	Black Knit	150	6500.00						Pair		
	Image II	Planar Ribbon							35-20	90	75		3/3	72 x 32 x 3	Oiled Wal.	Black Knit	125	4500.00						Pair		
	Image III	Planar Ribbon							40-20	88	75		8/8	60 x 24 x 2	Oiled Oak	Brown Knit	60	2700.00						Pair		
	Image IV	Planar Ribbon							50-20 ±3	86	75		4/4	24 x 60 x 2	Oiled Wal.	Black Knit	50	1500.00						Pair		
AVALON ACOUSTICS	Ascent MK. II	Inf. Baf.	11	2	Dome	1	Dome	No	36-24 ±2	88	50		6.5.5	13 x 18 x 45	Maple	Black Knit	220	13,500.00						Pair		
	Eclipse	Inf. Baf.	8 1/2			1	Dome		46-24 ±2	86	30		6.5.5	10 x 15 x 39	Maple	Black Knit	80	5600.00						Pair		
AXIDM AUDIO	AX 1.5 Bookshelf	Tuned Port	6 1/2			3/4	Dome		50-22 ±2	89	15	3.5k	8/6	15 x 8 x 8	Opt., Oak	Black Knit	30	299.00						Pair		
	AX 1.5	Tuned Port	6 1/2			3/4	Dome		45-22 ±2	89	15	3.5k	8/6	19 x 8 x 8	Opt., Oak	Black Knit	36	339.00						Pair		
	AX 2 Bookshelf	Tuned Port	8			1	Dome		43-22 ±2	89	15	3.2k	8/6	19 x 10 x 10	Opt., Oak	Black Knit	44	429.00						Pair		
	AX 2	Tuned Port	8			1	Dome		40-22 ±2	89	15	3.2k	8/6	24 x 10 x 10	Opt., Oak	Black Knit	50	559.00						Pair		
	AX 3	Tuned Port	8.5			1	Dome		36-22 ±2	88	30	3k	6/4	36 x 10 x 10	Opt., Oak	Black Knit	66	849.00						Pair		
	AX 1.5 Wallmount	In-Wall	6 1/2			3/4	Dome		45-22 ±2	89	15	3.5k	8/6	14 x 19 x 1	Opt., Oak	Black Knit	15	339.00						Pair		
	AX 5 Reference		10.5			1	Dome		29-22 ±2	87	40	3k	6/4	36 x 12 x 12	Opt., Oak	Black Knit	80	1699.00						Pair		
	AX 1 Reference	Tuned Port	5			1	Dome		70-22 ±2	87	30	3k	6/4	11 x 6 x 6	Opt., Oak	Black Knit	30	599.00						Pair		
	AX SUB Reference	Subwoof.	(2)10							29-250 ±3	87	40	Sel.	6/4	15 x 33 x 16	Opt., Oak	Black Knit	80	1099.00						Pair	
	AX SUB Center Channel	Subwoof. & Ctr. Channel	(2)10,5			1	Dome			29-22 ±3	87	40	120,250,3k	6/4	15 x 33 x 16	Opt., Oak	Black Knit	90	1449.00						Pair	
BANG & OLUFSEN	Beovox 3000	Bass Ref.	5			1	Dome		75-20 +4,-8	87	20	3.5k	8/8	18 x 15 x 3	Steel	Opt.	16	348.00						Pair		
	Beovox 5000	Bass Ref.	(2)5			1	Dome		60-20 +4,-8	89	20	3.5k	8/8	18 x 34 x 3	Steel	Opt.	30	548.00						Pair		
	Beolab 3000	Powered Bass Ref.	5			1	Dome		75-20 +4,-8		Inc.	3.5k	47k	18 x 21 x 3	Steel	Opt.	50	1695.00						Pair		
	Beolab 5000	Powered Bass Ref.	(2)5			1	Dome		60-20 +4,-8		Inc.	3.5k	47k	18 x 40 x 3	Steel	Opt.	78	2095.00						Pair		
	Beovox Cona	Subwoof.	8						40-195	89	20	195	8/8	17 Dia. x 11	Opt.	Opt.	16 1/2	395.00						Pair		
BEAR LABS	Quadrapole Subwoofer	Compr. Pas. Rad. Subwoof.	(2)12						17-150 ±2.5	90			Sel.	Two Pieces Per Side	Opt.	Opt.	75 Each	2720.00						Sys. w/Xover		
BIB	Point-4		4			2 1/2	Cone	W			50	4k	4/	8 x 5 x 5	Black Alum.	Gray Mesh	5 3/4	129.00						Pair		
BONDWELL INDUSTRIAL (Continued)	MA-100	Dual Ported	4 1/2		Cone	1 1/2	Cone		70-16 ±3	90			4/	9 x 6 x 7	Gray Foam	Opt., Black	7.7	129.95						Pair		
	MA-100T	Dual Ported	4 1/2		Cone	1 1/2	Cone		70-16 ±3	90			4/	9 x 6 x 7	Opt., Black	Opt., Black	7.5	79.95						Pair		

SUPER WOOFERTM **SYSTEM**

*For the way you live today,
and the style of tomorrow.
Woofer Speaker System
while giving you a sound
only in large cumbersome enclosures, if
at all. Tomorrow's innovations, today.*

*Kenwood presents the sound
The compact 3-piece Super
blends with your interior,
that until now was available*

KENWOOD

COMPONENT SPEAKER SYSTEMS

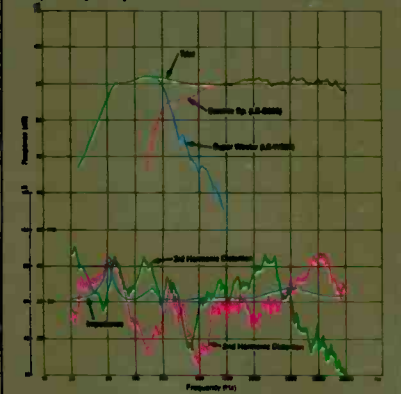
SUPER WOOFER™ SYSTEM

The Super Woofer

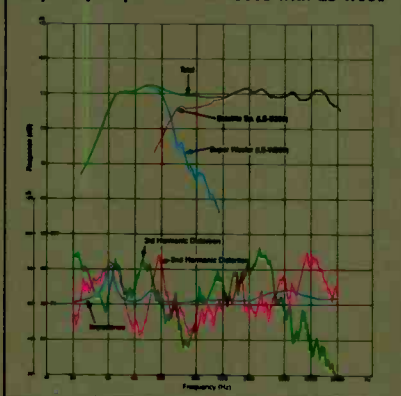
Recently, many manufacturers have introduced multiple cabinet speaker systems usually consisting of a pair of satellite speakers and at least one woofer cabinet. The main reason for this new influx of speaker systems is the changing living conditions in America. People are now living in more space efficient housing. There is just no room for gigantic tower speaker systems. These new multi-piece speaker systems allow the user to display the satellite speakers in a small area and to tuck the woofer section away out-of-sight. The best part of this concept in speaker design is the space that is saved without giving up the rich full sound of a large speaker enclosure. The problem is many manufacturers have settled for lighter bass reproduction in the smaller woofer cabinet. Kenwood has chosen not to settle for anything less than tight, thunderous bass reproduction. And that is just what you'll get with the LS-W900 and LS-W700 Super Woofers. They are designed specifically for deep penetrating bass reproduction, yet they are so compact that they can be installed almost anywhere. Outside, the enclosures look like a box with a single port. Inside, it is far from conventional. Dual low-range drivers are mounted on an internal partition between a bass emphasis chamber and a treble attenuation chamber. A tuned port carries the emphasized bass sound to the neighboring chamber which "tunes out" the unwanted higher frequency signal components. Therefore, the sound that emerges from the cabinet is pure deep bass—covering precisely the frequency range required for accurate sonic reproduction.

Inside the Super Woofer cabinet, incredible sound pressure levels are created. An ordinary woofer would not survive in this application. Therefore, special diaphragm materials and magnetic circuit construction are required. For the woofer diaphragm, these 8-inch low-range drivers (LS-W900) employ thick non-pressed cones—with lightness and high rigidity balanced by the internal loss required to suppress radiation of spurious harmonics (i.e. distortion). Likewise, precision engineered magnetic circuit and suspension construction extends linear response throughout the very low frequency range.

Frequency response for LS-S500 with LS-W900



Frequency response for LS-S300 with LS-W900

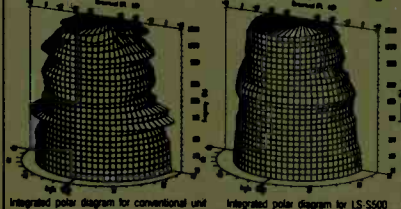


The Satellites

For a clear soundstage the satellite speakers must provide smooth frequency response and low distortion. However, their frequency extension and directional coverage are also critical. The LS-S500 achieves these goals in several unique ways.

First, the speaker cabinet's unusual shape minimizes standing waves inside the enclosure, while the rounded outside baffle contour suppresses edge diffraction and surface reflection, thereby avoiding secondary delayed radiation effects. The improvement in directional characteristics is apparent from the integrated polar diagrams shown here.

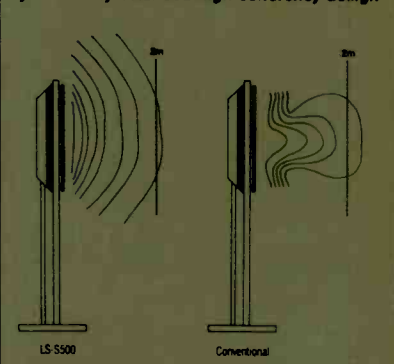
Integrated polar diagram shows smoothness of frequency coverage



Second, a soft dome tweeter with Kenwood's Spherical Wave Baffle is used. As its name suggests, this generates sound waves that radiate in a more ideally spherical pattern from the speaker surface. In a conventional system, tweeter sound waves tend to interfere with each other. In contrast, the spherical wave horn baffle output is highly regular, thereby retaining the important clues that carry

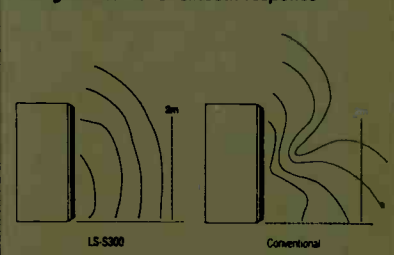
delicate ambience and instrumental timbre information to your ears.

Symmetrically balanced high coherency design



Third, there is the symmetrical arrangement of the single tweeter between two midrange units. In ordinary systems, the shape of the sound waves will vary depending on the frequency content of the signal. This upsets coherency, naturally highlighting the fact that more than one speaker unit is reproducing the audio spectrum. But with this new arrangement, a phase coherent wavefront is maintained whether the energy balance shifts to the tweeter or to the midrange units.

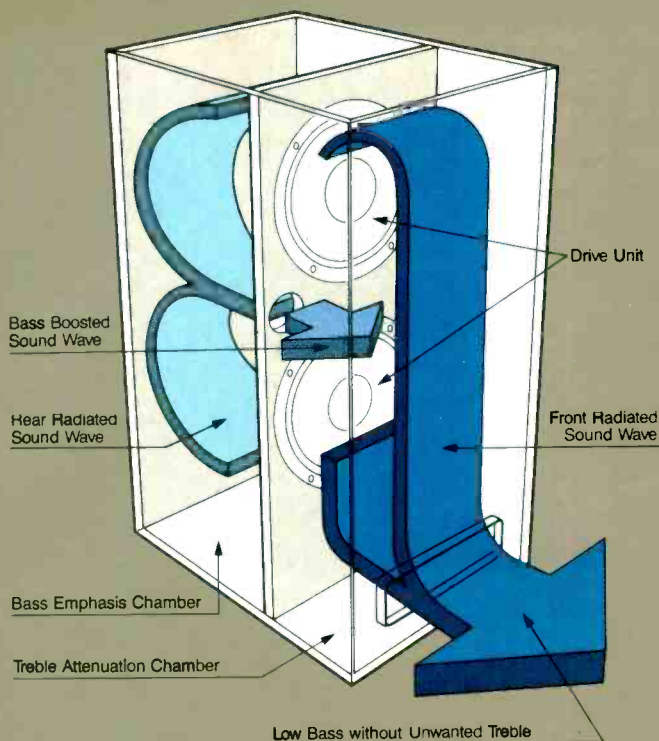
Pentagonal baffle for smooth response



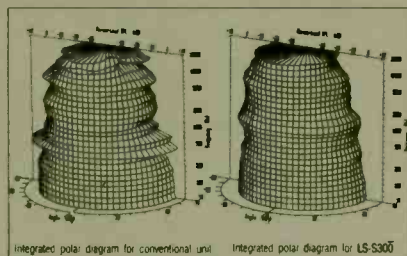
Fourth, the materials used in the construction of the midrange and tweeter diaphragms—advanced polypropylene cones and a polyamide dome, respectively, yield a smooth and accurate response. By carefully controlling the relationship between rigidity and internal loss, we have achieved smooth midrange and high frequency extension without the typical peak that is responsible for annoying strident colorations in superficially similar configurations. This means a natural sound that retains precision of voicing and transient response, the kind of satisfying sound that makes good music sound great.

Together, these four structural features contribute to a wider frequency range and more consistent sound distribution, without spurious output, resulting in a soundstage that is utterly convincing.

**Inside View of LS-W900
Dual Tuned Port Acoustic Bass Resonator**



The LS-S300's remarkable semi-pentagonal enclosure minimizes standing waves in the cabinet interior, for better frequency response. Outside, the 5-sided baffle improves edge diffraction and surface reflection characteristics. It allows sound waves radiated from the front to travel smoothly to the rear, thereby minimizing phase deviations. This contributes to wider frequency range and more consistent sound distribution—the keys to outstanding soundstage imaging. The drive units themselves are designed for low distortion, featuring a polypropylene midrange and polyamide dome tweeter which is surrounded by Kenwood's Spherical Wave Baffle for uniform acoustic intensity without the muddying effects of frequency cancellation. Together with the Super Woofer, the system as a whole provides superb sonic clarity, and freedom from tonal colorations. The frequency response graph reveals the difference.

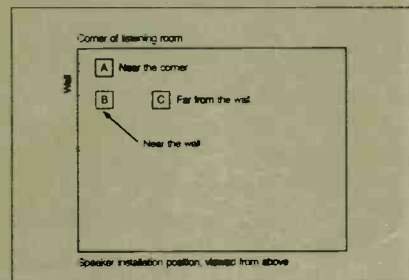


Some manufacturers feel that the smaller the satellite speakers the better. In the process of sizing down the satellites, they have also sized down the sound quality. Some systems are almost totally lacking in midrange. This means voices do not have the richness and clarity that they should, horns tend to sound thin and harsh and there's nothing grand about a grand piano without midrange definition. Once again Kenwood has taken the no compromise approach. A 4-1/2 inch polypropylene midrange driver and a 1 inch soft dome tweeter are housed in an enclosure that is slightly more than a foot tall. Small enough to fit on a standard bookshelf but big enough to house the necessary components for accurate sonic reproduction.

The System

Conventional speakers use an electronic crossover network to separate the bass from the midrange and treble signals. But the Kenwood Super Woofer tackles the problem by employing proven acoustical principles—the physical laws concerning the behavior of sound pressure waves. In technical terms, the Super Woofer enclosure acts as an acoustic filter. It removes the unwanted higher frequencies, leaving only the pure deep bass. The result is not just a reduction in low range distortion, but also a greater sonic clarity in total system output.

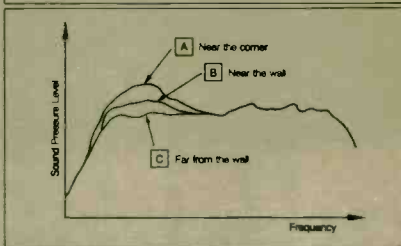
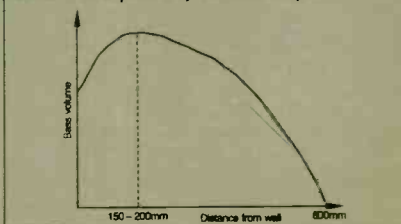
Although the position of the Super Woofer itself is not critical to stereo reproduction, it does affect the overall bass response. This characteristic gives you the chance to actively adjust the degree of bass output to suit your taste or the kind of music being played. For example, you can increase the bass energy by moving the Super Woofer cabinet closer to a wall. For even more low range emphasis, simply put it near a corner of the listening room. It's amazingly versatile—a little experimentation will be amply rewarded by big gains in system fidelity.



The best part is you can install this incredible system in your listening room with far greater convenience and flexibility than ever before. Connections are simple. You don't need a special amplifier, special output terminals, or crossover network. And heavy gauge audiophile wiring connects easily for extra fidelity in signal transmission from your amplifier.

Kenwood's unique technical approach delivers big speaker sound without taking up big speaker space. So you get your kind of design plus your kind of listening satisfaction. We call it the Kenwood Super Woofer System, and you can choose from four different system configurations. These compact 3-piece systems blend with your interior while delivering a sound that until now was available only in large bulky enclosures. It's the sound and style of tomorrow for the way you live today.

Effect of wall proximity on bass output



SPECIFICATIONS

LS-W9010 (LS-W900 + LS-S500)

Speakers	LS-W900	LS-S500
System	1-Way, 2-Speaker Super Woofer System	2-Way, 3-Speaker Satellite Speaker for Super Woofer System
Type	Dual Tuned Port Acoustic Bass Resonator	Acoustic Air-Suspension
Mounted Drivers		
Low Frequency Driver	8" Cone Type x 2	—
Mid-Frequency Driver	—	4-1/2" Polypropylene Cone Type x 2
High Frequency Driver	—	1" Dome Type
Enclosure	Floor Standing Type	Acoustic Air-Suspension Floor Standing Type
Maximum Input Power	180Wch as Complete System	180Wch as Complete System
Sensitivity	89dB/W/m	89dB/W/m
Rated Input Power	90Wch as Complete System	90Wch as Complete System
Frequency Response	30Hz—20kHz as Complete System	30Hz—20kHz as Complete System
Impedance	8 ohms	8 ohms
Dimensions (W x H x D)	9-13/16" x 23-1/4" x 14-5/8"	10-1/4" x 40-7/8" x 11"
Weight (Net)	28.6 lbs	15.4 lbs
Enclosure Finish	High Density Particle Board Laminated with Simulated Wood Grain Finish.	High Density Particle Board Laminated with Simulated Wood Grain Finish.

LS-W7010 (LS-W700 + LS-S500)

Speakers	LS-W700	LS-S500
System	1-Way, 2-Speaker Super Woofer System	2-Way, 3-Speaker Satellite Speaker for Super Woofer System
Type	Dual Tuned Port Acoustic Bass Resonator	Acoustic Air-Suspension
Mounted Drivers		
Low Frequency Driver	6-1/2" Cone Type x 2	—
Mid-Frequency Driver	—	4-1/2" Polypropylene Cone Type x 2
High Frequency Driver	—	1" Dome Type
Enclosure	Floor Standing Type	Acoustic Air-Suspension Floor Standing Type
Maximum Input Power	140Wch as Complete System	140Wch as Complete System
Sensitivity	89dB/W/m	89dB/W/m
Rated Input Power	70Wch as Complete System	70Wch as Complete System
Frequency Response	30Hz—20kHz as Complete System	30Hz—20kHz as Complete System
Impedance	8 ohms	8 ohms
Dimensions (W x H x D)	16-1/8" x 8-1/4" x 15-3/16"	10-1/4" x 40-7/8" x 11"
Weight (Net)	22 lbs	15.4 lbs
Enclosure Finish	High Density Particle Board Laminated with Simulated Wood Grain Finish.	High Density Particle Board Laminated with Simulated Wood Grain Finish.

LS-W5010 (LS-W900 + LS-S300)

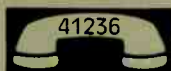
Speakers	LS-W900	LS-S300
System	1-Way, 2-Speaker Super Woofer System	2-Way, 2-Speaker Satellite Speaker for Super Woofer System
Type	Dual Tuned Port Acoustic Bass Resonator	Acoustic Air-Suspension
Mounted Drivers		
Low Frequency Driver	8" Cone Type x 2	—
Mid-Frequency Driver	—	4-1/2" Polypropylene Cone Type
High Frequency Driver	—	1" Dome Type
Enclosure	Floor Standing Type	Acoustic Air-Suspension Floor Standing Type
Maximum Input Power	180Wch as Complete System	180Wch as Complete System
Sensitivity	89dB/W/m	89dB/W/m
Rated Input Power	90Wch as Complete System	90Wch as Complete System
Frequency Response	30Hz—20kHz as Complete System	30Hz—20kHz as Complete System
Impedance	8 ohms	8 ohms
Dimensions (W x H x D)	9-13/16" x 23-1/4" x 14-5/8"	8-3/8" x 12-13/16" x 6-1/4"
Weight (Net)	28.6 lbs	6.6 lbs
Enclosure Finish	High Density Particle Board Laminated with Simulated Wood Grain Finish.	High Density Particle Board Laminated with Simulated Wood Grain Finish.

LS-W3010 (LS-W700 + LS-S300)

Speakers	LS-W700	LS-S300
System	1-Way, 2-Speaker Super Woofer System	2-Way, 2-Speaker Satellite Speaker for Super Woofer System
Type	Dual Tuned Port Acoustic Bass Resonator	Acoustic Air-Suspension
Mounted Drivers		
Low Frequency Driver	6-1/2" Cone Type x 2	—
Mid-Frequency Driver	—	4-1/2" Polypropylene Cone Type
High Frequency Driver	—	1" Dome Type
Enclosure	Floor Standing Type	Acoustic Air-Suspension Floor Standing Type
Maximum Input Power	140Wch as Complete System	140Wch as Complete System
Sensitivity	89dB/W/m	89dB/W/m
Rated Input Power	70Wch as Complete System	70Wch as Complete System
Frequency Response	30Hz—20kHz as Complete System	30Hz—20kHz as Complete System
Impedance	8 ohms	8 ohms
Dimensions (W x H x D)	16-1/8" x 8-1/4" x 15-3/16"	8-3/8" x 12-13/16" x 6-1/4"
Weight (Net)	22 lbs	6.6 lbs
Enclosure Finish	High Density Particle Board Laminated with Simulated Wood Grain Finish.	High Density Particle Board Laminated with Simulated Wood Grain Finish.

Kenwood follows a policy of continuous advancement in development. For this reason specifications may be changed without notice.

For More Information



Call 1-800-553-4355

Enter No. 5 on Reader Service Card

KENWOOD

KENWOOD U.S.A. CORPORATION
 CONSUMER ELECTRONICS GROUP
 LOS ANGELES OFFICE & NATIONAL SERVICE DEPT.
 P.O. BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745, U.S.A.
 NEW JERSEY OFFICE
 550 Clark Drive, Mt. Olive, New Jersey 07828, U.S.A.

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Separate Low Control? Woofer = W, Midrange = M, Tweeter = T, Subwoofer = ST	Anchorage Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance Ohms, Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
BONDWELL (Continued)	M-100	Dual Ported	4½		Cone	1½	Cone		70-16 ±3	90			4	9 x 6 x 7	Gray Foam	Opt., Black	7 Pair	69.95 Pair	
BOSE	901 VI	Ac. Matrix	(9)4½								10		8	21 x 13 x 13	Wal.	Brown Knit	17½	1499.00 Pair w/EQ	
	601 III	Ported	(2)8			(4)3	Cones			87	10	1.5k, 2.5k	8	12 x 12 x 30	Wal.	Brown Knit	45	999.00 Pair	
	501 IV	Ported	10			(2)3	Cones			20	10	1.5k, 2.5k	8	16 x 14 x 25	Teak Vinyl Opt.	Brown Knit	20	699.00 Pair	
	401	Ported	(2)6½			2	Cone			10	10	2.2k	4	12 x 12 x 30	Wal. Vinyl Opt.	Brown Knit	31	599.00 Pair	
	301 II	Ported	8			(2)3	Cones			10	10	1.5k, 2.5k	8	10 x 17 x 10	Wal. Vinyl Rswd.	Brown Knit	19	399.00 Pair	
	201 II	Ported	6			3	Cone			5	10	1.5k, 2.5k	8	15 x 18 x 19	Brown Knit	Brown Knit	10	269.00 Pair	
	101 Music Monitor	Ported	4½							89	10		4	6 x 9 x 5	Opt.	Opt.	10	219.00 Pair	
	RoomMate II	Powered	4½							102	Inc.			7 x 10 x 7	Black	Black Metal	10½	339.00 Pair	
	Video RoomMate	Powered	4½							100	Inc.			6 x 9 x 5	Gray	Silv.	12	339.00 Pair	
	Acoustimass 5	Acousti-mass	(2)6½	(4)2½	Cones					89	10		8	Three Pieces	Opt.	Opt.	33	799.00 Sys.	
	Acoustimass SE-5	Acousti-mass	(2)6½	(4)2½	Cones					89	10		6	Three Pieces	Black	Black	33	799.00 Sys.	
	Acoustimass 3	Acousti-mass	5¼	2½	Cone	2½	Cone			88	10		6	Three Pieces	Black	Black	15	599.00 Sys.	
	Freestyle	Ported	4½							89	10		6	10 x 6 x 5	Opt.	Opt., Cloth	10	399.00 Pair	
	10.2 II	Acousti-mass	8			(2)2				88	10	140, 1.6k	8	39 x 12 x 12	Teak Ven.	Brown Cloth	46	1299.00 Pair	
	6.2	Ported	8			(2)3	Cones			10	10	1k-3.2k, 6k	4	20 x 10 x 10	Teak Ven.	Brown Knit	19½	599.00 Pair	
4.2	Ported	8			2½	Cone			10	10		8	8 x 10 x 9	Teak Vinyl	Brown Knit	15	399.00 Pair		
2.2	Ported	6			2	Cone			10	10		8	10 x 15 x 8	Teak Vinyl	Brown Knit	12	269.00 Pair		
BOSTON ACOUSTICS	SubSat Six	Sat. & Subwoof.		4	Cone	¾	Cone		46-20 ±3	87	15		8/6	Three Pieces	Black Ash Vinyl Opt.	Black Perf. Steel	30 Sys.	599.95 Sys.	
	T1000 Series II	Ac. Sus.	(2)8	6½	Cone	1	Dome		40-20 ±3	90	15	250, 2.5k	4/4	43 x 10 x 12	Opt.		65	1200.00 Pair	
	T930	Ac. Sus.	10	6½	Cone	1	Dome		42-20 ±3	90	15	350, 2.5k	8/6	37 x 11 x 12	Opt.		50	800.00 Pair	
	T830	Ac. Sus.	8	3½	Cone	1	Dome		45-20 ±3	88	15	800, 4k	8/6	33 x 10 x 10	Opt., Vinyl Opt.		40	500.00 Pair	
	A120	Pas. Rad.	10	6	Cone	1	Dome		39-20 ±3	90	15	2.5k	8/6	25 x 9 x 13	Opt., Vinyl Opt.		25	420.00 Pair	
	A70 Series II	Ac. Sus.	8			1	Dome		45-20 ±3	90	15	2.5k	8/5	23 x 13 x 9	Opt., Vinyl Opt.		24	320.00 Pair	
	A60 Series II	Ac. Sus.	8			1	Dome		52-20 ±3	90	10	3k	8/6	18 x 11 x 8	Opt., Vinyl Opt.		16	240.00 Pair	
	A40 Series II	Ac. Sus.	6½			¾	Cone		65-20 ±3	89	5	3.5k	8/5	14 x 8 x 7	Opt., Vinyl Opt.		9	180.00 Pair	
	A40V Series II	Ac. Sus.	6½			¾	Cone		65-20 ±3	90	5	3.5k	8/5	14 x 8 x 7	Opt., Vinyl Matte Black	Black	9	190.00 Pair	
	360	In-Wall	6½			1	Dome		58-20 ±2	89	5	3k	8/6	12 x 9 x 3	Opt., Perf. Steel Opt., Perf. Steel		4	450.00 Pair	
	350	In-Wall	5¼			1	Dome		68-20 ±2	90	5	3.5k	4/4	10 x 7 x 3	Opt.		3	400.00 Pair	
	325	In-Wall	5¼			¾	Cone		70-20 ±3	87	5		4/4	6 x 6 x 2	Matte White	White Perf. Steel	2	250.00 Pair	
	305	In-Wall	5¼				Cone		70-16 ±3	87	5		4/4	6 x 6 x 2	Matte White	White Perf. Steel	2	175.00 Pair	
SW10	Powered Subwoof.	10						34-95 ±3		Inc.			20 x 11 x 16	Black Ash Vinyl Matte Black Vinyl		49	599.95 Pair		
PowerVent 12	Subwoof.							46-150 ±3	87	15		8/6	14 x 16 x 7			19	350.00 Pair		
BRITISH FIDELITY	MC2	Bass Ref.	8				Dome		65-17 ±2.5	87	20		8	10 x 19 x 11	Black	Cloth	20		
	REF 4	Inf. Baf.	8				Dome		85-16 ±2.5	90	20		8	10 x 15 x 9	Black	Cloth	14		
	REF 2	Inf. Baf.	8				Dome		85-16	90	20		8	10 x 15 x 9	Black	Cloth	11		
BSM	Series 1	Ac. Sus.	8			2	Cone		50-20 ±2	90	15	2k	8/4	24 x 11 x 8	Black Vinyl	Black Knit	14	149.00 Pair	
	Series 3 MK V	Ac. Sus.	8	3	Cone	2	Cone		48-20 ±2	92	15	2k, 6k	8/4	24 x 11 x 9	Black Vinyl	Black Knit	15	199.00 Pair	
	Series 4 MK V	Ac. Sus.	10	3	Cone	2	Cone		40-20 ±2	93	15	2k, 6k	8/4	24 x 14 x 11	Black Vinyl	Black Knit	18	249.00 Pair	
	Series 7 MK V	Ac. Sus.	12	4	Cone	2	Cone		30-20 ±2	94	15	2k, 6k	8/4	27 x 15 x 13	Black Vinyl	Black Knit	27	299.00 Pair	
	Series 12 MKII	Pas. Rad.	12	4	Cone	2	Cone		30-20 ±2	94	15	2k, 6k	8/4	41 x 15 x 13	Black Vinyl	Black Knit	39	399.00 Pair	

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Enclosure or System Type		Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		SPL, 1 Watt/1 Meter, dB		Crossover Frequencies, Hz		Impedance, Ohms		Dimensions, Inches		Grille Color and Material		Weight, Lbs.	Price, \$
			Woofer	Midrange	Woofer	Midrange	Tweeter	Tweeter	Response	Response	Min.	Max.	Nominal	Minimum	Length	Width	Height	Color	Material			
B & W	DM550	Inf. Baf.	6			1	Dome			70-20 ±2.5	87	30	3k	8/4	14 x 9 x 10	Opt., Wood	Black Knit	12		400.00	Pair	
	DM560	Vented	8			1	Dome			65-20 ±2.5	90	30	3k	8/4	19 x 9 x 12	Opt., Wood	Black Knit	18¾		550.00	Pair	
	DM570	Vented	8			1	Dome			55-20 ±2.5	91	30	3k	8/4	25 x 9 x 12	Opt., Wood	Black Knit	23¾		650.00	Pair	
	DM580	Vented	(2)8			1	Dome			50-20 ±2.5	91	30	3k	8/4	35 x 9 x 16	Opt., Wood	Black Knit	40¾		900.00	Pair	
	Matrix 1	Inf. Baf.	6			1	Dome			80-25 ±2	86	50	3k	8/4	16 x 9 x 13	Opt.	Black Knit	22		1200.00	Pair	
	Matrix 2	Vented	8			1	Dome			60-25 ±2	88	50	3k	8/4	24 x 10 x 13	Opt.	Black Knit	35¼		1600.00	Pair	
	Matrix 2	Inf. Baf.	(2)8			1	Dome			51-25 ±2	90	50	3k	8/4	36 x 10 x 16	Opt.	Black Knit	64		2500.00	Pair	
	Matrix 3	Inf. Baf.	(2)8			1	Dome			51-25 ±2	90	50	3k	8/4	36 x 10 x 16	Opt.	Black Knit	64		2500.00	Pair	
	CM1	Inf. Baf.	4½			1	Dome			90-20 ±1.5	85	50	3k	8/4	10 x 6 x 9	Opt.	Black Mesh	11		750.00	Pair	
	Matrix Mini	Vented	(2)4½	4½	Cone	1	Dome			48-20 ±1.5	87	50	150,3k	8/4	39 x 6 x 9	Opt.	Black Mesh	35		1750.00	Pair	
	CM2	Vented	(2)4½	4½	Cone	1	Dome			48-20 ±1.5	87	50	150,3k	8/4	39 x 6 x 9	Opt.	Black Mesh	35		1750.00	Pair	
	Matrix Mini	Vented	12	4½	Cone	1	Dome			20-20 ±2	88	100	400,3.5k	8/4	40 x 17 x 22	Opt., Wood	Black Knit	110		5000.00	Pair	
	801 Matrix	Vented	(2)8	4½	Cone	1	Dome			27-20 ±2	90	50	400,3k	8/4	41 x 12 x 15	Opt., Wood	Black Knit	70		3600.00	Pair	
	802 Matrix	Vented	(2)8	4½	Cone	1	Dome			27-20 ±2	90	50	400,3k	8/4	41 x 12 x 15	Opt., Wood	Black Knit	70		3600.00	Pair	
Series 2	Ac. Sus.	6			1	Dome			45-20 ±3	89	10	3k	6/	12 x 8 x 3	Opt., White	Opt.						
CWM6	Ac. Sus.	8			1	Dome			35-20 ±3	90	10	3k	4/	13 x 10 x 3	White	Opl.						
CWM8	Ac. Sus.	8			1	Dome			35-20 ±3	90	10	3k	4/	13 x 10 x 3	White	Opl.						
Acoustitone	Vented Subwoof.	(2)6							22-100 ±3	Adj.	30		9/	22 x 14 x 10	Black Ash		28		350.00			
CADAWAS ACOUSTICS	TC-1	Auto Damping	8,10	5¼	Cone	1,2	Dome, Cone	M,T		87	25	250,3.5k, 8k	8/6.5	24 x 15 x 11	Oiled Wal.	Brown Cloth	44		1195.00	Pair		
	Mobile Monitor One	Auto Damping	(2)5¼			1	Dome	T		87	15	2.5k	8/	14 x 8 x 8	Oiled Wal.	Brown Cloth	15		595.00	Pair		
	TC-2	Auto Damping Subwoof.	8,10					W		20-125	87	25	125	8/	24 x 15 x 11	Oiled Wal.	Brown Cloth	40		650.00	Pair	
CAMBER	.7t	Bass Ref.	6			½	Dome			65-20 ±3	89	15	3.5k	8/7	14 x 8 x 9	Opt., Wood	Black Knit	15		249.00	Pair	
	1.0ti	Bass Ref.	6			¾	Dome			60-20 ±3	89	20	2.7k	8/7	15 x 8 x 11	Opt., Wood	Black Knit	18		329.00	Pair	
	2.0ti	Bass Ref.	7			¾	Dome			55-20 ±3	90	25	2.7k	8/6	16 x 9 x 11	Opt., Wood	Black Knit	21		399.00	Pair	
	3.0ti	Bass Ref.	8			¾	Dome			50-20 ±3	90	30	2.7k	8/6	18 x 10 x 11	Opt., Wood	Black Knit	28		499.00	Pair	
	3.5ti	Bass Ref.	8			1	Dome			45-22 ±2	90	35	2.5k	8/6	24 x 10 x 11	Opt., Wood	Black Knit	35		699.00	Pair	
	5.0ti	Pas. Rad.	(2)8			1	Oome			40-22 ±2	90	50	2.5k	8/6	35 x 10 x 11	Opt., Wood	Black Knit	55		899.00	Pair	
	5.5ti	Bass Ref.	(2)8	7	Cone	1	Oome			35-22 ±2	91	50	200,2.5k	8/6	42 x 10 x 15	Opt., Oak	Black Knit	100		1500.00	Pair	
CAMBRIDGE PHYSICS	G-7 II	Vented	6½			¾	Oome			90	8	2.2k	8/5	16 x 12 x 5	Oak Vinyl	Brown Knit	12		265.00	Pair		
	G-11 II	Ac. Sus.	8			1	Oome			90	15	1.5k	5/4	19 x 12 x 8	Oak Vinyl	Brown Knit	18		400.00	Pair		
	G-33 II	Pas. Rad.	8			1	Dome			91	15	1.5k	5/4	29 x 18 x 8	Oak	Brown Knit	28		350.00	Pair		
	G-66 II	Vented	(2)8	3	Dome	¾	Dome			93	30	400,4k	4/3	44 x 18 x 12	Oak	Brown Knit	81		1000.00	Pair		
CAMBRIDGE SOUNDWORKS	Ensemble	Ac. Sus. Sat. & Subwoof.	(2)8,4			¾,1¾	Dome, Cone	No		85	25	140,1.9k	6/	Four Pieces	Nxtl.	Black Metal	52 Sys.		499.00	Pair		
	Ambiance	Ac. Sus.	6½			1	Oome	No		83	15	1.8k	8/	7 x 11 x 5	Opt.	Black Metal	10		218.00	Pair		
CANTON	InWall 9	In-Wall Inf. Baf.	9			1	Dome			30-30			2.5k	4/	10 x 10 x 3		White Metal	3½		600.00	Pair	
	Fonum 300	Vented	8			1	Dome			38-26			2.5k	8/	9 x 14 x 8	Black Ash Vinyl	Black Metal	14		495.00	Pair	
	Fonum 400	Vented	9	1½	Dome	¾	Dome			35-26			900,5k	8/	10 x 18 x 10	Black Ash Vinyl	Black Metal	20½		749.00	Pair	
	Fonum 600	Vented	9	1½	Dome	¾	Oome			30-26			900,5k	4/	10 x 32 x 11	Black Ash Vinyl	Black Metal	37		995.00	Pair	
	Plus S	Ac. Sus.	4¾			1	Dome			45-30	87.2		2.2k	4/	8 x 5 x 4	Opt., Mesh	Opt.	11 Pair		340.00	Pair	
	GL 260	Ac. Sus.	6¾			1	Dome			42-30	87.3		1.7k	4/	10 x 7 x 5	Opt.	Opt.	15 Pair		490.00	Pair	
	GL 300F	Ac. Sus.	6¾			1	Dome			48-30	87.3		1.7k	4/	13 x 9 x 3	Opt.	Opt.	18 Pair		500.00	Pair	
	Plus C	Ac. Sus. Subwoof.	12							20-120	89.7		120	4/	14 x 14 x 13	Opt.	Opt.	30 Pair		575.00	Pair	
	Plus Beta	Ac. Sus. Subwoof. Powered Ac. Sus. Subwoof.	12							20-140		Inc.	70,90,140		15 x 15 x 14	Opt.	Opt.	47		2000.00	Pair	
	Karat 20	Vented	7¾			1	Dome			36-30	91.9		2.5k	4/	13 x 9 x 8	Opt.	Opt.	14		690.00	Pair	



Can you think of any rock and roll song that actually sounds better at a low volume?

(Well, okay, maybe *Sugar, Sugar* by the Archies).

Simply, for most of us, great rock and roll is best when it's played loud. And clear.

Which is precisely where we come in. At Cerwin-Vega, we build loudspeakers so you, and your neighbors, can hear everything from booming bass to guitars gently weeping.



There are 6 models in our high-tech SE Series (above). Cerwin-Vega AT-Series loudspeakers (left) are available in 4 models.

In fact, our three series of loudspeakers (the AT, SE, and D-Series) can reproduce bass all the way down to a throbbing 30 Hertz. And all the way up to 28,000 Hertz.

What's more, every Cerwin-Vega speaker can run on as little as 5 watts. On the other hand, our 15" models can handle up to 400 watts of continuous power.

And reach a volume level of 127 very loud decibels.

Of course, in this magazine, every speaker sounds exactly the same. Silent.

So we suggest you take your favorite discs to your favorite store and ask to listen to Cerwin-Vega speakers.

Tell them you'd just like to hear the sound of a little live ammunition.



Cerwin-Vega D-Series loudspeakers are available in 5 models. From the 8 1/2-way D-1 to the 15 1/3-way D-9.

Cerwin-Vega!

*For more information please write or call Cerwin-Vega: 555 East Easy St., Simi Valley, CA 93065 805-584-9332
Cerwin-Vega Canada: 2360 Midland Ave., Scarborough, Ontario M1S4A9 Cerwin-Vega Europe: Grynderupvej 12, P.O. Box 40, DK-9610 Norager, Denmark*

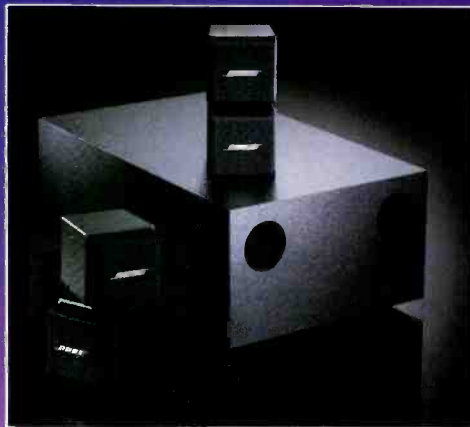
If rock and roll is rebellion, this is live ammunition.

"Superb sound and virtual invisibility."

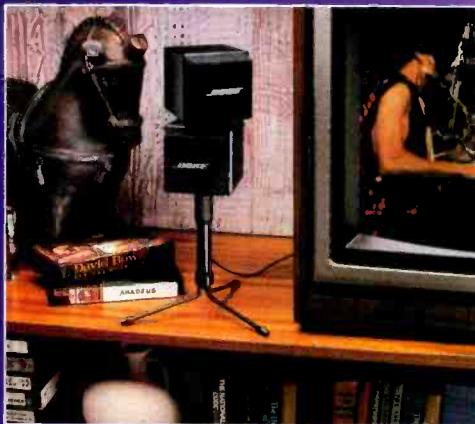
—Stereo Review, Julian Hirsch



Acoustimass® array with optional mounting accessory for unobtrusive placement.



The Bose® Acoustimass speaker system.



Both arrays are equipped with magnetic shielding for high-fidelity video listening.



The system's heart—the Acoustimass® module—can be completely hidden, providing *virtual invisibility*.



Enter No. 27 on Reader Service Card

Presenting the Bose® Acoustimass® Direct/Reflecting® Speaker System

"In our listening room, side by side with speakers costing three to five times as much, the AM-5 consistently produced the more exciting and listenable sound in A/B tests.

—Stereophile Review, Julian Hirsch

"... a sonic standout."

—The New York Times, Hans Fantel

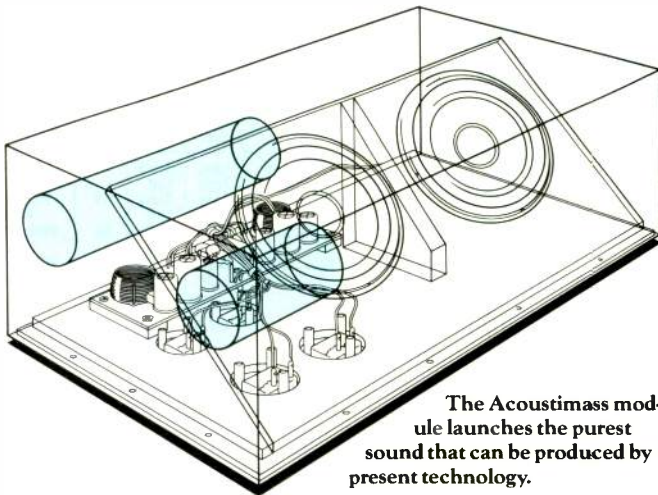
To hear the sound they're talking about, look for an Acoustimass® speaker system

Take the room-filling, full fidelity sound you expect from full-sized speakers, and imagine it coming from two tiny arrays, each no larger than a quart carton of milk.

This is the Acoustimass speaker listening experience.

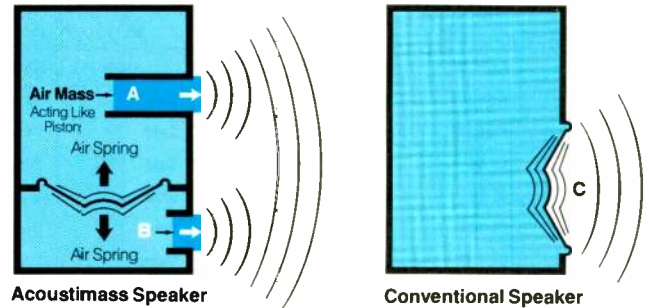
"Superb sound . . .

An Acoustimass speaker launches sound into the room by two air masses, producing the purest sound possible from any present-technology speaker design—regardless of size or price. Its purer sound, wider dynamic range and greater output mean that any sound source—music or video—will sound more lifelike, with much of its original realism and impact reproduced right in the listening room.



The Acoustimass module launches the purest sound that can be produced by present technology.

How an Acoustimass® speaker works.



Improving speaker performance means first reducing distortion. The design of an Acoustimass® speaker substantially reduces distortion (see diagrams and graph). The benefits of this patented speaker technology are: purer sound and virtual invisibility, along with higher power handling and wider dynamic range.

Left: An Acoustimass speaker launches sound into the room using two masses of air working like pistons (A&B, darker blue), rather than by a surface vibrating directly into the room. The sound launched into the room by the Acoustimass speaker's air pistons is the purest sound that can be produced by present technology.

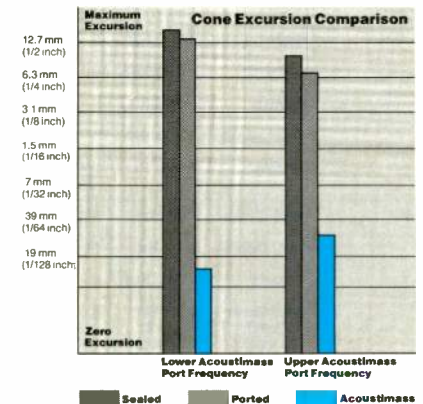
Right: A vibrating cone radiating directly into the room (C) produces unfiltered sound.

Cone Excursion Comparison

(lower excursion means lower distortion)

Graph: This distortion produced by any speaker rises dramatically with cone motion, or excursion.

At port-tuned frequencies, a typical Acoustimass speaker's cone has less than 1/16 the maximum excursion* of sealed and ported cones. Inside an Acoustimass speaker, the interaction of the air springs with the air masses in the ports produces a very high pressure at the surface of the cone. This greatly reduces the cone's excursion, and therefore reduces distortion. The air springs act with their respective masses to form low-pass filters, removing any small distortion components generated by the cone.



* based on cone travel measurements at 128 watts input.

A difference you can see and hear:

There are a number of three-piece speakers available. But only Acoustimass speaker technology delivers the full benefits of "superb sound and virtual invisibility." Ask your Bose dealer to give you an A/B demonstration comparing the Acoustimass system to any other speaker on display—and judge for yourself. For more information call toll-free 1-800-444-2673.

BOSE®

Better sound through research.

© Copyright 1988 Bose Corporation. All rights reserved. Covered by patent rights issued and/or pending. Julian Hirsch, Stereophile, April 1987. Reprinted with permission from High Fidelity Magazine, March 1987. Copyright © All rights reserved. Copyright © 1987 by The New York Times Company. Reprinted by permission.

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Separate Level Controls? Woofer = W, Midrange = M, Tweeter = T, Supertweeter = ST	Angular Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum		Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
CANTON (Continued)	Karat 30	Vented	8½			1	Dome			30-30	92.2	2.5k	4/	17 x 11 x 11	Opt.	Opt.	26	890.00 Pair		
	Karat 40	Vented	8½	4¾	Cone	1	Dome			24-30	92.6	450,4k	4/	20 x 11 x 11	Opt.	Opt.	32	1290.00 Pair		
	Karat 60	Vented	10	4¾	Cone	1	Dome			22-30	93.9	450,4k	4/	23 x 12 x 12	Opt.	Opt.	44	1590.00 Pair		
	CT 80	Vented	8½	4¾	Cone	1	Dome			22-30	93.4	450,4k	4/	32 x 11 x 12	Opt.	Opt.	49	1650.00 Pair		
	CT 90	Vented	10	4¾	Cone	1	Dome			20-30	93.4	450,4k	4/	35 x 12 x 13	Opt.	Opt.	71	2400.00 Pair		
	CT 100	Vented	6¾, 10¼	1½	Dome	1	Dome			18-30	94.8	250, 1.1k, 4.6k	4/	41 x 13 x 14	Opt.	Opt., Cloth	88	3500.00 Pair		
	CT 120	Vented	7¾, 12¼	1½	Dome	1	Dome			18-30	95.2	250, 1.1k, 4.6k	4/	47 x 14 x 16	Opt.	Opt., Cloth	128	5000.00 Pair		
	CA 15	Powered	10¼	4¾	Cone	1	Dome	W, M, T			20-30	Inc.	350, 3.5k		35 x 12 x 13	Opt.	Opt., Cloth		6500.00 Pair	
	CA 20	Powered	10¼	7½, 1½	Cone, Dome	1	Dome	W, M, T, ST			20-30	Inc.	220, 1.6k, 4.5k		13 x 48 x 16	Opt.	Opt., Cloth	181	11,000.00 Pair	
	CA 30	Powered	10¼	7½, 1½	Cone, Dome	1	Dome	W, M, T, ST			20-30	Inc.	220, 1.6k, 4.5k		15 x 67 x 17	Opt.	Opt., Cloth	280	16,500.00 Pair	
CARVER	Amazing Loudspeaker Platinum Edition	Ribbon	(4)12			60L	Ribbon			23-40 ±3	89	60	120	8/8	30 x 66 x 10	Opt.	Black Knit	110	2195.00 Pair	
	Amazing Loudspeaker Silver Edition	Ribbon	(3)12			40L	Ribbon			23-40 ±3	89	60	120	8/8	22 x 54 x 10	Opt.	Black Knit	75	1795.00 Pair	
CASCADE	SPS-215 AD	Vented	5¼			1	Dome	T		65-20 ±4.5	87	25	1.4k	8/3	12 x 8 x 7	Oak	Black Knit	20	738.00 Pair	
	SPS-319 AD	Vented	7	3	Dome	1	Dome	M, T		50-20 ±4.5	88	30	640, 2.1k	8/3	19 x 12 x 9	Oak	Black Knit	39	1158.00 Pair	
	SPS-317 Mk. II	Vented	(2)6½			1	Dome	T		42-20 ±3	89	30	2.8k	4/2	32 x 8 x 10	Oak	Black Knit	47	1298.00 Pair	
	SPS-422 Mk. I	Vented	(2)8	4	Cone	1	Dome	M, T		33-20 ±3	91	30	450, 3.2k	4/2	41 x 11 x 14	Dak	Black Knit	73	1998.00 Pair	
CASTLE ACOUSTICS	Trent	Bass Ref.	5			1	Dome	No		70-22	89	10		8/6	13 x 7 x 8	Wood Ven.	Black Foam	17 Pair	279.00 Pair	
	Clyde	Bass Ref.	5			1	Dome	No		65-22	89	10		6/6	15 x 9 x 9	Wood Ven.	Black Foam	22 Pair	350.00 Pair	
	Warwick	Bass Ref.	6			1	Dome	No		55-22	89	10		8/6	18 x 10 x 10	Wood Ven.	Black Foam	34 Pair	495.00 Pair	
	Durham	Bass Ref.	6			1	Dome	No		60-22	89	15		8/6	16 x 9 x 9	Wood Ven.	Black Foam	33 Pair	575.00 Pair	
	Pembroke II	Bass Ref.	8			1	Dome	No		48-22	89	15		8/6	22 x 10 x 12	Wood Ven.	Black Foam	62 Pair	750.00 Pair	
	Stirling	Bass Ref.	(2)6			1	Dome	No		48-22	89	15		8/6	22 x 10 x 13	Wood Ven.	Black Foam	66 Pair	1095.00 Pair	
CDE	Mini Monitor IV	Inf. Baf.	5½			1	Dome			50-20	90	20	1.5k	/4	7 x 11 x 9	Lacq. Teak	Black Knit	15	650.00 Pair	
	Mini Monitor V	Inf. Baf.	5½			1	Dome			50-32	86	20	1.5k	/4	15 x 6 x 9	Lacq. Teak	Black Knit	15	950.00 Pair	
	Tower I	Pas. Rad.	8	7	Cone	1	Dome			40-20	91	20	200, 1.5k	/8	8 x 37 x 12	Black Lacq.	Black Knit	47	2500.00 Pair	
	Mini Tower & Double Subwoofer	Inf. Baf. Sat. & Ported Subwoofer.	8	5½	Cone	1	Dome			22-32	91	40	150, 1.5k	4/16	Four Pieces	Black Lacq.	Black Knit	100 Sys.	4800.00 Sys.	
	Reference	Inf. Baf. Sat. & Ported Subwoofer.	(2)10	(2)5½	Cones	1	Dome			20-32	90	50	100, 1.5k		Four Pieces	Black Lacq.	Black Knit	500 Sys.	35,000.00 Sys.	
Colossus	Inf. Baf. Sat. & Ported Subwoofer.	(2)8, (6)10	6½	Cone	1	Dome			15-32	91	50	65,300, 1.5k		Four Pieces	Black Lacq.	Black Knit	1100 Sys.	55,000.00 Sys.		
CELESTION	3000	Ac. Sus.	8			21x½	Ribbon			66-20 ±3	86	40	900	8/4	26 x 13 x 12	Black Vinyl	Black	43		
	5000	Ac. Sus.	8			21x½	Ribbon			66-20 ±3	86	40	900	8/4	26 x 13 x 12	Wal. Ven.	Black	43		
	7000	Ac. Sus.	(2)8			21x½	Ribbon			45-20 ±3	86	40	900	8/4	47 x 13 x 14	Wal. Ven.	Black	80		
	SL 6Si	Ac. Sus.	6			1¼	Dome			75-20 ±3	84	35	2.8k	8/	15 x 8 x 11	Opt.	Black	18½	950.00 Pair	
	SL 600	Ac. Sus.	6			1¼	Dome			75-20 ±3	82	35	2.3k	8/	15 x 8 x 9	Nxtl.	Opt.	11¼	2000.00 Pair	
	SL 12Si	Ac. Sus.	(2)6			1¼	Dome			70-20 ±3	86	35	500, 2.8k	8/	21 x 8 x 12	Opt.	Black	29¼	1500.00 Pair	
	SL 700	Ac. Sus.	6			1¼	Dome			63-20 ±3	82	35	3k	8/	8 x 10 x 14	Nxtl.	Opt.	14	3000.00 Pair	
	System 600	Double-Dipole Subwoofer.	(2)12							20-100		35	100	8/	18 x 15 x 21	Nxtl.	Black	76	2700.00 Pair w/ Control- ler	
	3	Ac. Sus.	5			1	Dome			75-20 ±3	86	25	5k	8/	12 x 7 x 9	Opt., Vinyl	Black	8½	250.00 Pair	
	DL 4	Ac. Sus.	6½			1	Dome			70-20 ±3	89	25	3k	8/	15 x 8 x 9	Opt., Vinyl	Black	10½	330.00 Pair	
	DL 6	Ac. Sus.	8			1	Dome			60-20 ±3	89	25	3.5k	8/	18 x 10 x 10	Opt., Vinyl	Black	15½	440.00 Pair	
DL 8	Ac. Sus.	8			1	Dome			50-20 ±3	89	35	3.5k	8/	20 x 11 x 10	Opt., Vinyl	Black	22	550.00 Pair		

GOLD SOUND

"The high end of the high end"

Stereo Review

Our Customers Include Radio Stations, Recording Studios and NASA.



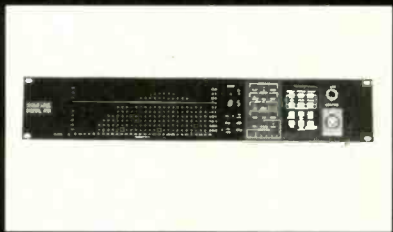
Speaker Kits Only Gold Sound has easy -to- build home, car & pro kits. Features include symmetrical arrays, polypropylene dual voice coil woofers, ribbon & titanium supertweeters. Assembled cabinets available. From \$79 to \$3498.

Subwoofer Kits Only Gold Sound has home, car & pro kits, some with JBL components. Compound-load, dual voice coil & sixth order-equalized kits deliver deeper bass from less space.

In-the-Wall Speakers Gold Sound has superior quality 5", 6" & 8" models with attractive flush grills.



Electronic Crossovers Only Gold Sound has 24db Linkwitz-Riley, 2 & 3-way crossovers, adjustable from 40-4000hz; available with bass EQ, subsonic filter & mono subwoofer. Improves bass, imaging & adds flexibility to your system.



Gold Line Test Equipment Portable one octave & third octave real time analyzers are the best way to evaluate & fine tune your system. New integrated signal generator/frequency counter also tests impedance. From \$269 to \$1798.



Mobile Speakers Standard in \$50,000 European cars. U.S. made subwoofers, midranges, tweeters, coaxials & plates, custom installed by: CA Fresno, Auto Sound Lab; Reseda, Auto Sound Engineering; CO Denver, Excalibur & Listen Up; FL Orlando, Audio Authority; ID Orfino, Stereo Vision; MO Jefferson City, Entertainer; TN Knoxville & Nashville, Cartunes; Nashville, HiFi Buys; WI Wisconsin Rapids, Salon One Audio.

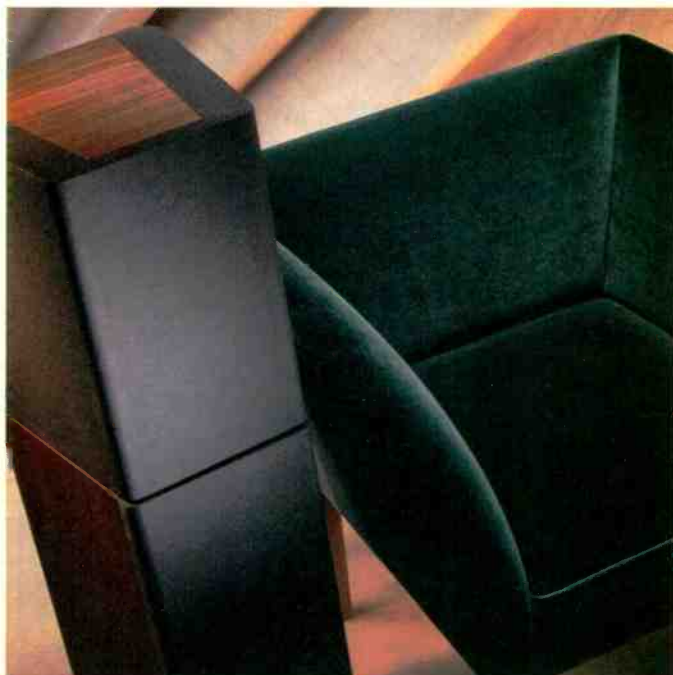
Gold Sound 2080 W. Hamilton Sheridan, Colorado 80110 Dealer inquires welcomed


Enter Reader Service #18

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches				Midrange Diameter, Inches				Tweeter Diameter, Inches				Separate Low Control? Wgt. = W. Midrange = H. Tweeter = T. Subwoofer = ST	Amplifier Frequency Response, Hz to kHz, ±dB	SPL, 1 W/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance Ohms: Nominal/Minimum		Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material		Weight, Lbs.	Price, \$
			10	6½	Cone	1¼	Dome	1	Dome	1	48-20 ±3	89	35	530,3.8k						8/	29 x 14 x 12			Opt., Vinyl Opt., Vinyl	Black		
CELESTION (Continued)	DL 10	Ported	10	6½	Cone	1¼	Dome		48-20 ±3	89	35	530,3.8k	8/	29 x 14 x 12	Opt., Vinyl Opt., Vinyl	Black	42½	850.00 Pair									
	DL 12	Pas. Rad.	(2)8			1	Dome		58-20 ±3	90	35	800,3.5k	8/	33 x 11 x 12	Opt., Vinyl Opt., Vinyl	Black	37¼	1000.00 Pair									
CELLO	Amati	Ac. Sus.	12	(4)1½	Domes	(4)¾	Domes							10 x 27 x 19	Oak	Black Mesh	90	7000.00 Pair									
CERCA	Hi 150 System	Sat. & Subwoof. Sat.	(2)10	5	Cone	1	Dome		34-20	86	20	2.5k	8/4									999.95 Pair					
	Hi 150 Satellite System	Sat.		5	Cone	1	Dome		800-20	86	20	2.5k	8/4									399.95 Pair					
	Hi 150 Subwoofer System	Subwoof.	(2)10						34-1	86	20	500	8/4									599.95 Pair					
	Classic 120	Inf. Baf.	6½	5	Cone	1	Dome		42-20	86	20	2.5k	8/4									1699.95 Pair					
	Victoria 120	Inf. Baf.	6½	5	Cone	1	Dome		41-20	86	20	2.5k	8/4									1699.95 Pair					
	Victoria 200	Inf. Baf.	8	5	Cone	1	Dome		36-20	86	20	2.5k	8/4									2199.95 Pair					
CERWIN-VEGA	Sat-6	Sat. & Subwoof. Ported	10	6	Cone	1	Dome	M,T	30-20 ±3	95	5	200,3.5k	8/6	Three Pieces	Wood Vinyl	Black Knit	79 Sys. 25	599.00 Sys.									
	D-1	Ported	8			1	Horn		30-20 ±4	92	5	3k	8/5	20 x 11 x 10	Brown Knit		170.00										
	D-2	Ported	10			1	Horn		30-20 ±4	94	5	3k	8/5	24 x 14 x 10	Brown Knit		220.00										
	O-3	Ported	10	6	Cone	1	Horn	T	30-20 ±4	94	5	700,3.5k	8/5	27 x 14 x 11	Brown Knit		290.00										
	D-5	Ported	12	6	Cone	1	Horn	T	32-20 ±4	96	5	700,3.5k	8/5	28 x 16 x 11	Brown Knit		330.00										
	O-9	Ported	15	(2)6	Cones	1	Horn	M,T	29-20 ±4	101	5	500,3.5k	4/4	36 x 18 x 18	Brown Knit		525.00										
	SW12B	Ported Subwoof.	12						29-110	92	5	110	8/6	13 x 26 x 16	Wood Vinyl		320.00										
	200SE	Ported	8			1	Dhorm		32-20 ±3	93	5	3k	6/4	22 x 11 x 12	Black Vinyl	Black Knit	32	205.00									
	250SE	Ported	10	6	Cone	1	Dhorm	M,T	32-20 ±3	95	5	550,3.5k	6/4	28 x 13 x 12	Black Vinyl	Black Knit	41	300.00									
	280SE	Ported	12	6	Cone	1	Dhorm	M,T	32-20 ±3	96	5	550,3.5k	6/4	26 x 15 x 12	Black Vinyl	Black Knit	44	345.00									
	300SE	Ported	12	7	Cone	1	Dhorm	M,T	25-20 ±3	98	5	250,3.5k	6/4	32 x 15 x 16	Black Vinyl	Black Knit	65	450.00									
	380SE	Ported	15	(2)7	Cones	1	Dhorm	M,T	29-20 ±3	102	5	250,3.5k	4/4	36 x 18 x 19	Black Vinyl	Black Knit	90	540.00									
	AT-8	Ported	8			5	Dome		38-22 ±3	94	5	3k	6/4	21 x 12 x 10	Wood Vinyl	Black Knit	26	205.00									
	AT-10	Ported	10	5	Cone	5	Dome	M,T	30-22 ±3	95	5	400,3k	6/4	29 x 14 x 14	Wood Vinyl	Black Knit	40	310.00									
	AT-12	Ported	12	5	Cone	5	Dome	M,T	28-28 ±3	97	5	400,3k	6/4	30 x 16 x 14	Wood Vinyl	Black Knit	55	345.00									
AT-15	Ported	15	(2)5	Cones	5	Dome	M,T	28-28 ±3	102	5	400,3k	4/4	37 x 19 x 19	Wood Vinyl	Black Knit	90	540.00										
CHAPMAN SOUND	T-7	Trans. Line	10	5	Cone	1	Dome		32-20 ±3	88	50	200,3k	4/3	44 x 13 x 10	Oiled Oak	Black Knit	80	1495.00 Pair									
	T-9	Trans. Line	(2)10	6½,5	Cones	1	Dome		25-20 ±3	89	50	150,1k,3k	2/1.5	45 x 22 x 14	Oiled Oak	Black Knit	150	3300.00 Pair									
CHARIO	2514	Pas. Rad.	10,8	1½	Dome	1	Dome	No	28-20	85	80	100,500,2.5k	4/	41 x 10 x 14		Brown	84	2500.00 Pair									
CLASSIC AUDIO REPRODUCTIONS	Hartsfield	Horn	15	2	Horn	(2)1¼	Rings		35-20 ±5	108	15	500,7k	12/6	46 x 46 x 25	Oiled Wal.	Ivory Knit	300	9000.00 Pair									
CLEMENS AUDIO	Reference RT 7	Compr. Line	8			7	Ribbon	W	26-100k ±3	85	30	1.575k	6/4	11 x 19 x 48	Opt., Wood Opt., Wood Opt.	Black Knit	100	2595.00 Pair									
	RB 8.0	Compr. Line	8			7	Ribbon	W	32-100k ±3	85	30	1.575k	6/4	13 x 12 x 26	Opt., Wood Opt., Wood Opt.	Black Knit	60	1600.00 Pair									
	RB 6.5	Compr. Line	6½			7	Ribbon	W	36-100k ±3	85	20	1.575k	6/4	13 x 10 x 24	Opt., Wood Opt., Wood Opt.	Black Knit	45	1200.00 Pair									
	Little "d"	Compr. Line	5¼			5	Ribbon		42-100k ±3	86	20	2.4k	6/4	7 x 10 x 16	Opt., Wood Opt., Wood Opt.	Black Knit	18	850.00 Pair									
COMMUNITY LIGHT & SOUND	CSV70	Bass Ref.	(4)12	(2)2	Compr.	(3)1	PZT	M	40-18 ±4	105	200	700,4k	4/4	27 x 34 x 18	Oak Lam.	Brown Knit	135	1049.00									
	CSV52	Bass Ref.	15	6½	Cone	1	PZT		40-18 ±4	98	200	500,5k	4/4	34 x 18 x 18	Oak Lam.	Brown Knit	90	669.00									
	CSV35	Bass Ref.	15			1	PZT		60-18	99	150	2.5k	8/6	24 x 17 x 14	Oak Lam.	Brown Knit	43	389.00									
	CSV25	Bass Ref.	12			1	PZT		70-18	97	100	3k	8/6	18 x 15 x 14	Oak Lam.	Brown Knit	32	327.00									
COUNTERPOINT	TL's	Ribbon & Compound Dynamic	(2)8			0.6x58	Ribbon		35-20	89	80	400	4/2	Four Pieces	Opt.	Silk	200 Sys.	2595.00 Sys.									

F O R M A N D F U N C T I O N



Epicure Products Incorporated understands that creating loudspeakers of the highest fidelity and refinement requires a balance of inspired engineering and unconventional artistry. Only then can we reinvent form and function to bring you realistic sound from speakers of real beauty. Write for our brochure. Epicure Products Incorporated, 25 Hale St., Newburyport, MA 01950.  A Harman International Company



L O U D S P E A K E R S

Enter No. 44 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Enclosure or System Type			Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Controls: Woofer = W, Midrange = M, Tweeter = T, Superwoofer = ST			Analogic Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Ported	Sealed	Other						W	M	T										
CSI	MDM-4	Ported	(2)6½			3½	Cone			60-17 ±3	89	15	1.5k	8/5	19 x 13 x 10	Rswd. Lam.	Brown Cloth Alum.	50 Pair	1190.00				
	MDM-TA2	Time Align	6½			¾	Dome	T		60-20 ±3	87	15	2.5k	8/5	16 x 12 x 9	Rswd. Lam.	Black Alum.	40 Pair	1290.00				
	MDM-TA3	Time Align	(2)6½	3½	Cone	¾	Dome	M, T		45-20 ±3	91	15	1.8k, 7k	8/4	19 x 16 x 12	Rswd. Lam.	None	70 Pair	1590.00				
	B8-70	ELF Subwoof.	8							30-70 ±1	91	100	70		16 x 19 x 12	Black Lam.	Black Cloth	60 Pair	890.00				
	E8-70	Powered ELF Subwoof.	8							30-70 ±1	91	Inc.	70		16 x 19 x 12	Black Lam.	Black Cloth	100 Pair	2790.00				
CYRUS	781	Bass Ref.	6½			¾	Dome			47-20 ±3	90.5	20	3.5k	8/6	9 x 20 x 11	Opt., Wood	Black Knit	19.8	499.00				
	782	Inf. Baf.	(2)6½			¾	Dome			49-20 ±3	91.5	40	3.2k	4/3	10 x 20 x 13	Opt., Wood	Black Knit	30.8	799.00				
DAHLQUIST	DQ-20i	Inf. Baf.	10	5	Cone	¾	Dome			20-20 ±4.5	86	50	400, 3.5k	8/5	42 x 21 x 12	Oak	Opt.	60	2000.00				
	DQ-12	Inf. Baf.	8	5	Cone	1	Dome			35-20	86	40	450, 3.5k	8/5	42 x 16 x 9	Black	Black	42	1200.00				
	M909i	Tuned Port	(2)8	5	Cone	1	Dome			30-24	92	20	125, 400, 3.5k	8/4	39 x 14 x 11	Opt., Wood	Black	53	1500.00				
	M907i	Ac. Sus.	10	5	Cone	1	Dome			30-24	88	40	400, 3.5k	8/6	27 x 14 x 11	Opt., Wood	Black	40	1000.00				
	M905	Tuned Port	8			1	Dome			40-24	91	20	2.5k	8/6	24 x 14 x 12	Opt., Wood	Black	35	680.00				
	M905L	Tuned Port	8			1	Dome			40-24	91	20	2.5k	8/6	24 x 14 x 12	Opt., Wood	Black	35	580.00				
	M903	Tuned Port	6½			1	Dome			48-24	90	20	2.8k	8/6	17 x 9 x 10	Lam.	Black	16	450.00				
DANA AUDIO	1	Ac. Sus.	6½			¾	Dome			63-20 ±3	89	15	3.1k	8/6	15 x 9 x 8	Black Vinyl	Black Knit	25	155.00				
dB PLUS	440	Bass Ref.	6½			1	Dome			45-22 ±3	94	10	3k	8/4	10 x 16 x 9	Wal. Vinyl	Black Knit	16	360.00				
	880	Bass Ref.	10			1	Dome			35-22 ±3	96	10	2.2k	8/4	12 x 24 x 12	Wal. Vinyl	Black Knit	29	500.00				
	990	Pas. Rad.	10			1	Dome			30-22 ±3	98	10	2.2k	8/4	12 x 33 x 11	Wal. Vinyl	Black Knit	37	600.00				
	1010	Bass Ref.	(2)10			1	Dome			28-22 ±3	100	10	2k	8/4	12 x 37 x 11	Wal. Vinyl	Black Knit	45	850.00				
	1212	Bass Ref.	(2)12	6½	Cone	1	Dome			25-22 ±3	102	10	300, 2k	8/4	43 x 15 x 16	Wal. Vinyl	Black Knit	54	1200.00				
DBX	Soundfield 50	Vented	10	6½, 4	Cones	(3)½	Domes			34-20 ±2.5	91	30	200, 800, 3.15k	4/2, 5	21 x 16 x 49	Opt.	Opt.	80	2000.00				
	Soundfield 150	Vented	10	4	Cone	(3)½	Domes			39-20 ±3	91	25	450, 3.15k	4/2, 5	21 x 16 x 40	Opt.	Opt.	60	1500.00				
	Soundfield 1500	Vented	8	4	Cone	(2)½	Domes			44-20 ±3	92	25	450, 3.15k	4/2, 5	16 x 14 x 33	Opt.	Opt.	35	1000.00				
	Soundfield 2500	Vented	6½	2½	Cone	(2)½	Domes			49-20 ±3	90	20	1.6k, 4.5k	6/4	12 x 8 x 29	Opt.	Opt.	21	600.00				
	Soundfield 5000	Vented	6½	2½	Cone	(2)5	Domes			65-20 ±3	89	20	1.6k, 4.5k	6/4	15 x 12 x 8	Opt., Vinyl	Opt.	13	450.00				
	DCM	Half Time	Ac. Sus.	6½			¾	Dome			90-20	91	10	2.5k	8/	10 x 8 x 8	Dark Oak	Brown Knit		From 219.00			
Triple Time System		Sat. & Woofer	(3)6½			¾	Dome			50-20	91	10	120, 2.5k	8/	Three Pieces	Dark Oak	Brown Knit		Pair From 469.00				
Double Time Bass Module		Trans. Line Woofer	6½							60-150				8/		Dark Oak	Brown Knit		Sys. From 269.00				
Full Time Bass System		Trans. Line Woofer	(2)6½							50-150				8/	31 x 10 x 10	Dark Oak	Brown Knit		From 399.00				
Time Frame TF-1000		Trans. Line	8	4	Cone	¾	Dome			26-20	91	20		8/4	49 x 19 x 8	Dark Oak	Brown Knit	49	From 999.00				
Time Frame TF-700		Trans. Line	8	4	Cone	¾	Dome			29-20	90	20		8/4	45 x 18 x 7	Dark Oak	Brown Knit	42	Pair From 799.00				
Time Frame TF-500		Trans. Line	6½			¾	Dome			31-20	89	10	2.5k	8/4	41 x 17 x 7	Dark Oak	Brown Knit	44	Pair From 699.00				
Time Frame TF-350		Trans. Line	6½			¾	Dome			35-20	89	10	2.5k	8/4	37 x 15 x 7	Dark Oak	Brown Knit	31	Pair From 449.00				
Time Frame TF-275		Hybrid Coaxial Trans. Line	6½			¾	Dome			42-20	91	10	3k	8/4	38 x 15 x 7	Dark Oak	Brown Knit	21	Pair From 369.00				
Time Window 3		Trans. Line	8	6½	Cone	(2)¾	Domes	M, T		25-20	90	15		8/4	39 x 16 x 12	Dark Oak	Brown Knit	45	From 1399.00				
Time Window 1A		Hybrid Trans. Line	(2)6½			(2)¾	Domes			30-20	91	10	2.8k	8/4	36 x 15 x 12	Dark Oak	Brown Knit	32	Pair From 899.00				
Time Piece		Trans. Line	6½			¾	Dome			60-20	91	10	2.5k	8/4	17 x 8 x 8	Dark Oak	Brown Knit	18	Pair From 269.00				

*“If the PS•3 speakers were sold like magic elixirs, I would have bought a case!”**



Introducing the unique new PS•3 speaker system.

With every two-piece stereo speaker system you must resolve two quandaries: 1) where will it sound best, and 2) where will it fit? Often these are different and conflicting places in your listening room. Even worse, the best place for bass response is rarely ideal for stereo imaging.

“The PS•3 satellites sound smooth and natural.”

The new Design Acoustics PS•3 Micro-Monitor™ three-piece design offers a versatile answer to these dilemmas. Simply place the two tiny Point Source™ oak veneer satellites exactly where they create the best stereo image. Small and handsome, they fit almost anywhere without compromise.

“The woofer continues the smooth work...”

Then locate the bass module wherever it creates the smoothest, deepest bass...even out of sight. Again, without sonic compromise. The result is far better imaging and wider, flatter response than you can hear from any comparable two-enclosure system. And the PS•3 looks and sounds great no matter the shape or size of your room.



“...you can tune the bass...without affecting the midrange or treble balance.”

The new PS•3 has many more advantages that make it the ideal system for your home. Don't choose any speaker system without first hearing and seeing the new PS•3. Visit a Design Acoustics dealer near you. Write for brochure and dealer list today.

*All quotes by noted audio critic Rich Warren, Chicago Tribune, May 12, 1989

DA DESIGN ACOUSTICS

An Audio-Technica Company

1225 Commerce Drive, Stow, OH 44224 • (216) 686-2600

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Separate Level Controls: Woofer = W, Midrange = M, Tweeter = T, Superwoofer = ST	Anechoic Frequency Response, Hz to kHz, ±dB	SPL, 1 W/1 m, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
DELAC	S10w	Sealed Box Sat. & Subwoof. Sealed Box	(2)4½, 8½			¾	Dome		35-20 ±3	85	25	120, 4.5k	4/3	Three Pieces	Opt.	Black Foam	70 Sys.	1295.00 Sys.	
	S10e	Sealed Box Sat. & Subwoof. Sealed Box	(2)4½			¾	Dome		60-20 ±3	85	15	4.5k	4/3	5 x 3 x 40	Opt.	Black Foam	50 Pair	1095.00 Pair w/EQ	
	S8w	Sealed Box Sat. & Subwoof. Sealed Box	4½, 8½			¾	Dome		35-20 ±3	85	25	120, 3k	8/4	Three Pieces	Opt.	Black Foam	40 Sys.	945.00 Sys.	
	S8e	Sealed Box Sat. & Subwoof. Sealed Box	4½			¾	Dome		70-20 ±3	85	15	3k	8/7	5 x 5 x 10	Opt.	Black Foam	20 Pair	745.00 Pair w/EQ	
DENNESEN	Bravura	ES Hybrid	8	6½	Cone	(4)15 Sq. In.	ES		40-30 ±2	94	25	125, 3.5k		12 x 14 x 51	Opt.	Black Foam	60	1650.00 Pair	
DESIGN ACOUSTICS	PS-3	Sat. & Subwoof.	(2)6	3½	Cone	¾	Dome		50-20	88	20	200, 3k	8/	Three Pieces	Black Oiled Wal.	Black	32 Sys.	599.95 Sys.	
	PS-10	Ac. Sus.	10	5	Cone	1	Dome	T	47-22	90	15	200, 2k	8/	11 x 14 x 14	Black Vinyl	Black	25	259.95	
	PS-8b	Ac. Sus.	8			1	Dome		50-20	90	15	2k	8/	10 x 13 x 12	Black Vinyl	Black	15	184.95	
	PS-6	Ac. Sus.	6			¾	Dome		55-20	88	10	3k	8/	8 x 12 x 12	Black Vinyl	Black	12	129.95	
	PS-6V		6			¾	Dome		55-20	88	10	3k	8/	8 x 12 x 12	Black Vinyl	Gray	12	139.95	
	PS-55	Vented	5			¾	Dome		65-20	88	10	4k	8/	7 x 10 x 6	Black Vinyl	Black	6	109.95	
DA-360	Outdoor Omni	6			1½	Piezo		100-18	84	15	3k	8/	7 Dia. x 10	Black Vinyl	Beige	5	119.95		
DESKTOP LOUDSPEAKER	DLS-3x	Sat. & Subwoof.	(8)6½	(2)2½	Cones	(2)1	Domes		22-25 ±3	88	30	170, 3.3k	4/3.7	Four Pieces	Black Lacq.	Gray Knit	64 Sys.	2399.00 Sys.	
	DLS-2b	Sat. & Subwoof.	(2)6½	(2)2½	Cones	(2)1	Domes		38-19 ±4	87	25	170, 3.3k	4/3.7	Four Pieces	Opt.	Black Knit	42 Sys.	899.00 Sys.	
	DLS-1a	Sat. & Subwoof.	(2)6½	(2)2½	Cones	(2)1	Domes		47-19 ±4	86	20	170, 3.3k	4/3.7	Three Pieces	Opt.	Black Knit	30 Sys.	649.00 Sys.	
DIGITAL DESIGNS	161	Ac. Sus.	6½			1	Dome	W	55-20 ±3	90	10	3.5k	4/	14 x 9 x 11	Opt.	Black Cloth	32 Pair	359.00 Pair	
	261	Ac. Sus.	(2)6½			1	Dome	W	50-20 ±3	90	10	3.5k	8/	18 x 10 x 12	Opt.	Black Cloth	58 Pair	479.00 Pair	
DUNTECH	Sovereign 2001	Closed Box	(2)7, (2)12	(2)2	Domes	¾	Dome	No	27-20 ±2	90	50	300, 2k, 6k	4/4	74 x 14 x 32	Rswd.	Black Knit	375	15,500.00 Pair	
	Princess PCL-1100	Closed Box	(2)10	(2)4¾	Cones	¾	Dome	No	38-20 ±2	90	50	500, 5k	4/4	71 x 12 x 17	Rswd.	Black Knit	160	8500.00 Pair	
	Crown Princess PCL-1000	Closed Box	(2)10	(2)4¾	Cones	¾	Dome	No	38-20 ±2	90	50	500, 5k	4/4	71 x 12 x 15	Rswd.	Black Knit	121	7500.00 Pair	
	Marquis PCL-500	Closed Box	(2)8	(2)4¾	Cones	¾	Dome	No	42-20 ±2	93	50	500, 5k	4/4	60 x 10 x 15	Oak	Black Knit	150	5500.00 Pair	
	Dutchess PCL-15	Closed Box	7			1	Dome	No	50-20	83	50	500	6/6	9 x 13 x 8	Black Oak	Black Knit	14	1095.00 Pair	
	Vicount PCL-200	Closed Box	(2)8			1	Dome	No	45-20	93	50	500	4/4	48 x 10 x 14	Black Oak	Black Knit	85	2600.00 Pair	
	Baron	Closed Box	7			¾	Dome	No	55-20 ±1.5	90	50	1k	4/4	38 x 8 x 10	Opt., Lacq.	Black Knit	30	1800.00 Pair	
	DYNAMIC ELECTRO ACOUSTICS	Ovation	Vented	(2)7			1	Dome		30-20 ±3	90		2.5k	8/7	10 x 13 x 47	Opt., Wood	Opt.	75	1950.00 Pair
Ovation B		Vented	9			1	Dome		30-20 ±3	89		2.5k	8/7	11 x 11 x 20	Opt., Wood	Opt.	25	1250.00 Pair	
DYNAUDIO	Image	Sealed	6½			1	Dome				30	2.5k	8/6	10 x 16 x 8	Oak	Brown Knit		Kit, 350.00 Pair	
	MSP 110	Aperiodic	8			1	Dome		36-25 ±3	86		3.5k	4/3	19 x 12 x 13	Rswd.	Black Knit	30	590.00	
	MSP 220	Aperiodic	8	2	Dome	1	Dome		32-25 ±3	86		800, 4k	4/3	24 x 11 x 13	Rswd.	Black Knit	36	790.00	
	MSP 330	Aperiodic	(2)8	2	Dome	1	Dome		28-25 ±3	88		800, 4.5k	4/3	42 x 11 x 13	Rswd.	Black Knit	78	1350.00	
	Contour I	Aperiodic	6½			1	Dome		40-25 ±3	87		2.8k	4/3	14 x 9 x 11	Rswd.	Black Knit	18	670.00	
	Contour II	Aperiodic	(2)6½	2	Dome	1	Dome		36-25 ±3	88		1.1k, 4k	4/3	39 x 9 x 11	Rswd.		40	1590.00	
	Compound 2	Compound	(2)6½			1	Dome		35-25 ±3	84		3k	8/5	14 x 9 x 11	Rswd.	Black Knit	27	1190.00	
	Compound 3	Compound	(2)6½	2	Dome	¾	Dome		33-33 ±3	84		1.2k, 5k	8/5	19 x 9 x 11	Rswd.	Black Knit	37	1490.00	
	Compound 4	Compound	(2)8	3	Dome	1	Dome		28-26 ±3	86		600, 3.5k	8/5	45 x 12 x 14	Rswd.	Black Knit	93	3100.00	
	Consequence	Compound	(2)12	(2)5½	Cone, Dome	1, ¾	Domes		25-33 ±3	85		120, 1.8k, 5k, 12k	4/3	49 x 16 x 24	Rswd.	Black Knit	186	8900.00	

"They Were Designed To Play Music And Make It Sound Like Music..."

This They Do Very Well, In A Most Unobtrusive Way, At A Bargain Price... It's Hard To Imagine Going Wrong With Ensemble!"

Julian Hirsch
Stereo Review, Sept. '88

Cambridge SoundWorks has created Ensemble™, a speaker system that can provide the sound once reserved for the best speakers under laboratory conditions. It virtually disappears in your room. And because we market it directly, Ensemble costs hundreds less than it would in stores.



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 only 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, making it possible to reproduce just the right amount of energy in each part of the musical range without turning your listening room into a stereo showroom.

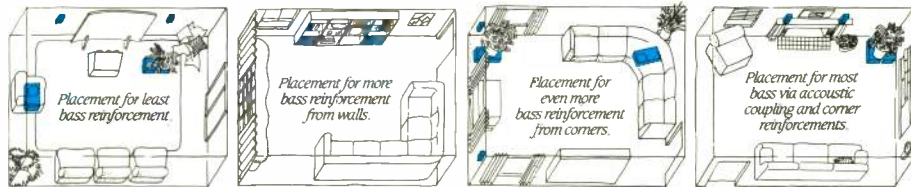
Your listening room works with Ensemble, not against it.

No matter how well a speaker performs, at home the listening room takes over. If you put a conventional speaker where the room can help the low bass, it may hinder the upper ranges, or vice-versa.

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 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.

Ensemble, on the other hand, takes advantage of your room's acoustics. The ear can't tell where bass comes from, which is why Ensemble's bass units can be tucked out of the way—on the floor, atop bookshelves, or under furniture. The satellites can be hung directly on the wall, or placed on windowsills or shelves. No bulky speakers dominate your living space, yet Ensemble reproduces the deep bass that no mini speakers can.

Not all the differences are as obvious as our two subwoofers.

Unlike seemingly similar three-piece systems, Ensemble uses premium quality components for maximum power handling, individual crossovers that allow several wiring options and cabinets



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

ruggedly constructed for proper acoustical performance. We even gold-plate all connectors to prevent corrosion. An even bigger difference is how we sell it...

Thousands agree: the best showroom is your living room.

We make it possible to audition Ensemble the right way—in your own home. In fact, Ensemble is sold only by Cambridge SoundWorks directly from the factory. Listen for hours without a salesman hovering nearby. If after 30 days you're not happy, return Ensemble for a full refund.

At only \$499*—complete with all hardware and 100' of speaker cable—Ensemble is the value on today's speaker market.

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, take your order and arrange surface shipment via UPS. Your Cambridge SoundWorks audio expert will continue as your personal contact with us. We think you'll like this new way of doing business.

[†]In Canada, call 1-800-525-4434. Audio experts are on duty Mon.-Sat., 9AM-10PM, Sun., 9AM-6PM Eastern Time. Fax #: 617-332-9229.

CAMBRIDGE SOUNDWORKS

Suite 1040CT, 154 California St., Newton, MA 02158

- Send more information and test reports.
 - Send Ensemble risk-free for 30 days, for \$499*
 - Send an Ensemble Gift Certificate for \$499*
- I'm paying by Check MC Visa AmEx

Acct. Number _____ Exp. _____

Signature _____

Name _____

Address _____

City _____ State _____ Zip _____

Phone (Area Code) _____ Number _____

FOR IMMEDIATE SERVICE: 1-800-AKA-HIFI
We ship worldwide, including APO & FPO.
MA residents add 5% sales tax.

*Plus freight (\$7-\$25). Delivery time usually 2-7 days.

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Controls? Woofer, W, Midrange, M, Tweeter, T, Subwoofer, S	Angular Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
EBOWY ACOUSTICS	Seven	Pressure Release	6			1	Dome		50-22 ±3	90	20	8/7	10 x 8 x 16	Black Oak	Black Knit	700.00	Pair	
	Eleven	Pressure Release	9			1	Dome		40-22 ±3	91	25	8/7	12 x 14 x 25	Black Oak	Black Knit	1100.00	Pair	
	Seventeen	Trans. Line	6			1	Dome		30-22 ±3	91	30	8/5	12 x 10 x 50	Black Lacq.	Black Knit	1700.00	Pair	
	Twenty	Trans. Line	12			1	Dome		18-22 ±3	92	30	8/7		Black Lacq.	Black Knit	2000.00	Pair	
	Twenty One	Trans. Line Subwoof.	12						18-100 ±3	92	30	8/7		Black Lacq.	Black Knit	2100.00	Pair	
ELECTRO-VOICE	Sentry 100A Monitor	84 Vented	8		1½	Dome	T		45-18 ±3	91	2k	6/4.5	17 x 12 x 11	Black Vinyl	Gray Knit	28	255.00	
	Sentry 100EL Monitor	Powered 84 Vented	8		1½	Dome	T		45-18 ±3	Inc.	2k	30k/10k	17 x 12 x 12	Black Vinyl	Gray Knit	33	524.00	
	Sentry 500 Monitor	84 Vented	12		1½	Dome	T		40-18 ±3	96	1.5k	8/6	24 x 27 x 13	Black Vinyl	Gray Knit	70	499.00	
	Sentry 505 Monitor	84 Vented	12		1½	Dome	T		40-18 ±3	96	1.5k	8/6	19 x 26 x 19	Black Vinyl	Gray Knit	60	499.00	
EMIWENT TECHNOLOGY	LFT-III	Planar Mag.	441 Sq. In.	126 Sq. In.	Planar Mag.	21 Sq. In.	Planar Mag.	M, T	35-20 ±4	83	100	400,7k	4/3.7	59 x 27 x 12	Oiled Oak	Black Poly	95	3250.00
	LFT-IV	Planar Mag.	214 Sq. In.	63 Sq. In.	Planar Mag.	21 Sq. In.	Planar Mag.	T	45-20 ±4	80	100	400,7k	8/7	61 x 18 x 12	Oiled Oak	Black Poly	60	1850.00
	LFT-VI	Planar Mag.	321 Sq. In.	94 Sq. In.	Planar Mag.	10 Sq. In.	Planar Mag.	M, T	38-20 ±4	83	100	400,10k	6/4	78 x 18 x 2	Oiled Oak	Black Poly	90	2900.00
ENERGY	22 Pro Monitor	Bass Ref.	7			1½	Dome		28-45 ±3	86	20	1.5k	8/4	25 x 11 x 12	Opt.	Black	34	900.00
	22 Reference	Bass Ref.	7			1½	Dome		28-45 ±3	86	20	1.5k	8/4	25 x 11 x 12	Opt.	Black	34	1200.00
	22 Reference Connoisseur	Bass Ref.	7			1½	Dome		25-45 ±2	86	20	1.5k	8/4	35 x 11 x 14	Opt., Ven.	Opt.	80	From 1650.00
	ESM-1S	Bass Ref.	8			1	Dome		30-22 ±3	86	15	2k	8/4	24 x 11 x 11	Opt.	Black Knit	35	500.00
	ESM-2S	Bass Ref.	8			1	Dome		40-22 ±3	86	12	2k	8/4	23 x 11 x 11	Opt.	Black Knit	24	400.00
	ESM-3	Bass Ref.	8			1	Dome		45-22 ±3	86	10	2k	8/4	20 x 10 x 9	Opt.	Black	20	330.00
	ESM-4	Bass Ref.	6½			¾	Dome		60-20 ±3	88	10	2.7k	8/4	9 x 13 x 9	Opt., Vinyl	Black Knit	11	230.00
ENTEC	L-110	Powered Servo Subwoof.	10					W	18-100 ±2	Inc.	100		24 x 12 x 16	Opt.	Black Foam	65	2250.00	
	L-120	Powered Servo Subwoof.	(2)10					W	15-100 ±2	Inc.	100		24 x 12 x 24	Opt.	Black Foam	85	2749.00	
	L-130	Powered Servo Subwoof.	(3)10					W	12-100 ±2	Inc.	100		36 x 12 x 24	Opt.	Black Foam	140	6995.00	
	L-160	Powered Servo Subwoof.	(6)10					W	12-100 ±2	Inc.	100		72 x 12 x 24	Opt.	Black Foam	255		
	L-1120	Powered Servo Subwoof.	(12)10					W	12-100 ±2	Inc.	100		78 x 18 x 24	Opt.	Black Foam	400		
	L-1x	Powered Servo Subwoof.	10					W	20-100 ±4	Inc.	100		16 x 16 x 18	Gran.		45	1295.00	
	328	Line Source Sat. & Subwoof.	(6)10	(9)4	Cones	(2)	Ribbons	W, T	12-30 ±5	91	200	100,400		Four Pieces	Opt.	Opt.		
EPIGURE	1	Vented, Sixth Order	(2)8	(2)4	Cones	1	Dome		32-20 ±3	90	20	160,500, 2.5k	6/4	43 x 13 x 12	Mahog Ven.	Gray Knit	57	1400.00
	2	Vented	(2)8	4	Cone	1	Dome		38-20 ±3	90	10	190,500, 2.5k	6/4	35 x 13 x 12	Mahog Ven.	Gray Knit	44	450.00
	3	Vented	8	4	Cone	1	Dome		42-20 ±3	90	10	500,2.5k	6/4	30 x 13 x 12	Mahog Ven.	Gray Knit	36	350.00
	4	Vented	8			1	Dome		48-20 ±3	90	10	2k	8/5	20 x 12 x 12	Mahog Ven.	Gray Knit	21	225.00
	5	Vented	6			1	Dome		55-20 ±3	89	10	2k	8/5	16 x 10 x 10	Mahog Ven.	Gray Knit	16	175.00
	5(V)	Vented	6			1	Dome		55-20 ±3	89	10	2k	8/5	16 x 10 x 10	Mahog Ven.	Gray Knit	16	150.00
	3B	Vented	8	4	Cone	1	Dome		45-20 ±3	90	10		6/4	24 x 13 x 12	Mahog Vinyl	Gray Knit	18	300.00
	5B+	Vented	6			1	Dome		50-20 ±3	89	10		8/5	21 x 10 x 10	Black Vinyl	Gray Knit	34	200.00
EPIK MONITOR SYSTEMS	Tower	Aperiodic	10	3	Dome	1	Dome		100-22 ±2	91	100	380,3.8k	8/5	22 x 20 x 52	Opt., Wood	Opt., Knit	350	4500.00
	LSM (VHR)	Aperiodic	(2)6	(2)4	Cones	1	Dome		100-22 ±2	92	100	250,2.5k		10 x 13 x 42	Opt., Wood	Opt., Knit	95	2500.00
	LSM	Aperiodic	(2)8	(2)4	Cones	1	Dome		32-18 ±4	90	100	400,2.5k		13 x 17 x 52	Opt., Wood	Opt., Knit	110	1695.00
	210C	Trans. Line Subwoof.	(2)10						25-100 ±4	90	100	100		13 x 17 x 52	Opt., Wood	Opt., Knit	225	1895.00

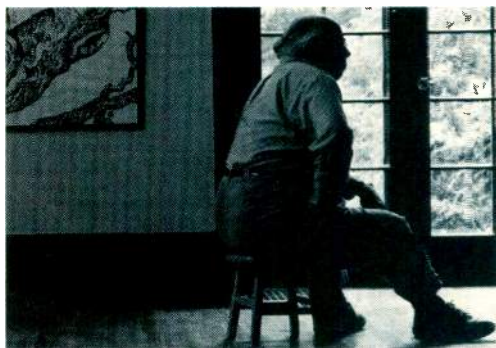
TMEnsemble and Ambiance
are trademarks of Cambridge
SoundWorks, Inc.



AmbianceTM by Henry Kloss

An ultra-compact speaker
that proves high performance,
small size and low cost need
not be mutually exclusive.

Ambiance by Henry Kloss outperforms many, if not most, speakers of its compact dimensions, and is outperformed by none. We think you'll find it an ideal speaker for use in many circumstances, and it is perfect as an extension speaker, in surround-sound systems, and for situations where space is at a premium.



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

Proper engineering
vs. over-engineering.

Ambiance provides a level of performance that makes it comparable to the costliest

small systems, which can be costly indeed. So-called "mini" speakers have developed a kind of jewel-like cachet, whereby the higher the price per cubic inch, the higher the performance is assumed to be. That this is not so with the application of proper engineering, as opposed to over-engineering, is amply demonstrated by *Ambiance*. *Ambiance* is a two-way acoustic suspension system designed to the same high standards as our *Ensemble*TM system, with much the same seamless, well-balanced response. Unlike most speakers of its size, *Ambiance's* response in the 100 Hz region has not been exaggerated at the expense of bass lower down. It has more output in the 40 Hz region than any speaker its size we've encountered. While *no* speaker of *Ambiance's* size can provide the same very low bass and total volume as our *Ensemble* system, it does provide ample weight on the vast majority of recordings. And its high-frequency dispersion permits placing it in a location that acoustically supports low bass (such as on the floor against a wall), without sacrificing treble response.

Ambiance can accept more power than most systems its size, and can be used with just about any amplifier designed for home use. While efficiency is moderately low to maximize low frequency performance *Ambiance* can be comfortably powered in many applications by low-cost receivers and amplifiers (a minimum of 15 watts/ch. is recommended). *Ambiance* is available in three finishes: gun-metal gray Nextel (a durable, suede-like finish), primed so that you can paint them, and in solid oak.

Try *Ambiance* in your home
risk-free for 30 days.

Ambiance is available *only* directly from the Cambridge SoundWorks factory, a method of distribution reflected in its unusually low cost (we believe *Ambiance* competes *directly* with "mini" speakers retailing for hundreds of dollars more). *Ambiance* is only \$109 per speaker in Nextel or primed for painting; \$129 in solid oak (shipping extra), and comes with a 30-day money-back guarantee. For literature, expert advice, or to order call 1-800-AKA-HIFI Mon-Sat 9AM-10PM, Sun 9AM-6PM (ET). Canada 1-800-525-4434 Fax: 617-332-9229.

CAMBRIDGE SOUNDWORKS

1040CT 154 California Street, Newton, MA 02158

- Send me more information on *Ambiance*.
- Send me _____ (qty.) *Ambiance* spkrs. (Nextel) for \$109 each.*
- Send me _____ (qty.) *Ambiance* spkrs. (Primed) for \$109 each.*
- Send me _____ (qty.) *Ambiance* spkrs. (Oak) for \$129 each.*

I'm paying by Check MC VISA AmEx

Acct. Number _____ Exp. _____

Signature _____

Name _____

Address _____

City _____ State _____ Zip _____

Phone (Area Code) _____ Number _____

FOR IMMEDIATE SERVICE: 1-800-AKA-HIFI

We ship worldwide, including APO & FPO.

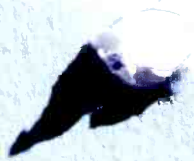
MA residents add 5% sales tax.

*Plus freight (\$2-\$12). Delivery time is usually 2-7 days.

Enter No. 29 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Enclosure or System Type	Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Low Control? Wood = w, Midge = M, Tweeter = T, Superwoofer = ST	Impedance, Ohms: Nominal/Minimum	Rated Power, Watts	Recommended Min. Amp. Power, Watts	Crossover Frequencies, Hz	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
EPOS	ES14	Inf. Baf.	8			1	Dome		36-20 ±3	86	35		8/7	20 x 19 x 12	Opt., Wood	Black Foam	25	1245.00 Pair; w/out Grilles, 1195.00 Pair
ESSENCE	Amethyst 30	Trans. Line	6			1	Dome		32-21 ±3	90	30	2k	8/6	33 x 10 x 14	Opt., Wood	Opt., Cloth	80	2185.00 Pair
	Amethyst 10A	Trans. Line	9	6,2 1/4	Cone, Dome	1, 3/4	Domes		24-23 ±3	90	60	80,200, 2k, 6.5k Adj.	8/6	51 x 15 x 25	Opt., Wood	Opt., Cloth	240	9985.00 Pair
	Topaz Subwoofer	Trans. Line Subwoof.	6						28-300 ±2	90	50		8/6	33 x 10 x 14	Opt., Wood	Opt., Cloth	90	2185.00 Pair
	Amethyst 12 Subwoofer	Trans. Line Subwoof.	(2)11						16-100 ±1	90	150	Adj.	8/6	16 x 16 x 72	Opt., Wood	Opt., Cloth	300	12,000.00 Pair
ESS LABORATORY	PS 820	Pas. Rad.	6			10 1/2 Sq. in.	Heil AMT	No	42-23 ±1	89	5	2k	6/4	10 x 10 x 18	Black Vinyl	Black Knit	54 Pair	305.00 Pair
	PS 920	Pas. Rad.	8			10 1/2 Sq. in.	Heil AMT	T	38-23 ±1	91	5	2k	6/4	12 x 11 x 22	Black Vinyl	Black Knit	37	369.00 Pair
	PS 1020	Pas. Rad.	10			10 1/2 Sq. in.	Heil AMT	T	32-23 ±1	92	10	1.6k	6/4	14 x 13 x 25	Black Vinyl	Black Knit	44 Pair	419.00 Pair
	PS 1220	Pas. Rad.	12	4	Cone	10 1/2 Sq. in.	Heil AMT	M, T	28-23 ±1	93	10	380,2k	6/4	14 x 12 x 34	Black Vinyl	Black Knit	65	489.00 Pair
	AMT Monitor	Pas. Rad.	12			21 1/2 Sq. in.	Heil AMT	M, ST	35-23 ±3	91	35	800	6/3	12 x 19 x 41	Black Vinyl	Black Knit	114	1140.00 Pair
	AMT 1D	Pas. Rad.	10			21 1/2 Sq. in.	Heil AMT	M, ST	35-23 ±3	91	35	800	6/3	16 x 16 x 35	Oiled Wal.	Black Knit	85	1039.00 Pair
	AMT II	Pas. Rad.	12			21 1/2 Sq. in.	Heil AMT	ST	38-23 ±3	91	30	900	6/3	15 x 15 x 34	Oiled Wal.	Black Knit	65	899.00 Pair
	620 Mini Monitor	Pas. Rad.	5 1/4			1 1/2 Sq. in.	Heil AMT Dome		60-20 ±5	86.5	10	2.5k	8/3	8 x 7 x 12	Oiled Wal.	Black Knit	18 Pair	159.00 Pair
ETON	100 DTB	Bass Ref.	6 1/2			1	Dome		50-20 ±2	88	100	2.8k	8/3	9 x 13 x 33	Black Lacq.		45	900.00 Pair
	200 DTB	Bass Ref.	8			1	Dome		45-20 ±2	89	110	2.1k	8/3	11 x 15 x 37	Black Lacq.		55	950.00 Pair
	300 DTB	Bass Ref.	8	4	Cone	1	Dome		40-20 ±1	89	150	700,3k	8/3	11 x 15 x 42	Black Lacq.		70	1200.00 Pair
	500 DTB	Bass Ref.	(2)11	4,7	Cones	1	Dome		30-22 ±1	90	200	200,1.2k, 3.1k	8/3	18 x 26 x 58	Black Lacq.		100	2500.00 Pair
EUROSTAT	Mondrian	Thiele-Small	9	3	Dome	3/4	Dome		38-32	88	50	500,3.8k	8/6.3	13 x 14 x 26	Black Lacq.	Black	52	3600.00 Pair
FIDELIUS	903FL	Slot Loaded Port	9	5	Cone	1 1/4	Dome	No	30-22 ±3	88	50	250,6.5k	8/6	13 x 14 x 48	Oiled Oak	Opt.	80	1795.00 Pair
	Contra-Bass	Subwoof.	12						16-100 ±3	90	50	Ext.	8/4	22 x 22 x 48	Oiled Oak	None	175	1195.00
FMS	Studio 2	Aperiodic	8			1 1/8	Dome		40-25 ±3	90	25	1.8k	5/4	12 x 13 x 24	Opt.	Opt.	70	4800.00 Pair
FOCUS	.5 Series II	Tuned Port	8			1	Dome		45-20 ±2	90	30	2.5k	8/6.4	12 x 12 x 19	Lacq. Oak	Black Foam	55 Pair	650.00 Pair
	.7 Series II	Tuned Port	8			1	Dome		37-20 ±2	90	30	2.5k	8/6.4	12 x 12 x 28	Lacq. Oak	Black Foam	38	880.00 Pair
	High Definition Monitor	Tuned Port	8			1 1/4	Dome		34-20 ±2	87	30	2k	8/6.4	12 x 12 x 47	Lacq. Oak	Black Foam	66	1450.00 Pair
	High Definition Tower	Trans. Line	(2)8			1 1/4	Dome		30-20 ±2	92	30	1k	4/3.2	14 x 17 x 60	Lacq. Oak	Black Foam	110	2950.00 Pair
FOSGATE-AUDIONICS	AS602	In-Wall	6			1	Dome		75-22	87	10	3k	8/6	12 x 9 x 4		White	16	425.00 Pair
	AS502	In-Wall	5			3/4	Dome		85-18	86	10	4k	4/4	12 x 8 x 4		White	12	299.00 Pair
	AS802	In-Wall, Sealed	8			1	Dome	T	45-22	87	10	2.5k	8/6	24 x 16 x 4			30	999.00 Pair
	DS802		8			1	Dome	T	45-22	87	10	2.5k	8/6	19 x 11 x 12	Opt.	Black Knit	25	699.00 Pair
	LF212	Subwoof.	12								100		8/4	18 x 20 x 18	Opt.	Black Knit	45	599.00 Pair
FOSTEX	RM900	Bass Ref. Coaxial	8			2	Planar	T	50-23	92	25	7k	8/6	10 x 18 x 10	Black Wal.	Black Knit	38 Pair	798.00 Pair
	H1	Bass Ref.	6 1/2			1	Planar		60-40 ±5	89	25	6k	8/6	8 x 17 x 8	Black Wal.	Black Knit	28	299.00 Pair
	H2	Bass Ref.	8			1	Planar		50-40 ±5	70	25	5k	8/6	10 x 22 x 10	Black Wal.	Black Knit	40	399.00 Pair
	H3	Bass Ref.	(2)8			1	Planar		45-40 ±5	73	25	4.5k	4/3	11 x 32 x 11	Black Wal.	Black Knit	70	499.00 Pair
	SW112	Sat. & Subwoof. Coaxial	12	4	Cone	1	Dome		40-40	95	25	250,4k	8/5	Three Pieces	Black Wal.	Black Knit	50	599.00 Pair
	RM800		6 1/2				Planar	T	55-25	89	25	7k	8/6	9 x 15 x 9	Black Matte	Black Knit	30	599.00 Sys.



Gunsmoke with NEC sound.



If your television had our NEC sound system, you'd probably run for cover. Because with sound that real, it would seem that real.

Sound hard to believe? Not once you realize that the secret to enhancing your viewing pleasure is to add a new dimension to your listening pleasure: audio realism in 3D.

Presenting the NEC Renaissance® Series of audio components.

Taking the industry standard for lifelike sound—Dolby® Surround Sound—NEC

made the most advanced technology even more advanced. With Dolby Pro-Logic circuitry, you're able to get superior channel separation (from 26 to 40 dB, as opposed to conventional systems of 3dB). And with our Digital Delay circuitry, sound can be recreated so it's acoustically accurate to the environment of the original recording.

But the best part is the next part: Dolby Pro-Logic circuitry also provides an additional sound track. A separate, central channel

that localizes a specific sound, and enables you to track its movement. So your sound will seem to emerge not from your television or speaker, but from the actual source of the sound itself. And it will move to follow the image you see on your screen.

The result? The special effect of NEC sound.

Now, for truly lifelike sound, speak to one of our dealers. But be prepared. The only risk in coming to hear our television sound system is having to go back home to yours.

C&C Computers and Communications

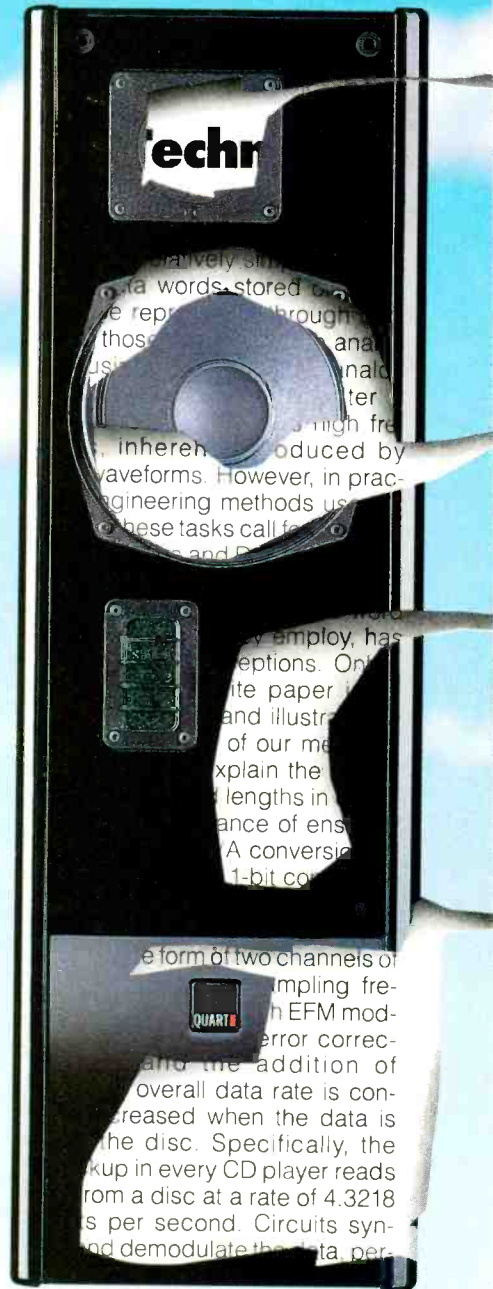


For more information call (312) 860-0335. NEC Home Electronics (USA) Inc.

Renaissance is a registered trademark of NEC Home Electronics (USA) Inc.
Dolby is a registered trademark of Dolby Laboratories Licensing Corporation. © 1989 NEC Home Electronics (USA) Inc.
Pro-Logic is a trademark of Dolby Laboratories Licensing Corporation.

NEC

DUE TO THE COMPLAINTS OF OTHER SPEAKER COMPANIES, PORTIONS OF THIS QUART AD HAVE BEEN DELETED



It's not easy being one of the most intriguing speaker lines to hit the market in years. Our competitors, for example, certainly aren't smiling.

Maybe it's because of our 5-layered wood cabinets, expertly tongue and groove fitted. Or the fact each of our 6 models is available in over 8 different furniture finishes.

It could be the butyl rubber surrounds we use with our woofers. Or their specially aged cones that optimize response time.

Perhaps it's the 5 octave range of Quart tweeters, or our sophisticated crossovers that insure only the ideal operational frequency range for each driver.

The fact Quart speakers are astonishing both for their musical performance and their affordability might have something to do with it, too.

So, in the spirit of fair play, we've deleted the portions of this Quart ad that are causing our competitors concern.

But don't worry. Your Quart dealer can give you the whole picture.

For More Information



Call 1-800-553-4355

QUART

MB Quart Electronics, U.S.A., Inc.
25 Walpole Park South, Walpole, MA 02081
508-668-8973

Enter No. 61 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Separate Level Controls? Woofer = W, Midrange = M, Tweeter = T, Subwoofer = ST		Angular Frequency Response, Hz to kHz, ± dB		SPL, 1 Watt/1 Meter, dB		Recommended Min. Amp. Power, Watts		Impedance, Ohms: Nominal/Minimum		Dimensions, Inches (To Nearest Inch)		Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange				
JVC (Continued)	SX911	Ac. Sus.	12	4 1/2	Cone	1	Dome				40-50	91		500,4k	6'	15 x 27 x 14	Wood Vinyl	Brown Knit	63		720.00			
KEF	Reference 107	Coupled Cavity	(2)10	5	Cone	1	Dome				20-20 ± 2	90	50	160,2.5k	4/4	46 x 13 x 18	Opt., Wood	Black Knit	99		4800.00	Pair		
	Reference 104/2	Coupled Cavity	(2)8	(2)5	Cones	1	Dome				35-20 ± 2	92	25	160,2.5k	4/4	36 x 11 x 17	Opt., Wood	Black Knit	71		2200.00	Pair		
	Reference 103/3	Coupled Cavity	8	6 1/2	Cone	1	Dome				50-20 ± 2	92	50	160,2.5k	4/4	23 x 10 x 13	Opt., Wood	Black Knit	38		1490.00	Pair		
	Reference 102	Closed Box	6 1/2			1	Dome				65-20 ± 2	90	50	2.5k	4/4	13 x 8 x 10	Opt., Wood	Black Knit	15		890.00	Pair		
	C95	Coupled Cavity	8	8	Cone	1	Dome				50-20 ± 3	90	20	180,3k	4/4	34 x 10 x 13	Opt., Wood	Black Knit	42		1290.00	Pair		
	C75	Closed Box	(2)8			1	Dome				57-20 ± 3	91	20	300,3k	4.4	28 x 10 x 10	Opt., Wood	Black Knit	29		750.00	Pair		
	C55	Pas. Rad.	8			3/4	Dome				60-20 ± 3	90	20	3k	4/4	19 x 10 x 10	Opt., Wood	Black Knit	16		550.00	Pair		
	C35	Closed Box	8			3/4	Dome				64-20 ± 3	88	20	3k	4/4	15 x 10 x 8	Opt., Wood	Black Knit	11		440.00	Pair		
	C25	Closed Box	6 1/2			3/4	Dome				65-20 ± 3	87	20	3k	4/4	13 x 8 x 7	Opt., Wood	Black Knit	9		330.00	Pair		
	C15	Closed Box	5			3/4	Dome				68-20 ± 3	85	20	3k	4/4	10 x 7 x 6	Opt., Wood	Black Knit	7		240.00	Pair		
	CR200F	In-Wall or Ceiling Mount	8			1	Dome				55-22 ± 2	90	10	2.5k	4/	13 x 10 x 4	Wood White	White Metal	5		450.00	Pair		
	CR160S	In-Wall or Ceiling Mount	6 1/2			3/4	Dome				60-17 ± 2	88	10	3k	4/	9 x 9 x 4	White	White Metal	4		400.00	Pair		
	CR160R	In-Wall or Ceiling Mount	6 1/2			3/4	Dome				60-17 ± 2	88	10	3k	4/	9 Dia. x 4	White	White Metal	4		400.00	Pair		
	CR250SW	In-Wall or Ceiling Mount Subwoof.	10								32-150 ± 2	90	10	150	4/	13 x 13 x 4	White	White Metal	8		550.00	Pair		
KENWOOD	LS-W9010	Sat. & Subwoof.	(2)8	(2)4 1/2	Cones	1	Dome				30-20	89	25		8/	Three Pieces	Rswd.	Black	59 1/2 Sys.		759.00	Sys.		
	LS-W7010	Sat. & Subwoof.	(2)6 1/2	(2)4 1/2	Cones	1	Dome				30-20	89	25		8/	Three Pieces	Rswd.	Black	53 Sys.		699.00	Sys.		
	LS-W5010	Sat. & Subwoof.	(2)8	4 1/2	Cone	1	Dome				30-20	89	25		8/	Three Pieces	Rswd.	Black	42 Sys.		499.00	Sys.		
	LS-W3010	Sat. & Subwoof.	(2)6 1/2	4 1/2	Cone	1	Dome				30-20	89	25		8/	Three Pieces	Rswd.	Black	35 1/4 Sys.		439.00	Sys.		
	LS-P9100	Pas. Rad.	10 1/2	4	Cone	2, 1 1/4	Dome, Leaf				20-48	91	25		8/	17 x 45 x 13	Rswd.	Black	62 Sys.		350.00	Sys.		
	LS-P5100	Pas. Rad.	8 1/2	4	Cone	2, 1 1/4	Dome, Leaf				25-48	90	25		8/	15 x 36 x 11	Rswd.	Black	40		235.00			
KEVEK	ES. 6	Bass Ref.	6 1/2			3/4	Dome				60-20 ± 3	88	10	4k	8/6	20 x 12 x 8	Oak	Black Knit	18		520.00	Pair		
	ES. 8	Inf. Baf.	8	4	Cone	3/4	Dome				50-20 ± 3	89	20	500,4k	8/6	38 x 16 x 10	Oak	Black Knit	35		1050.00	Pair		
	ES. 10	Inf. Baf.	10	6 1/2	Cone	3/4	Dome				40-20 ± 3	89	20	250,4k	8/5	42 x 20 x 11	Oak	Black Knit	47		1350.00	Pair		
	ES. 12	Bass Ref.	12	6 1/2	Cone	3/4	Dome				30-20 ± 3	90	20	250,4k	8/5	50 x 22 x 11	Oak	Black Knit	70		1825.00	Pair		
KIMDEL AUDIO	P-55	Q.7 Box	6 1/2			1	Dome	No			50-22 ± 2	86	20	3k	8/8	14 x 8 x 8	Oak	Black Cloth	17		299.00	Pair		
	P-105	Q.7 Box	8			1	Dome	No			35-22 ± 2	88	20	3k	4/4	21 x 10 x 10	Oak	Black Cloth	27		499.00	Pair		
	Purist LT	QB3, Pas. Rad.	(2)6 1/2			1	Dome	T			35-22 ± 2	89	20	300,2.5k	4/4	43 x 13 x 7	Oak	Black Cloth	46		899.00	Pair		
	MQLS-1	Sat. & Slot Loaded Subwoof.	(2)10	(4)6 1/2	Cones	1	Dome				22-22 ± 2	90	25	90,450, 3k	4/4	Two Pieces Per Side	Oak	Black Cloth	105 Side		1975.00	Pair		
	MQLS-2	Sat. & Slot Loaded Subwoof.	(2)10	(2)4, 1 1/2	Cones, Dome	2 1/2 x 1/2	Ribbon				22-26 ± 2	90	35	90,450, 1.5k, 11k	4/4	Two Pieces Per Side	Oak	Black Cloth	111 Side		2550.00	Pair		
KIMERGETICS RESEARCH	SW-100	Powered Stereo Subwoof.	(2)10					W			20-100 ± 3	94	Inc.	100	4/3	24 x 11 x 16	Opt.	Black Cloth	50		1532.00	Pair w/ Amps & Xover		
	SW-100.5	Powered Stereo Subwoof.	10					W			20-100 ± 3	91	Inc.	100	8/6	12 x 11 x 16	Opt.				1094.00	Pair w/ Amps & Xover		
	SW-400	Powered Stereo Subwoof.	(5)10					W			20-100 ± 3	100	Inc.	100	3/2	64 x 11 x 16	Opt.	Black Cloth	120		3895.00	Pair w/ Amps & Xover		
KINETIC AUDIO	Titan	TATL (Tap. Ac. Trap. Line)	(2)12	6 1/2	Cone	2, 1, 3/4	Domes	(2)M, T, ST			12-22 ± 1.5	90	35	60,90,350, 3k, 7k	6/3	18 x 22 x 60	Oiled Wat.	Black Knit	245		5000.00	Pair		
	Trapezium	TATL	12	6 1/2	Cone	2, 1, 3/4	Domes	(2)M, T, ST			12-22 ± 1	89	45	90,350, 3.5k, 7k	8/5	16 x 20 x 60	Oiled Wat.	Black Knit	205		4000.00	Pair		
	Labyrinth	TATL	12	6 1/2	Cone	2, 1	Domes	(2)M, T			16-22 ± 1.5	91	35	90,350, 3.5k	8/5	16 x 18 x 48	Oiled Wat.	Black Knit	185		3000.00	Pair		

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Enclosure or System Type			Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Controls? Woofer = W, Midrange = M, Tweeter = T, Superwoofer = ST	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Woofer	Midrange	Tweeter															
FRIED PRODUCTS	R/4	Trans. Line & Line Tun. Dual Trans. Line	10	5	Cone	1	Dome	T	38-18 ± 3	90	25	250,3k	8/5	32 x 12 x 13	Wal.	Black Cloth	35	1095.00 Pair		
	D/2	Trans. Line	8	6	Cone	3/4	Dome	T	28-20 ± 3	90	25	99,2.7k	8/6.3	49 x 11 x 16	Wal.	Black Foam	100	4000.00 Pair; Kit, 1100.00 Pair		
	C/3L	Trans. Line	6 1/2			3/4	Dome		50-22 ± 3	91	20	2.7k	8/6.3	11 x 14 x 15	Opt.	Black Foam	35	1450.00 Pair; Kit, 450.00 Pair		
	G/3	Trans. Line	10	6 1/2	Cone	3/4	Dome		23-22 ± 3	91	20	99,2.7k	8/6.3	18 x 16 x 44	Wal.	Black Foam	100	2500.00 Pair		
	Beta	Pressure Release Line Tun.	6 1/2			2 1/2	Cone/Dome		60-20 ± 3	87	20	2k	8/6	8 x 8 x 14	Opt., Vinyl	Black Knit	30	325.00 Pair		
	Q/3	Line Tun.	8			1	Dome	T	45-18 ± 3	89	20	2k	8/6	11 x 9 x 20	Opt., Vinyl	Black Knit	40	440.00 Pair		
	A/3	Line Tun.	8			1	Dome	T	40-18 ± 3	90	20	2k	8/6	13 x 10 x 23	Oiled Wal.	Black Knit	35	650.00 Pair		
	The Subwoofer Studio IV	Line Tun. Subwoof. Line Tun.	10						32-90 ± 3	89	20	90	8/6	15 x 12 x 24	Opt., Vinyl	Black Knit	55	330.00 Pair		
			8			3/4	Dome		26-22 ± 3	90	20	2.7k	8/6	12 x 18 x 39	Oiled Wal.	Black Foam	80	1400.00 Pair		
FUSELIER	4.3i	Vented	(2)8	5 1/4	Cone	1	Dome	No	34-20 ± 2	90	30	200,3k	4/2	Three Pieces per Side	Wal.	Black		3200.00 Pair		
	2.5	Vented	5 1/4			1	Dome		50-20 ± 2	88	10	300,2.2k	4/4	8 x 11 x 14	Wal.	Black	16	775.00 Pair		
	2.6	Vented	6 1/2			1 1/8	Dome		47-20 ± 2	87	20	1.7k	8/5	9 x 13 x 14	Wal.	Black	21	995.00 Pair		
	3.8	Vented	8	2	Dome	1	Dome		40-20 ± 2	89	20	800,6.5k	8/3.2	11 x 16 x 21	Wal.	Black	33	1595.00 Pair		
	3.8D	Vented	8	2	Dome	1	Dome		35-20 ± 2	88	20	800,6.5k	8/3.2	11 x 18 x 24	Wal.	Black	39	2100.00 Pair		
GLENMONITOR	Cubits	Ac. Sus.	8			1	Dome		45-21 ± 3	91	10	2.5k	6/	10 x 10 x 10	Opt.	Black Knit	45	350.00 Pair		
	Blockheads	Ac. Sus.	6 1/2			1	Dome		55-21 ± 5	91	10	2.5k	6/	8 x 8 x 8	Opt.	Black Knit	40	275.00 Pair		
	Bass-Block	Subwoof.	12						20-150	93	25	150	4/	16 x 16 x 16	Opt.	Black Knit	50	350.00 Pair		
	LOWBE	Subwoof.	15						18-90	92	50	90	4/	20 x 20 x 20	Opt.	Black Knit	60	650.00 Pair		
	Midbits	Inf. Baf.	10	5	Cone	1	Dome		35-21	94	25	750,3.8k	4/	12 x 12 x 24	Opt.	Black Knit	45	650.00 Pair		
	Double Eights	Inf. Baf.	10,8	5	Cone	1	Dome		25-21	94	25	750,3.8k	4/	12 x 12 x 32	Opt.	Black Knit	50	850.00 Pair		
GOLD AERO	803s	Slot Loaded	8	4	Cone	1	Dome	No	25-24 ± 3	87	75		8/	41 x 14 x 13	Black Lacq.	Black Knit	75	2500.00 Pair		
	1201S/Trapagon	Slot Loaded	12	4	Dome	1	Dome	No	20-30 ± 2	90	100		8/	Two Pieces Per Side	Black Lacq.	Black None	100	7200.00 Sys.		
GOLDMUND	Prologue	Pas. Rad.	5			3/4	Dome			89			4/	9 x 9 x 14	Black Matte	Black Knit	15	2550.00 Pair		
	Dialogue	Tuned Port	7	7	Cone	1	Inv. Domes			96			4/	14 x 14 x 47	Black Lacq.	Black Knit	150	5690.00 Pair		
	Analogue	Tuned Port	13	8	Cone	(2)1	Domes			95			4/	26 x 65 x 65	Black Lacq.	Black Knit	330	24,900.00 Pair		
	Apologue	Inf. Baf.	(2)12	8	Cone	(2)1	Domes			100			4/	34 x 46 x 74	Black Lacq.	Black Knit	700	49,900.00 Pair		
GOLD SOUND	#6	Sealed	(2)8	(2)5 1/4	Cones	1	Dome		32-30 ± 2	93	5	60,200,3k	4/	37 x 14 x 11	Opt.	Brown Knit	122	Kit, 849.00 Pair		
	#9	Vented	(2)15	7	Cone	3x7	Horn	M	26-30 ± 3	98	5	60,250,3k	4/	46 x 29 x 19	Opt.	Brown Knit	272	Kit, 899.00 Pair		
	#10	Vented	15	7	Cone	1		M,T	28-21 ± 3	93	5	300,5k	8/	44 x 18 x 17	Opt.	Brown Knit	210	Kit, 1419.00 Pair		
	2018	Vented	18	8	Cone			M,T	28-21 ± 3	95	5	400,1.4k, 5k	8/	46 x 29 x 19	Opt.	Brown Knit	360	Kit, 1776.00 Pair		
	#14	Vented	18	10,8	Cone, Horn	5	Horn	M,T	28-21 ± 3	95	5	200,1.2k, 5k	8/	46 x 29 x 19	Opt.	Brown Knit	392	Kit, 2499.00 Pair		
	Kit #.2	Sealed	5 1/4			3/4	Dome		68-20 ± 3	91	5	3k	4/8	12 x 8 x 7	Opt.	Brown Knit	18	Kit, 149.00 Pair		
	Kit #.6	Sealed	6 1/2			1	Dome	T	58-20 ± 3	92	5	3k	4/	16 x 10 x 8	Opt.	Opt.	24	Kit, 198.00 Pair		
	Kit #1	Vented	10			1 1/4	Dome	T	45-20 ± 3	93	5	2k	4/8	25 x 14 x 11	Opt.	Opt.	58	Kit, 359.00 Pair		
	Kit #2	Vented	8	4	Cone	1	Dome		45-30 ± 3	91	5	90,300,4k	4/	19 x 12 x 10	Opt.	Opt.	36	Kit, 349.00 Pair		
	Kit #3	Vented	12	5 1/4	Cone	1	Dome		38-30 ± 3	92	5	80,200,3k	4/	25 x 14 x 11	Opt.	Opt.	69	Kit, 499.00 Pair		

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches			Midrange Diameter, Inches			Tweeter Diameter, Inches			Separate Low Crossover? Woofer = W, Midrange = M, Tweeter = T, Superwoofer = ST	Anechoic Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Woofer	Midrange	Tweeter	Woofer	Midrange	Tweeter	Woofer	Midrange	Tweeter											
GOLD SOUND (Continued)	Kit #4	Vented	12	6	Cone	1 1/4, 1/2	Domes				36-30 ±3	93	5	70,250, 3k,8k	4/	37 x 14 x 11	Opt.	Opt.	128 Pair	Kit, 749.00		
	Kit #5	Vented	15	7	Cone	3x7	Horn	M			28-30 ±3	95	5	60,250,3k	4/	44 x 18 x 14	Opt.	Opt.	158 Pair	Kit, 989.00		
	Kit #7	Vented	(2)12	7	Cone	1 1/4, 2x3	Dome, Ribbon	M,T			28-35 ±3	95	5	50,300, 3k,8k	4/8	44 x 18 x 14	Opt.	Opt.	232 Pair	Kit, 1289.00		
	Kit #8	Vented	(2)12	(2)6	Cones	1	Dome				26-25 ±3	95	5	200,4k	4/8	44 x 18 x 14	Opt.	Opt.		Kit, 1489.00		
	Kit #11	Vented	15	7	Cone	5x5	Horn	M,T			28-21 ±3	93	5	300,5k	8/	44 x 18 x 14	Opt.	Opt.	218 Pair	Kit, 1619.00		
	Kit 2005	Vented	15	8,4	Cones	1	Dome	M,T			28-27 ±3	96	5	400,1.4k, 5k	8/	44 x 18 x 14	Opt.	Opt.	245 Pair	Kit, 1919.00		
	Performance Pro 12 Kit	Sealed	12			3x7	Horn	T			55-21 ±3	100	5	3k	8/	20 x 16 x 15	Opt.	Black Metal	59 Pair	Kit, 269.00		
	Performance Pro 15 Kit	Vented	15	7	Cone	4x10, 3x7	Horns	M,T			39-21 ±3	98	5	400,5k	8/	44 x 18 x 14	Opt.	Black Metal	74 Pair	Kit, 1188.00		
	Performance Pro Double 15 Kit	Vented	(2)15	7	Cone	4x10, 3x7	Horns	M,T			38-21 ±3	100	5	400,5k	4/	46 x 24 x 21	Opt.	Black Metal	129 Pair	Kit, 1298.00		
	Performance Pro Double 18 Kit	Vented	(2)18	(2)10	Cones	7x17, 4	Horns	M,T			29-21 ±3	101	5	200,2k, 10k	4/	Two Pieces Per Side	Opt.	Black Metal	280 Side	Kit, 3698.00		
	GS12 Kit	Subwoof.	12								32-150 ±3	92	5	150	4,8	18 x 18 x 16	Opt.	Opt.	18	Kit, 308.00 w/Xover		
	GS12(2) Kit	Compd. Load Subwoof.	(2)12								25-150 ±3	95	5	150	4,8	18 x 18 x 16	Opt.	Opt.	36 Pair	Kit, 449.00 w/Xover		
	GS15 Kit	Subwoof.	15								32-150 ±3	94	5	150	4,8	44 x 18 x 14	Opt.	Opt.	20	Kit, 498.00 w/Xover		
	GS15(2) Kit	Compd. Load Subwoof.	(2)15								24-150 ±3	97	5	150	4,8	44 x 18 x 14	Opt.	Opt.	40	Kit, 678.00 w/Xover		
	JBL15 Kit	Subwoof.	15								28-150 ±3	96	5	150	8/	44 x 18 x 14	Opt.	Opt.	25	Kit, 618.00		
	JBL15(2) Kit	Compd. Load Subwoof.	(2)15								23-150 ±3	99	5	150	8/	44 x 18 x 14	Opt.	Opt.	50	Kit, 998.00		
	JBL18 Kit	Subwoof.	18								28-150 ±3	95	5	150	8/		Opt.	Opt.	33	Kit, 788.00		
	JBL18(2) Kit	Compd. Load Subwoof.	(2)18								23-150 ±3	98	5	150	8/		Opt.	Opt.	66	Kit, 1478.00		
	8C	In-Wall	8			1 1/4	Dome				40-25 ±3	92	5	4k	4/8		Opt.	Opt.	10	Kit, 99.00		
	8AC	In-Wall	8			2	Cone				32-20 ±3	92	5	3k	4/8		Opt.	Opt.	16	Kit, 99.00		
824	In-Wall Subwoof.	8								32-2 ±3	92	5		4/8		Opt.	Opt.	24	Kit, 139.00			
844	In-Wall Subwoof.	8								30-2 ±3	92	5		4/8		Opt.	Opt.	24	Kit, 139.00			
GOODMANS	The Maxim	Bass Ref.	5			3/4	Dome			65-20	86	15		8/	10 x 7 x 7	Black	Black Knit	18 Pair	Kit, 245.00			
	The Maxamp	Powered Bass Ref.	5			3/4	Dome			65-20	86	Inc		8/	10 x 7 x 7	Black	Black Knit	18 Pair	Kit, 325.00			
	The Maxamp Remote (With remote control) B-Max	Powered Bass Ref.	5			3/4	Dome			65-20	86	Inc		8/	10 x 7 x 7	Black	Black Knit	18 Pair	Kit, 475.00			
	M1	Subwoof.	(2)6							30-150	90	(2) 100	150	8/2	24 x 8 x 9	Black	Black Knit	22	Kit, 225.00			
	M3	Bass Ref.	5			3/4	Dome				84	20		8/6	10 x 8 x 7	Black	Black Knit	18 Pair	Kit, 179.00			
	M5	Bass Ref.	6 1/2			3/4	Dome				88	20		8/6	15 x 9 x 7	Black	Black Knit	22 Pair	Kit, 239.00			
	H.I.M. 110	Bass Ref.	8			3/4	Dome				88	20		8/6	16 x 10 x 8	Black	Black Knit	28 Pair	Kit, 299.00			
	H.I.M. 220	Bass Ref.	8			1	Dome	T		45-20	98	10	4k	8/4	20 x 10 x 12	Black	Black Knit	24	Kit, 479.00			
	H.I.M. 440	Bass Ref.	10			1	Dome	T		40-20	98	10	4k	8/4	30 x 13 x 16	Black	Black Knit	44	Kit, 579.00			
	H.I.M. 880	Bass Ref.	12	4		1	Dome	M,T		30-20	98	10	1k,4k	8/4	35 x 15 x 17	Black	Black Knit	66	Kit, 799.00			
GOTT LABS	Studio	Ac. Sus.	5			1	Dome	T		85-20 ±3	87	20	2.7k	8/5	8 x 6 x 10	Wal.	Brown Cloth	15	Kit, 158.00			

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Enclosure or System Type			Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Control? Woofer = W, Midrange = M, Tweeter = T, Subwoofer = ST	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Weakest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Design Principle	Woofer Diameter, Inches	Midrange Diameter, Inches															
REUBEN GUSS	Custom Monitor System 1	Sat. & Inf. Baf.	(24)15	(48)15	Domes	(32)1, (100)3	Domes, Piezos	M, T	10-30 ±3	98	100	475,650, 950,3.5k	4/3	Eight Pieces	Opt.	Black Knit	2200 Sys.	100,000 Sys.		
	Monitor System 2	Sat. & Inf. Baf.	(12)15	(24)15	Domes	(16)1, (50)3	Domes, Piezos	M, T	15-30 ±3	98	50	475,650, 950,3.5k	8/6	Four Pieces	Opt.	Black Knit	1100 Sys.	50,000 Sys.		
	Symphony System 3	Sat. & Inf. Baf.	(4)15	(6)5	Domes	(4)1, (12)3	Domes, Piezos	M, T	20-30 ±3	96	50	475,650, 950,3.5k	4/3	Four Pieces	Oiled Wal.	Black Knit	355 Sys.	15,000 Sys.		
	Concerto System 4	Sat. & Inf. Baf.	(4)12	(6)5	Domes	(4)1, (8)3	Domes, Piezos	M, T	30-30 ±3	92	50	475,650, 950,3.5k	4/3	Four Pieces	Oiled Wal.	Black Knit	350 Sys.	9000.00 Sys.		
	Sonata	Sat. & Inf. Baf.	(2)12	(2)5	Domes	(2)1, (6)3	Domes, Piezos	M, T	30-30 ±4	88	50	600,3.5k	8/6	Four Pieces	Oiled Wal.	Black Knit	140 Sys.	4000.00 Sys.		
HAFLER	200	Bass Ref.	6 1/2		Cone	1	Dome		50-20	88	20	3k	4/4	8 x 10 x 14	Oak Ven.	Black Knit	40 Pair	450.00 Pair		
	300	Tuned Trans. Line	(2)6 1/2			1	Dome		35-20	91	20	2.5k	8/6	9 x 11 x 36	Oiled Oak	Black Knit	45	795.00 Pair		
	400	Tuned Trans. Line	8	(2)6 1/2	Cones	1	Dome		30-20	92	20	100,2.5k	8/6	10 x 12 x 41	Oiled Oak Ven.	Black Knit	60	1100.00 Pair		
HALES AUDIO	System Two	Ac. Sus.	(2)7			1	Inv. Dome		45-20 ±3	88	50	1.8k	4/3	11 x 13 x 36	Opt.	Black Foam	68	2395.00 Pair		
	System Two Signature	Ac. Sus.	(2)8			1	Dome		43-26 ±3	89	50	2k	4/3	11 x 21 x 48	Opt.	Black Foam	210	3800.00 Pair		
	System One Reference								43-26 ±3											
HARMS LABS	Mini	Inf. Baf.	5 1/4			1	Dome		70-20 ±2	87	10	3k	8/7	13 x 9 x 6	Wal. Stain	Black Knit	24 Pair	280.00 Pair		
	HL1	Pas. Rad.	5 1/4			1	Dome		45-20 ±2	87	10	3k	8/7	20 x 10 x 9	Wal. Stain	Black Knit	36 Pair	380.00 Pair		
	HL1P	Pas. Rad.	6 1/2			1	Dome		37-20 ±2	90	10	3k	8/7	22 x 10 x 10	Wal. Stain	Black Knit	44 Pair	480.00 Pair		
	HL2	Pas. Rad.	8			1	Dome		30-20 ±2	91	10	3k	8/7	24 x 14 x 10	Wal. Stain	Black Knit	70 Pair	580.00 Pair		
	HL3	Pas. Rad.	10	6 1/2	Cone	1	Dome		26-20 ±2	90	10	300,3k	8/7	34 x 12 x 13	Wal. Stain	Black Knit	100 Pair	780.00 Pair		
	HL4	Sat. & Pas. Rad. Subwoof.	12	(2)6 1/2	Cones	(2)1	Domes		22-20 ±2	94	10	200,3k	8/4	Four Pieces	Wal. Stain	Black Knit	164 Sys.	1200.00 Sys.		
	HL5	Sat. & Pas. Rad. Subwoof.	(2)12	(4)5 1/4	Cones	(4)1	Domes		18-20 ±2	97	10	150,3k	8/4	Six Pieces	Wal. Stain	Black Knit	230 Sys.	3000.00 Sys.		
	Small Subwoofer	Pas. Rad. Subwoof.	10						To 150 ±3	91	30	125	4/4	25 x 14 x 10	Wal. Stain	Black Knit	38	249.00		
Large Subwoofer	Pas. Rad. Subwoof.	12						To 150 ±3	94	50	125	4/4	32 x 17 x 13	Wal. Stain	Black Knit	53	399.00			
HARTLEY PRODUCTS	Reference Mini-Tower SW-10	Air Col. Subwoof.	(2)6 1/2			1	Dome	No	32-25 ±3	93	5	3.1k	5/4	33 x 12 x 12	Oiled Oak	Black Knit	50	660.00 Pair		
	Concertmaster	Inf. Baf.	10	10	Cone	(2)7	Cones	No	25-3.8 ±3	93	15		8/6	18 x 18 x 24	Oiled Wal.	Black Knit	70	525.00		
	Reference	Inf. Baf.	18	10	Cone	(2)7	Cones	No	16-25 ±3	92.5	25	125,3k,8k	8/5	29 x 18 x 42	Oiled Wal.	Black Knit	350 Pair	3995.00 Pair		
	SW-18	Inf. Baf.	24	10	Cone	(2)7	Cones	No	16-25 ±3	93	25	125,3k,8k	8/5	36 x 24 x 50	Oiled Wal.	Black Knit	600 Pair	5195.00 Pair		
	SW-18	Inf. Baf. Subwoof.	18					No	16-350 ±4	92.5	25		5/4	29 x 18 x 42	Oiled Wal.	Black Knit	150	990.00		
	SW-24	Inf. Baf. Subwoof.	24					No	16-250 ±3	93	25		5/4	36 x 24 x 50	Oiled Wal.	Black Knit	250	1295.00		
HEMISPHERE	PP-140	Bass Ref.	8	4	Cone	1	Dome		30-25	90	40	600,5k	4/2	21 x 11 x 11	Black Oak	Black Knit	27	700.00 Pair		
	PP-140S (Tower)	Bass Ref.	8	4	Cone	1	Dome		30-25	90	40	600,5k	4/2	34 x 11 x 11	Black Oak	Black Knit	27	800.00 Pair		
	PP-120	Bass Ref.	8	4	Cone	1	Dome		30-25	88	40	700,5k	4/2	18 x 10 x 9	Black Oak	Black Knit	22	500.00 Pair		
	PP-120S (Tower)	Bass Ref.	8	4	Cone	1	Dome		30-25	88	40	700,5k	4/2	31 x 11 x 10	Black Oak	Black Knit	22	600.00 Pair		
	PP-80	Bass Ref.	6	3	Cone	1	Dome		33-25	92	40	2k,7k	4/2	16 x 10 x 9	Black Oak	Black Knit	19	300.00 Pair		
HEYBROOK	Point Five	Inf. Baf.	6 1/2			3/4	Dome		50-20 ±3	87	15	4k	8/6	8 x 8 x 14	Black	Black Knit	28 Pair	299.00 Pair		
	Point Seven	Inf. Baf.	6 1/2			3/4	Dome		45-20 ±3	87	15	4k	8/6	8 x 8 x 16	Black	Black Knit	32 Pair	429.00 Pair		
	HB-1	Inf. Baf.	8			1	Dome		45-20 ±3	90	10	4k	8/6	12 x 11 x 18	Opt.	Black Foam	38 Pair	399.00 Pair		
	HB-3	Inf. Baf.	10	4	Cone	3/4	Dome		35-20 ±3	89	15	1k,5k	8/6	14 x 12 x 24	Opt.	Black Foam	78 Pair	1598.00 Pair		
	HB-100	Inf. Baf.	8			3/4	Dome		45-20 ±3	89	10	4k	8/6	11 x 13 x 19	Opt.	Black Knit	36 Pair	598.00 Pair		
	HB-150	Tuned Bass Ref.	6 1/2			3/4	Dome		40-22 ±3	88	15	4k	8/6	8 x 8 x 16	Opt.	Black Knit	30 Pair	798.00 Pair		
	HB-200	Tuned Bass Ref.	6 1/2			1	Dome		34-20 ±3	88	15	3k	8/6	8 x 8 x 18	Opt.	Black Knit	36 Pair	998.00 Pair		
HIGH BISCUIS	Kevin Ingram One	Vented	(6)7	28x13	Horn	5 1/4x5 1/4	Horn, Leaf		40-85	94		600,3.5k, 12k	8/1	68 x 28 x 32	Mahog.	None	130	1350.00		
HITACHI	HSW40	Ac. Sus.	6 1/2			1/2	Dome		60-20	90		6k	8/	9 x 10 x 15	Matte Black	Black Knit	13	290.00 Pair		
	HSW50	Ac. Sus.	8	5	Cone	3/4	Dome		45-20	90		2k,6k	8/	10 x 10 x 30	Matte Black	Black Knit	20	500.00 Pair		

Signature
been

The Mon

IMA

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Tweeter Type		SPL, 1 Watt/1 Meter, dB		Crossover Frequencies, Hz		Impedance, Ohms: Nominal/Minimum		Dimensions, Inches (To Nearest Inch)		Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange				
HITACHI (Continued)	HSA-2029B	Bass Ref.	8			2	Cone		50-20	88		7k	8/	12 x 8 x 35	Oak	Black Knit	20	200.00			Pair	
	HSA-3051	Bass Ref.	10	4	Cone	2	Cone		45-20	88		3k,7k	8/	15 x 9 x 35	Oak	Black Knit	30	300.00			Pair	
ICON ACOUSTICS	Micron	Tuned Port	4 1/2			1	Dome		68-25 ±3	89	20	2k		6 x 10 x 7	Opt.	Opt., Knit	10	595.00			Pair	
	Lumen	Tuned Port	7			1	Dome		55-25 ±3	89	20	2k		10 x 18 x 10	Opt.	Opt., Knit	22	795.00			Pair	
	Parsec	Tuned Port	8 1/2			1	Dome		40-25 ±3	90	30	2k		11 x 38 x 11	Opt.	Opt., Knit	50	995.00			Pair	
IMAGE	Reference .5	Ported	6 1/2			3/4	Dome		45-20 ±3.5	87	20	2.5k	6/4	16 x 10 x 9	Hick. Vinyl	Black	15	260.00			Pair	
	Reference One	Ported	8			3/4	Dome		40-20 ±3	89	20	2.2k	6/4	19 x 10 x 9	Hick. Vinyl	Black	20	350.00			Pair	
	Reference Two	Ported	8			1	Dome		35-20 ±3	88	20	2.2k	6/4	24 x 11 x 12	Hick. Vinyl	Black	31	450.00			Pair	
	Concept 100	Ported	6 1/2			3/4	Dome		45-23 ±2	87	35	2.1k	6/4	16 x 9 x 11	Opt.	Black Knit	23	650.00			Pair	
	Concept 200	Ported	(2)6 1/2			3/4	Dome		35-23 ±2	87	35	2.1k	6/4	43 x 10 x 15	Opt.	Black Knit	66	1000.00			Pair	
IMPULSE	I	Ported	10			46L	Ribbon	T	30-20 ±2	83	100	175	5/2	Two Pieces per Side	Oiled Wal. Oak	Metal	200	8000.00				
	II LeF	Ported	12			(4)2	Cones		28-22 ±2	88	100	250	4/3	Two Pieces per Side	Oak	Metal	80	2700.00				
	III LeF	Ported	8			2	Cone		46-22 ±2	88	100	250	4/3	10 x 8 x 14	Oak	Metal	26	2200.00				
INFINITY	IRS Series V	Servo	(12)12	(24)4x6	EMIMs	(72)1/2x2	EMITs	M, T, ST	16-44 ±2	87	108	70,5k	4/3	Four Pieces	Santos	Brown Cloth	1550 Sys.	50,000.			Sys.	
	IRS Beta	Servo	(8)12	(4)16x8, (2)4x6	L-EMIMs, EMIMs	(4)1/2x2, (2)1/2x1	EMITs, SEMITs	M, T, ST	25-44 ±2	87	75	70,700, 4k,8k	4/3	Four Pieces	Santos	Black Cloth		11,950.			Sys.	
	IRS Gamma	Servo	(4)12	(2)16x8, (2)4x6	L-EMIMs, EMIMs	(4)1/2x2, (2)1/2x1	EMITs, SEMITs	M, T, ST	25-44 ±2	86	60	70,700, 4k,8k	4/3	22 x 15 x 62	Santos	Black Cloth		6950.00			Pair w/Xover	
	IRS Delta	Sealed Box	(4)12	(2)16x8, (2)4x6	L-EMIMs, EMIMs	(4)1/2x2, (2)1/2x1	EMITs, SEMITs	M, T, ST	29-44 ±2	86	60	70,700, 4k,8k	4/3	22 x 15 x 62	Santos	Black Cloth		5500.00			Pair	
	RS1001	Sealed Box	4 1/2				Dome		70-22 ±3	89	8	4.5k	6/	13 x 8 x 6	Vinyl	Black		170.00			Pair	
	RS2001	Sealed Box	6 1/2			3/4	Dome		55-22 ±3	89	15	4.8k	6/	14 x 9 x 7	Vinyl	Black		238.00			Pair	
	RS3001	Sealed Box	8			3/4	Dome	T	45-22 ±3	89	20	4k	6/	21 x 12 x 9	Vinyl	Black		398.00			Pair	
	RS4001	Sealed Box	8	2	Dome	3/4	Dome	T	44-22 ±3	89	25	600,4k	6/	23 x 12 x 9	Vinyl	Black		538.00			Pair	
	RS5001	Sealed Box	8	2	Dome	2	Dome	M, T	42-45 ±3	89	25	600,4.2k	6/	31 x 12 x 9	Vinyl	Black		738.00			Pair	
	RS6001	Sealed Box	(2)8	2	Dome	2	Dome	M, T	42-45 ±3	89	35	600,4.2k	6/	37 x 12 x 9	Vinyl	Black		1058.00			Pair	
	RS Subwoofer	Subwoof.	10					W	30-200 (Var.)			50-200 (Var.)	4/2	23 x 13 x 10	Black Vinyl			2898.00			Pair	
	RS 9 Kappa	Sealed Box	(2)12	3	Dome		EMIT K	M, T	29-45	89	60	80,800, 4.5k	4/2	60 x 22 x 8		Black		1998.00			Pair	
	RS 8 Kappa	Sealed Box	12	3	Dome		EMIT K	M, T	33-45	89	50	80,800, 4.5k	4/2	48 x 21 x 8		Black		1398.00			Pair	
	RS 7 Kappa	Sealed Box	12	3	Dome		EMIT K	M, T	37-45	88	40	800,4.5k	4/4	37 x 17 x 12		Black		998.00			Pair	
	RS 6 Kappa	Sealed Box	10	3	Dome		EMIT K	M, T	39-45	88	30	800,4.5k	4/4	25 x 15 x 11		Black		798.00			Pair	
	RS 5 Kappa	Sealed Box	6 1/2				EMIT K	T	50-45	86	25	3.5k		17 x 11 x 10		Black		1118.00			Pair	
	SM 150	Ported	15	4 1/2	Cone	1	Dome	M, T	44-25 ±3	101	10	500,5.5k	8/	40 x 19 x 13	Vinyl	Black		798.00			Pair	
	SM 120	Ported	12	4 1/2	Cone	1	Dome	M, T	49-25 ±3	98	10	750,5.5k	8/	33 x 16 x 13	Vinyl	Black		558.00			Pair	
	SM 100	Ported	10			1	Dome	T	59-25 ±3	98	10	2.5k	8/	30 x 14 x 13	Vinyl	Black		438.00			Pair	
	SM 80	Ported	8			1	Dome		70-25 ±3	98	10		8/	11 x 11 x 18	Vinyl	Black		600.00			Pair	
	ERS800	In-Wall	8				EMIT	T	45-45	89	20	3.5k	4/3.5	16 x 11 x 4	Beige ABS	Beige Metal		350.00			Pair	
	ERS600	In-Wall	6			3/4	Dome	T	55-22	89	15	4.4k	4/4	18 x 9 x 4	Beige ABS	Beige Metal		275.00			Pair	
ERS500	In-Wall	5 1/4			1	Cone		70-20		8	5k		8 x 8 x 3	Beige ABS	Beige Metal		1000.00			Pair		
Modulus	Sealed Box	5				EMIT	T	82-45 ±3	84	25	4k	4/4	12 x 7 x 11	Opt., Lacq.	Black Knit		995.00			Pair		
INTEGRAL AUDIO	Point Source	Pas. Rad.	8	6	Cone	1	Dome	T	32-20 ±3	92	25	150,3k	4/2	38 x 10 x 10	Black Lacq.	Black Knit	40	995.00			Pair	
ISLAND AUDIO (Continued)	IA-100	Bass Ref.	6 1/2			1	Dome	No	55-20 ±3	90	25		8/	8 x 8 x 13	Oiled Oak	Black Knit	12	400.00			Pair	
	IA-100R	Pas. Rad.	6 1/2			1	Dome	No	49-20 ±3	90	25		8/	8 x 8 x 13	Oiled Wal.	Black Knit	12	475.00			Pair	

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Separate Level Controls? Woofer = W, Midrange = M, Tweeter = T		Applicable Frequency Response, Hz to kHz, ± dB		SPL - 1 Watt/1 Meter, dB		Recommended Min. Amp Power, Watts		Crossover Frequencies, Hz		Impedance, Ohms: Nominal/Minimum		Dimensions, Inches (To Nearest Inch)		Finish	Grille Color and Material	Weight, Lbs.	Price, \$
ISLAND AUDIO (Continued)	IA-700	Bass Ref.	(2)6½			(2)1	Domes	No	55-20 ±3	92	25		4/	8 x 8 x 27	Oiled Oak	Black Knit	27	675.00					Pair			
	IA-800	Pas. Rad.	8			1	Dome	No	40-20 ±3	90	25		8/	11 x 11 x 19	Oiled Oak	Black Knit	23	775.00					Pair			
	IA-600	Pas. Rad.	12	1¼	Dome	(2)1	Domes	No	32-22 ±3	90	25		8/	14 x 13 x 32	Oiled Oak	Black Knit	58	1200.00					Pair			
	IA-850	Bass. Ref.	12	1¼	Dome	(2)1	Domes	No	28-22 ±3	91	25		8/	15 x 12 x 25	Oiled Oak	Black Knit	45	1350.00					Pair			
	Islander	Sealed, Outdoor	6½			1	Dome	No	55-20 ±3	89	50		4/	7 x 7 x 27	Matte Black	Wire Mesh	20	800.00					Pair			
	Islander Light	Sealed, Outdoor	6½			1	Dome	No	55-20 ±5	89	50		4/	7 x 7 x 31	Matte Black	Wire Mesh	25	1200.00					Pair			
JACKSON LOUDSPEAKER	AU-3	Air Sus.	5¼			1, ½	Domes		85-20 ±3	87	30	2.5k, 12k	8/6	14 x 7 x 7	Opt.	Opt., Knit	17	929.00					Pair			
	AU-6	Hybrid, Pas. Rad.	6½, 8			1, ½	Domes		48-20 ±3	87	50	2k, 10k	8/6	17 x 11 x 11	Opt.	Opt., Knit	45	1799.00					Pair			
	AU-20	Hybrid, Pas. Rad., Subwoof.	10, 15						33-100 ±3	90	100	100	8/6	18 x 17 x 18	Opt.	Opt., Knit	57	899.00					Pair			
JAMO	Concert II	Bass Ref.	6½		Cone	1	Dome	No	40-20 ±3	96	40	2k	8/3	16 x 9 x 10	Opt., Wood	Black	20	750.00					Pair			
	Concert V	Bass Ref.	6½	6½	Cone	1	Dome	No	30-22 ±3	96	40	150, 3.5k	6/3	32 x 7 x 11	Opt., Wood	Black	42	1200.00					Pair			
	Concert VII	Bass Ref.	(2)8	6½	Cone	1	Dome	No	24-22 ±3	96	40	150, 4k	6/3	36 x 11 x 12	Opt., Wood	Black	62	1698.00					Pair			
	SW60	Sat. & Powered Subwoof.	10	4	Cone	2	Cone	W	25-20 ±3	96	30	70, 3k	6/	Three Pieces	Opt., Enam.	Wire Mesh	34½	799.00					Sys.			
	SW3	Sat. & Subwoof.	(2)6½	4	Cone	2	Cone		35-20 ±3	96	45	200, 4.5k	8/3	Three Pieces	Opt.	Wire Mesh	29	499.00					Sys.			
	Jamo Art	Bass Ref.	5			1	Dome		40-20 ±3	83	35	3k	8/3	14 x 16 x 4	Opt.	Wire Mesh	11	499.00					Pair			
JANIS	W1	Slot Loaded Subwoof.	15						30-100 ±1	87	60	100	8/7	18 x 22 x 22	Oiled Wal.	Wood	100	850.00								
	W3	Slot Loaded Subwoof.	12						30-100 ±1	85	60	100	8/7	18 x 18 x 18	Oiled Wal.	Wood	67	600.00								
	System 3/A	Powered Slot Loaded Subwoof.	12						30-100 ±1	85	50 Inc.	100	8/7	18 x 18 x 18	Oiled Wal.	Wood	87	950.00								
JBL	JBL2500	Ported	5¼			½	Dome		90-23	88	10	3k	8/6	12 x 7 x 6	Oak Vinyl	Gray Knit	8	89.00								
	JBL2600	Ported	6½			½	Dome		60-23	89	10	3k	8/6	17 x 9 x 8	Oak Vinyl	Gray Knit	12	119.00								
	JBL2800	Ported	8			½	Dome		55-23	89	10	2.5k	8/6	23 x 11 x 10	Oak Vinyl	Gray Knit	20	169.00								
	JBL3800	Ported	8	5	Cone	½	Dome		50-23	89	10	800, 4.5k	8/6	32 x 11 x 10	Oak Vinyl	Gray Knit	29	279.00								
	JBL4800	Tuned Port	10	5	Cone	½	Dome		50-23	91	10	800, 4.5k	8/6	35 x 13 x 14	Oak Vinyl	Gray Knit	36	349.00								
	LX22	Tuned Port	6½			1	Dome		50-25	90	10	3k	8/6	16 x 10 x 9	Vinyl Opt.,	Gray Knit	42	179.00								
	LX44	Tuned Port	8	5	Cone	1	Dome		45-25	91	10	800, 4k	8/6	24 x 12 x 12	Vinyl Opt.,	Gray Knit	33	279.00								
	LX55	Tuned Port	10	5	Cone	1	Dome		40-25	91	10	800, 4k	8/6	26 x 14 x 12	Vinyl Opt.,	Gray Knit	62	399.00								
	L20t3	Tuned Port	6¼			1	Dome		55-27	87	20	3k	8/6	10 x 16 x 8	Vinyl Opt.,	Gray Knit	14	299.00								
	L40t3	Tuned Port	8			1	Dome		45-27	88	20	2.5k	8/6	11 x 21 x 10	Wood Opt.,	Gray Knit	24	399.00								
	L80t3	Tuned Port	10	5	Cone	1	Dome		40-27	90	20	800, 4.5k	8/6	13 x 32 x 14	Wood Opt.,	Gray Knit	44	549.00								
	L100t3	Tuned Port	12	5	Cone	1	Dome		35-27	91	20	800, 4.5k	8/6	15 x 36 x 16	Wood Opt.,	Gray Knit	58	699.00								
	Pro III	Tuned Port	5			1	Dome		65-27	87	10	3k	4/3	9 x 6 x 6	Wood Poly& Rubber	Black Metal	13	289.00					Pair			
	Pro VIII	Tuned Port	6			1	Dome		55-27	90	10	3k	6/5	15 x 10 x 9	Poly& Rubber	Black Metal	20	429.00					Pair			
	S-1	Subwoof.	8			(4)½	Domes		40-200	88	10	125	8/6	34 x 10 x 10	Opt.		38	299.00								
	S-2		5¼			1	Dome		40-20	86	10	3k	8/6	40 x 10 x 10	Wal.	White Metal	40	549.00								
	S-3	In-Wall Inf. Baf.	6¼			1	Dome		125-22	86	10	3k	4/3	11 x 7 x 4	Matte White	White Metal	14	249.00					Pair			
	S-4	In-Wall Inf. Baf.	6¼			1	Dome		125-22	88	10	3k	4/3	12 x 9 x 4	Matte White	White Metal	16	299.00					Pair			
	18Ti	Tuned Port	6½			1	Dome			88	20	3k	8/6	15 x 9 x 7	White Teak	White Metal	34	379.00					Pair			
	120Ti	Tuned Port	12	5	Cone	1	Dome	M, T		89	30	900, 4k	8/6	25 x 14 x 11	Teak	Brown Knit	56	699.00					Pair			
	240Ti	Tuned Port	14	5	Cone	1	Dome	M, T		89	40	900, 4k	8/6	37 x 18 x 12	Teak	Brown Knit	85	1099.00					Pair			
	250Ti	Tuned Port	14	5, 8	Cones	1	Dome	(2)M T		90	50	400, 1.4k, 5.2k	8/6	52 x 23 x 14	Teak	Brown Knit	150	2399.00					Pair			
B380	Biamp Subwoof.	15							90	50	63 Ext.	8/6	20 x 28 x 17	Wal.	Brown Knit	70	899.00					Pair				
B460	Biamp Subwoof.	18							94	50	63 Ext.	8/6	25 x 38 x 24	Wal.	Brown Knit	126	1999.00					Pair				

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches			Midrange Diameter, Inches			Tweeter Diameter, Inches		Tweeter Type		Separate Level Controls Woofer, W Midrange, M, Tweeter, T		Acoustic Frequency Response, Hz to kHz, ± dB		SPL, 1 Watt/1 Meter, dB		Recommended Min. Amp Power, Watts		Impedance, Ohms: Nominal/Minimum		Dimensions, Inches (To Nearest Inch)		Finish		Grille Color and Material		Weight, Lbs.		Price, \$	
			Woofer	Midrange	Tweeter	Woofer	Midrange	Tweeter	W, M, T, ST	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T	W, M, T		
JENSEN	Concert Series 2650	Vented	6½			3									55-21	90					8/	15 x 11 x 6	Hick.	Black Knit	11	149.95	Pair					
	Concert Series 3121	Vented	12	5		3									43-21	91					8/	29 x 16 x 11	Oak	Black Knit	30	279.95	Pair					
	Concert Series 3100	Vented	10	5		3									48-21	90					8/	20 x 13 x 11	Wal. Vinyl	Black Knit	24	219.95	Pair					
	Concert Series 3120	Vented	12	5		3									43-21	91					8/	29 x 16 x 11	Wal. Vinyl	Black Knit	30	279.95	Pair					
	Concert Series 3150	Vented	15	5		3									33-21	94					8/	32 x 18 x 11	Hick. Vinyl	Black Knit	45	349.90	Pair					
JPW LOUDSPEAKERS	AP3	Inf. Baf.	8			¾								55-20 ± 3	89	10	3.2k			8/6.2	21 x 10 x 12	Opt., Wood	Opt., Knit	53	599.50	Pair						
	AP2	Inf. Baf.	8			¾								60-20 ± 3	89	10	3.2k			8/6.2	17 x 10 x 10	Opt., Wood	Opt., Knit	42	399.50	Pair						
	P1	Inf. Baf.	8			¾								65-20 ± 3	90	10	3.2k			8/6.2	17 x 10 x 10	Opt., Wood	Opt., Knit	34	349.50	Pair						
JRM	Monitor	Powered	(2)12, (6)6½	(2)4		Cones	(4)3		Horns	W, M, T, ST	18-20			Inc.	150,1k,5k						Three Pieces	Opt.	Opt.		2500.00	Sys.						
	S18A	B4 Vented Subwoof. QB3	18								25-250 ± 1.5	95	200	Sel.	8/6					8/6	36 x 30 x 24	Opt.	Opt.	175	500.00							
	S18B	Vented Subwoof. QB3	18								27-250 ± 1.5	94	200	Sel.	8/7					8/7	36 x 25 x 24	Opt.	Opt.	175	650.00							
	S18B-6	B6 Vented Subwoof. QB3	18								20-250 ± 1.5	94	200	Sel.	8/7					8/7	36 x 25 x 24	Opt.	Opt.	175	650.00							
	S15A	Vented Subwoof. QB3	15								27-300 ± 1.5	91	200	Sel.	8/7					8/7	36 x 23 x 16	Opt.	Opt.	130	525.00							
	S15A-6	B6 Vented Subwoof. QB3	15								20-300 ± 1.5	91	200	Sel.	8/7					8/7	36 x 23 x 16	Opt.	Opt.	130	525.00							
	D15A	C4 Vented Subwoof. QB3	(2)15								18-300 ± 1.5	89	200	Sel.	Sel.					Sel.	48 x 34 x 24	Opt.	Opt.	200	575.00							
	D12A	Vented Subwoof. QB3	(2)12								27-450 ± 1.5	88	200	Sel.	Sel.					Sel.	36 x 23 x 18	Opt.	Opt.	150	475.00							
	D12A-6	B6 Vented Subwoof. Triamped, Sealed	(2)12								18-450 ± 1.5	88	200	Sel.	Sel.					Sel.	36 x 23 x 18	Opt.	Opt.	150	475.00							
	VLS Satellite Tower		(6)6½	3x26	Horn	1½	Horn	W, M, T			20-20	98	200	(2)40	150,800, 7k					Sel.	8 x 16 x 66	Opt.	Opt.		1400.00							
JS AUDIO	26J	Ac. Sus.	6			1					46-21 ± 4	94	5	2.5k	8/					8/	12 x 8 x 8	Oak	Opt.	35	450.00	Pair						
	26P	Vented	6			1					40-22 ± 3	92	15	2.5k	8/					8/	16 x 10 x 11	Oak	Opt.	45	600.00	Pair						
	28P	Ac. Sus.	8			1					38-22 ± 4	91	15	2.5k	8/					8/	19 x 12 x 10	Oak	Opt.	50	600.00	Pair						
	38P	Vented	8	3		Cone	1				32-22 ± 3	93	15	700,4k	8/					8/	19 x 12 x 10	Oak	Opt.	65	1100.00	Pair						
	310P	Vented	10	5		Cone	1				28-22 ± 3	95	15	700,4k	8/					8/	24 x 14 x 10	Oak	Opt.	120	1500.00	Pair						
	412P	Vented	12	5		Cone	(2)1				24-40 ± 3	98	15	600,4k, 10k	8/					8/	27 x 16 x 12	Oak	Opt.	150	2000.00	Pair						
	415P	Vented	15	5		Cone	(3)1				22-24 ± 3	99	30	600,4k, 12k	8/					8/	36 x 19 x 12	Oak	Opt.	200	2800.00	Pair						
	310N	Vented	10	4		Cone	1				32-22 ± 3	91	20	700,3k	8/					8/	24 x 14 x 10	Oak	Opt.	120	1500.00	Pair						
	313N	Vented	13	4		Cone	1				25-22 ± 3	91	20	600,3k	8/					8/	32 x 16 x 12	Oak	Opt.	160	1800.00	Pair						
	Mesa II	Trans. Line	12	2		Dome	1½, 1				25-25 ± 2	90	40	400,3k, 10k	8/					8/	33 x 16 x 15	Oak	Opt.	180	4000.00	Pair						
	612P	Vented	(2)12	(2)5		Cones	(4)1				24-22 ± 3	99	30	600,4k, 10k	8/4					8/4	74 x 16 x 12	Oak	Opt.	300	4800.00	Pair						
	DC1	Vented	(2)10	(2)4		Cones	(4)1				22-20 ± 2	96	50	400,4k, 10k	8/4					8/4	61 x 8 x 16	Oak	Opt.	200	5400.00	Pair						
	Subwoofer	Vented Subwoof.	15								20-120	91	40	120	8/4					8/4	18 x 18 x 19	Oak	Opt.	78	900.00	Pair						
	Shelf Subwoofer	Vented Subwoof.	10								24-120	89	40	120	8/4					8/4	24 x 14 x 10	Oak	Opt.	40	600.00	Pair						
JS ENGINEERING	.6	Vented	8			1					45-18 ± 2	90	30	2.2k	8/6					8/6	11 x 13 x 23	Opt.	Black Knit	35	599.00	Pair						
	.8	Phase-Shift Loaded	8	8		Cone	1				40-20 ± 2	90	30	250,2.2k	8/6					8/6	12 x 15 x 29	Opt.	Black Knit	50	899.00	Pair						
	1	Phase-Shift Loaded	8	7		Cone	1				40-20 ± 1.5	90	40	250,2k	8/6					8/6	13 x 15 x 29	Opt.	Black Knit	55	1095.00	Pair						
	1.8A	Phase-Shift Loaded	(2)10	6½		Cone	1				35-20 ± 1.5	90	50	150,2k	8/6					8/6	15 x 17 x 38	Opt.	Black Knit	110	1795.00	Pair						
	2A	Phase-Shift Loaded	10,12	2,6½		Dome, Cone	¾				25-26 ± 1.5	90	50	150,1k,4k	8/6					8/6	17 x 17 x 45	Opt.	Black Knit	125	2495.00	Pair						
4	Phase-Shift Loaded	(2)10	2,7		Dome, Cone	¾				25-26 ± 1	89	70	110,1k	8/6					8/6	19 x 22 x 48	Opt.	Black Knit	140	4500.00	Pair							
JVC	SXA3	Pas. Rad.	8			1					35-23	88		2k	6/					6/	14 x 25 x 12	Wood Vinyl	Gray Knit	34	400.00	Pair						
	SXA6	Pas. Rad.	8	1¼		Dome	1				25-23	89		1.2k,6.5k	6/					6/	16 x 32 x 11	Wood Vinyl	Gray Knit	39	240.00	Pair						

MONITOR AUDIO

Symbol of quality



Made in England

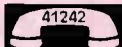
Revolutionary
GOLD DOME
Technology



MA1200 GOLD/MD

"After the Monitors, I simply cannot go back to listening to a speaker that is less transparent. The Monitors make everything sound so interesting, so involving. They are so good that one stormy evening, I thought to myself why go out to a concert? I think I'll stay home with my Monitors." Sam Tellig, Stereophile, May 1988 (Model R952MD).

For More Information



Call 1-800-553-4355

Hand finished using only the finest real woods available — Walnut, Oak, Black Ash, Teak, Rosewood, Mahogany

For information on the complete line of award winning loudspeakers contact:

KEVRO
INTERNATIONAL INC.

IN U.S.A.
P.O. Box 1355
Buffalo, New York 14205
Telephone (416) 831-4741
Fax: (416) 831-6933

IN CANADA
1755 Plummer St., Unit 20
Pickering, Ontario L1W 3S1
Telephone: (416) 831-4741
Fax: (416) 831-6933

Enter No. 67 on Reader Service Card



Die reine Musik, Pure Music, La musica pura, La pure musique.

If you are looking for loudspeakers with the sound, the fit, the finish of German precision technology, Canton is your clear choice.

For fifteen years Canton has been dedicated to the notion that the best sound color is no sound color. So whether it's Brahms or Berry, Miles or Mozart, you can count on Canton to provide the music, the whole music and nothing but the music.

To achieve this our German craftspeople build every component that goes into a Canton loudspeaker. Our engineers investigate every possible technological improvement, but don't innovate merely for innovation's sake. Our designers and cabinet-makers assure that Canton loudspeakers have a look of unparalleled sophistication and timelessness.



Time and again critics have agreed: "The absolute hit of the entire test... is the small Canton GL 260. Everyone who hears it... shakes his head with astonishment..." (The CA 30) was the sure winner in the newly introduced premium class... (It) stands in the reference class as no super-speaker before it!" "With its Pullman Set 400... Canton has scored a smash hit!"

For a brochure on Canton home and automotive loudspeakers, please contact: Canton North America, Inc., 915 Washington Avenue South, Minneapolis MN 55415-1245, telephone (612) 333-1150.

CANTON

See our dealer list on page 14

Netherlands Norway Saudi Arabia Singapore Spain Sweden Switzerland Tahiti Thailand Turkey U.S.A. West Germany

Enter No. 31 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches			Midrange Type			Tweeter Diameter, Inches			Separate Low-Freq. Woofer = W, Midrange = M, Tweeter = T, Superwoofer = ST	Analog Frequency Response, Hz to kHz, ± dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp. Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			12	6 1/2	Cone	1 3/4	Domes	M, T, ST, M, T	18-22 ± 1.5	92	20											
KINETIC AUDIO (Continued)	Trapezoid	TATL	12	6 1/2	Cone	1 3/4	Domes	M, T, ST, M, T	18-22 ± 1.5	92	20	90,2k,7k	8/6	16 x 14 x 40	Oiled Wal.	Black Knit	115	2000.00				
	Stat Monitor	TATL	12	6 1/2	Cone		Dome		18-22 ± 1.5	93	15	90,2k	8/6	15 x 14 x 26	Oiled Wal.	Black Knit	95	1000.00				
	Stat Miniature Monitor	TAL (Tap. Ac. Line)	6 1/2			1	Dome	T	38-22 ± 2	93	5	2k	8/6	9 x 9 x 15	Oiled Wal.	Black Knit	30	700.00				
	Stat S/W	TATL Subwoof.	12						18-2 ± 2	93	15	180,2k	8/6	15 x 14 x 26	Oiled Wal.	Black Knit	80	450.00				
	Trapezoid S/W	TATL Subwoof.	12						16-2 ± 1.5	92	25	180,2k	8/6	16 x 14 x 40	Oiled Wal.	Black Knit	95	600.00				
KIRKSAETER	Monitor Tower 260 CD	Inf. Baf.	(2)10	5,2	Cone, Dome	3/4	Dome		20-32	93	10	200,1k,5k	8/4	11 x 11 x 42	Opt., Wood	Dark Knit	53	2299.00				
	Monitor Tower 140 CD	Inf. Baf.	10	5	Cone	3/4	Dome		22-32	92	10	500,5k	8/4	11 x 11 x 37	Opt., Wood	Dark Knit	44	1499.00				
	Tower Amadeus 120	Inf. Baf.	8 1/2	4 1/2	Cone	3/4	Dome		28-30	91	10	900,5k	4/8	10 x 10 x 33	Opt.	Dark Knit	30	799.00				
	Tower Amadeus 200	Inf. Baf.	(2)8 1/2	4 1/2	Cone	3/4	Dome		27-30	92	10	900,5k	8/4	11 x 13 x 42	Opt.	Dark Knit	40	999.00				
	Monitor 121	Inf. Baf.	8 1/2	4 1/2	Cone	3/4	Dome		28-32	92	10	500		11 x 13 x 20	Opt., Wood	Dark Knit	24	999.00				
	Bookshelf Monitor 141	Inf. Baf.	10	5	Cone	3/4	Dome		25-32	93	10	500,5k	8/4	13 x 11 x 22	Opt., Wood	Dark Knit	30	1249.00				
	Bookshelf Concept 100	Vented	7			1	Dome		39-22	90	10	2k	8/4	9 x 10 x 8	Opt.	Dark Knit	19	599.00				
	Bookshelf Concept 120	Vented	8 1/2	4 1/2	Cone	3/4	Dome		35-22	91	10	900,5k	8/4	10 x 11 x 21	Opt.	Dark Knit	24	699.00				
	Bookshelf Manhattan 2	Vented	7			1	Dome		40-22	90	10	2k	8/4	8 x 12 x 11	Opt.	Dark Knit	14	499.00				
	Bookshelf HiTec	Vented	8 1/2	4 1/2	Cone	3/4	Dome		38-22	91	10	900,5k	8/4	15 x 10 x 11	Opt.	Metal	16	649.00				
	Bookshelf Manhattan 3	Vented	8 1/2	4 1/2	Cone	3/4	Dome		38-22	91	10	900,5k	8/4	15 x 10 x 11	Opt.	Metal	16	649.00				
	Satellite 1	Ported	5			1	Dome		68-32	89	10	2k	8/4	6 x 10 x 7	Opt., Wood	Dark Knit	9	649.00				
Omega	Inf. Baf. Sat. & Ported Subwoof.	(2)7	(2)5 1/2	Cones	(4)2 1/2	Cones		40-20	89	20	180,5k	8/4	Three Pieces	Opt.	Dark Knit Metal	30 Sys.	798.00					
KLARK-TEKNIK	Jade 1 MKII	Powered Bass Ref.	8			1 1/4	Dome	W, T	55-17 ± 3		(2) 100 Inc.	2.5k		21 x 16 x 10	Black Epoxy	None	49	2295.00				
KLEIN & HUMMEL	098	Powered	8 1/4	1 1/2	Dome	3/4	Dome	W, M, T	50-16 ± 2.5	Inc.		850,6.5k	4.7k	15 x 10 x 8	Brown Enam.	Brown Knit	26 1/2	1295.00				
	096	Powered	10	2	Dome	3/4	Dome	W, M, T	50-20 ± 2.5	Inc.		600,4k	4.7k	12 x 21 x 11	Brown Enam.	Brown Knit	48 1/2	2270.00				
	092	Powered	(2)10	3 1/2	Cone	1	Dome	W, M, T	50-17 ± 2.5	Inc.		500,3k	4.7k	17 x 32 x 12	Brown Enam.	Brown Knit	66	4195.00				
KLH	Legend 1100	Ported	8			2 1/2	Cone		55-22 ± 9	89	5	4k	8/7	22 x 12 x 8	Oak Vinyl	Brown Knit		260.00				
	Legend 1400	Ported	10	5 1/4	Cone	2 1/2	Cone		49-22 ± 9	90	5	900,4k	8/7	27 x 13 x 11	Oak Vinyl	Brown Knit		380.00				
	Legend 1500	Ported	12	5 1/4	Cone	2 1/2	Cone		42-22 ± 8	91	5	900,4k	8/7	31 x 15 x 11	Oak Vinyl	Brown Knit		440.00				
	Legend 1700	Pas. Rad.	12	5 1/4	Cone	2 1/2	Cone		38-22 ± 8	92	5	900,4k	8/7	43 x 15 x 11	Oak Vinyl	Brown Knit		480.00				
	Legend 1900	Ported	15	5 1/4	Cone	2 1/2	Cone		35-23 ± 8	93	5	900,4k	8/7	33 x 19 x 13	Oak Vinyl	Brown Knit		520.00				
	7100	Ported	6 1/2			1	Dome		50-22 ± 6	89	5	3.5k	8/7	17 x 9 x 10	Oak Vinyl	Brown Knit		280.00				
	7200	Ported	8			1	Dome		40-22 ± 6	90	5	3.5k	8/7	20 x 12 x 12	Oak Vinyl	Brown Knit		400.00				
	7500	Ported	12	5	Cone	1	Dome		24-22 ± 6	91	5	900,3.5k	8/7	31 x 15 x 10	Oak Vinyl	Brown Knit		460.00				
	7700	Pas. Rad.	12	5	Cone	1	Dome		22-22 ± 6	92	5	900,3.5k	8/7	43 x 15 x 10	Oak Vinyl	Brown Knit		580.00				
	7900	Ported	15	5	Cone	1	Dome		20-22 ± 6	93	5	900,3.5k	8/7	33 x 19 x 13	Oak Vinyl	Brown Knit		600.00				
	602	Ported	6 1/2			3	Cone		50-22 ± 6	90	8	4k	8/7	17 x 9 x 10	Oak Vinyl	Brown Knit		260.00				
	802	Ported	8			3	Cone		40-22 ± 6	92	5	4k	8/7	20 x 12 x 12	Oak Vinyl	Brown Knit		400.00				
	1203D	Ported	12	4	Dome	1	Dome		24-22 ± 6	94	3	900,4k	8/7	31 x 15 x 10	Oak Vinyl	Brown Knit		500.00				
	T312D	Pas. Rad.	12	4	Dome	1	Dome		20-22 ± 6	96	3	900,4k	8/7	43 x 15 x 10	Oak Vinyl	Brown Knit		600.00				
	AV 2000	Ported	6 1/2			3	Cone		50-22 ± 6	89	5	4k	8/7	15 x 9 x 9	Oak Vinyl	Brown Knit		260.00				
	AV 3000	Ported	8			3	Cone		40-22 ± 6	91	5	4k	8/7	18 x 11 x 10	Oak Vinyl	Brown Knit		400.00				
AV 4000	Ported	12	4	Cone	3	Piezo		24-30 ± 6	93	5	900,4k	8/7	30 x 15 x 11	Oak Vinyl	Brown Knit		500.00					
AV 5000	Pas. Rad.	12	4	Cone	3	Piezo		20-30 ± 6	94	5	900,4k	8/7	43 x 15 x 11	Oak Vinyl	Brown Knit		600.00					
KLIPSCH	Klipschorn	Folded Horn	15	2	Horn	1	Horn		35-17 ± 5	104	20	400,6k	8/4	52 x 34 x 29	Opt.	Opt.	185	1744.00				
	Belle Klipsch	Folded Horn	15	2	Horn	1	Horn		45-17 ± 5	104	20	500,6k	8/4	36 x 30 x 19	Opt.	Opt.	133	1429.00				
	La Scala	Folded Horn	15	2	Horn	1	Horn		45-17 ± 5	104	20	400,6k	8/4	36 x 24 x 25	Birch		130	938.00				
	Cornwall II	Bass. Ref.	15	1 1/2	Horn	1	Horn		38-20 ± 3	101	20	600,6k	8/4	36 x 26 x 16	Opt.	Opt.	100	819.00				
	Chorus	Bass Ref.	15	1 1/2	Horn	1	Horn		45-20 ± 3	101	20	600,6k	8/4	39 x 15 x 19	Opt.	Opt.	89	815.00				

M I S S I O N

The premier UK high-end audio brand is now available direct in the United States through **Mission Cyrus USA**. Distributed and acclaimed worldwide, these products have **35 top International design awards** to their credit

Because People Like Music!

For More Information



Call 1-800-553-4355



MISSION
ELECTRONICS

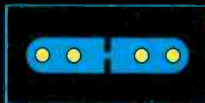
MISSION CYRUS USA INC 440 DISCOVERY PARK 3700 GILMORE WAY BURNABY BC CANADA TEL (604) 432 7727 FAX (604) 432 113C
MISSION ELECTRONICS LTD HUNTINGEON CAMBS PE18 6ED ENGLAND TEL (0480) 52777 FAX (0490) 432777 TELEX 32333
MISSION ELECTRONICS GMBH HINDENBURGSTR. 107 2000 HAMBURG 60 W.GERMANY TEL (405) 110037 FAX (405) 10449 TELEX 213446
Enter No. 121 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches				Midrange Diameter, Inches				Tweeter Diameter, Inches				Separate Level Crossover Wgs. W. M. Torque - M. Tweeter = S. Superwgs. = ST				Analog. Frequency Response, Hz to kHz, ± dB				SPL, 1 W/1 Meter, dB				Recommended Min. Amp Power, Watts				Impedance, Ohms: Nominal/Minimum				Dimensions, Inches (To Nearest Inch)				Finish		Grille Color and Material		Weight, Lbs.		Price, \$	
			12	1 1/2	Horn	1	Horn	1	Horn	1	Horn	32-20 ±3	98	20	650,6k	8/4	35 x 12 x 17	Opt.	Opt.	65	649.00																									
KLIPSCH (Continued)	Forte II	Pas. Rad.	12	1 1/2	Horn	1	Horn			32-20 ±3	98	20	650,6k	8/4	35 x 12 x 17	Opt.	Opt.	65	649.00																											
	Heresy II	Inf. Baf.	12	1 1/2	Horn	1	Horn			50-20 ±3	96	20	700,6k	8/4	21 x 16 x 13	Opt.	Opt.	50	464.00																											
	KG4	Pas. Rad.	(2)8			1	Horn			38-20 ±3	94	30	1.8k	6/4	28 x 11 x 16	Opt.	Opt.	45	339.00																											
	KG2	Pas. Rad.	8			1	Dhorn			38-20 ±3	90.5	30	1.8k	4/4	19 x 12 x 13	Opt.	Opt.	25	238.00																											
KNI	331	Inf. Baf.	8	3 1/2	Cone	3	Dome			28-20 ±3	90	50	900,4.5k	8/	31 x 12 x 12	Oak Ven.	Black	59	999.00																											
	320	Rear Ported	8	3 1/4	Cone	2 1/2	Dome			35-20 ±3	92	25	900,4.5k	8/	20 x 12 x 12	Oak Ven.	Black	34	599.00																											
	231	Inf. Baf.	8		Dome	3 3/4	Dome			30-20 ±3	88	50	5k	8/	31 x 12 x 12	Oak Ven.	Black	60	799.00																											
	213	Rear Ported	8		Dome	3 3/4	Dome			35-20 ±3	90	25	5k	8/	13 x 12 x 12	Oak Ven.	Black	30	399.00																											
KORT	CC-B	Trans. Line	4							100-18	84	5		8/7.5	16 x 5 x 9	Opt.	Opt., Metal	12	235.00																											
	CC-Dne a	Trans. Line	10			(2)3	Cones			30-20	92	60	900	4/4	31 x 11 x 35	Opt.	Opt., Metal	90	1010.00																											
	Proxy 2	Trans. Line, Ac. Sus.	(2)15			(5)2	Cones			17-22	95	100	450	4/1.5	Four Pieces	Opt.	Opt., Metal	800 Sys.	4500.00																											
KOSS	M/100 Plus	Powered Bass Ref.	(2)4 1/2			1	Dome			50-30	inc.	2.5k		15 x 6 x 12	Wal. Vinyl	Brown Knit	27 Pair	259.95																												
	M/90 Plus	Bass Ref.	(2)4 1/2			1	Dome			50-30	88	10	2.5k	6/4	15 x 6 x 12	Wal. Vinyl	Brown Knit	15	219.95																											
	M/80 Plus	Ac. Sus.	(2)4 1/2			1	Dome			50-30	86	10	2.5k	6/4.5	13 x 5 x 6	Wal. Vinyl	Brown Knit	8	189.95																											
	M/60 Plus	Ac. Sus.	4 1/2			1	Dome			100-30	84	10	2.25k	8/6	8 x 5 x 6	Wal. Vinyl	Brown Knit	4.9	134.95																											
LAKESHORE IMPORTS	Kassel XII	Powered	10	5	Dome	1	Dome	W, M, T		20-30 ±3	inc.	350,3.5k	4/	36 x 12 x 13	Opt.	Opt., Cloth	160	17,000.00																												
	Kiser III	Vented	7,11	1 1/2	Dome	1	Dome			18-30 ±3		250,1.1k, 4.6k	4/	48 x 18 x 14	Opt.	Opt., Cloth	130	12,200.00																												
	Joanne I	Vented	10	5	Cone	1	Dome			18-30 ±3		450,4k	4/	41 x 14 x 15	Opt.	Opt., Cloth	88	5800.00																												
	Molli V	Ac. Sus.	12	4 3/4	Cone	1	Dome			30-25 ±3		450,3k	4/	49 x 36 x 24	Opt.	Opt., Cloth	57	4600.00																												
	Barnett X	Ac. Sus.	10	1 1/2	Dome	1	Dome			25-23 ±3		450,3k	4/	32 x 24 x 16	Opt.	Opt., Metal	52	3800.00																												
	Stack-master	Ac. Sus.	7		Dome	1	Dome			42-30 ±3		1.7k	4/	13 x 10 x 6	Black	Black Metal	12 Pair	900.00																												
LANCER ELECTRONICS	LE-25	Vented	4			3/4	Dome			55-20	87	10	3.5k	8/6	8 x 8 x 10	Opt., Wood	Black Knit	7 1/2	110.00																											
	LE-50	Vented	6 1/2			3/4	Dome			49-20	88	10	3k	4/4	9 x 8 x 14	Opt., Wood	Black Knit	12	125.00																											
	LE-75	Vented	(2)6 1/2			1	Dome			42-20	89	15	3.2k	8/5	8 x 10 x 28	Opt., Wood	Black Knit	32	250.00																											
	LE-110	Vented	10	4	Cone	1	Dome			32-20	89	25	800,4k	8/6	15 x 11 x 26	Oak Ven.	Black Knit	45	350.00																											
	LE-150	Vented	10	4	Cone	1	Dome			28-20	89	25	800,4k	8/6	14 x 11 x 39	Oak Ven.	Black Knit	48	400.00																											
LANTANA	TAD	Vented	(2)4 1/2			2	Cone	T		50-22 ±3	91	40	2k	6/4	17 x 6 x 7	Opt., Wood	Opt., Knit	12 1/2	450.00																											
	Laug Mono	Vented Mono Subwoof.	(2)8							25-90 ±3	40	90		6/4	33 x 11 x 12	Opt., Wood	Opt., Knit	47	450.00																											
	Laug Stereo	Vented Stereo Subwoof.	(2)8							25-90 ±3	40	90		8/4	33 x 11 x 12	Opt., Wood	Opt., Knit	49	500.00																											
	Mink	Vented	(2)8	(2)4 1/2		2	Cone	T		30-22 ±3	90	40	90,2k	6/4	36 x 9 x 9	Opt., Wood	Opt., Knit	54	575.00																											
LASER AUDIO	FXT-6	Ported Reflex	6			1	Dome			40-20 ±3	91	15		8/4	15 x 9 x 10	Black Ebony	Black Knit		400.00																											
	FXT-8 MK VII	Ported Reflex	8			1	Dome			35-20 ±3	92	15		8/4	19 x 10 x 11	Black Ebony	Black Knit		500.00																											
	Reference 1000	Ac. Sus.	10	6	Cone	1	Dome			25-20 ±3	97	15		8/4	35 x 15 x 16	Oak & Ebony	Black Knit		1200.00																											
	Reference 1200	Ac. Sus.	12	8	Cone	1	Dome			22-20 ±3	97	15		8/4	36 x 13 x 16	Oak & Ebony	Black Knit		1500.00																											
LEGACY	Signature II	Bipolar, Slot Loaded	(3)10	(2)6 1/2, 1 1/4	Cones, Dome	1/2x4, 1	Ribbon, Dome	M, T		20-30 ±2	95	30	100,2k, 8.5k	4/4	50 x 12 x 13	Opt., Wood	Opt., Knit	140	2696.00																											
	1	Slot Loaded	8, 10	6 1/2, 1 1/4	Cone, Dome	1/2x4	Ribbon	M, T		22-30 ±2	91.5	45	120,2.2k, 8.5k	8/4	44 x 12 x 13	Opt., Wood	Opt., Knit	100	1696.00																											
	2 Plus	Vented, QB5	10	6 1/2	Cone	1	Dome	M, T		28-22 ±2	91	30	180,2.6k	8/4	40 x 12 x 11	Opt., Wood	Opt., Knit	88	1196.00																											
	2	Vented, Fourth Order	10	6 1/2	Cone	1	Dome	T		33-22 ±2	90	30	180,2.8k	8/4	40 x 12 x 11	Opt., Wood	Opt., Knit	80	996.00																											
	3	Double Reflex	8	6 1/2	Cone	1	Dome	T		36-22 ±2	91	30	200,2.8k	4/4	37 x 12 x 10	Opt., Wood	Opt., Knit	70	896.00																											
	Super Satellite	Symmetrical Array	(2)6 1/2			1	Dome	T		38-22 ±2	95	30	2.6k	4/4	20 x 11 x 10	Opt., Wood	Opt., Knit	40	748.00																											
	Satellite	QB5 Aided	6 1/2			1	Dome	T		40-22 ±2	90	30	2.6k	8/8	13 x 11 x 10	Opt., Wood	Opt., Knit	32	528.00																											
	Mini Monitor	QB5 Aided	5 1/4			1	Dome	T		59-22 ±2	90	30	2.6k	4/4	9 x 7 x 7	Opt., Wood	Opt., Knit	16	428.00																											

LISTEN UP A BLUE STREAK

AudioQuest speaker cables will make you think you're hearing all your music for the first time.



AudioQuest F-14

AudioQuest *F-14* uses four solid conductors in a practical and inexpensive configuration. Strand interaction is eliminated, skin-effect and resistance are kept to reasonable

levels, the performance is glorious and the price is practically free.

AudioQuest *Blue* uses two surface-only conductors. These novel conductors have a single layer spiral of strands around a non-conductive core. Every strand is always on the surface and every strand has the same electrical values. Skin-effect induced distortion is eliminated, current does not cross between strands and magnetic interaction is greatly reduced.

AudioQuest *Cobalt* uses Hyperlitz[®] conductors. This patent pending design virtually eliminates magnetic and electrical interaction between strands while allowing for a large cross sectional area (AWG) with no skin-effect induced distortion. Best of all, every strand has identical geometry and electrical characteristics so that no discontinuity is introduced to the music signal.

These three blue cables and all the AudioQuest designs sound much more dynamic, dimensional and focused than the competition's. The midrange and highs are sweeter, more extended and less "confused" sounding, while the bass is tighter and better defined. All the AudioQuest cables use very cost effective designs which give you an absolutely incredible improvement at a minimal cost.

The proof is in the listening — please listen for yourself. When you do you'll replace your current cables with AudioQuest cables and rediscover your entire music collection.

In addition to the complete line of AudioQuest speaker cables, AudioQuest also makes a complete line of interconnecting and video cable.

Call today for the AudioQuest dealer nearest you.



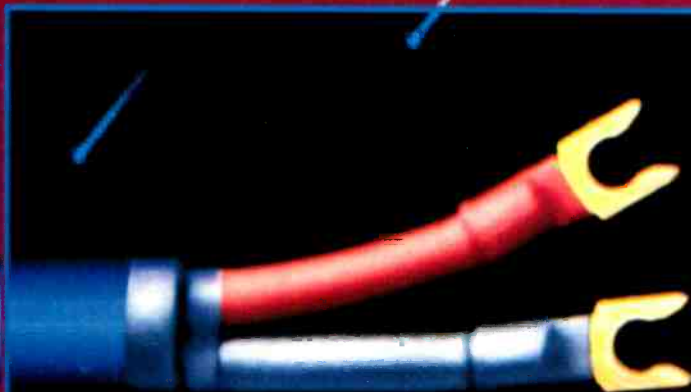
AudioQuest Blue



AudioQuest Cobalt

Tel: 714/498/2770 Fax: 714/498/5112
P.O. Box 3060, San Clemente, CA 92672 USA

audioquest™



LOUDSPEAKERS

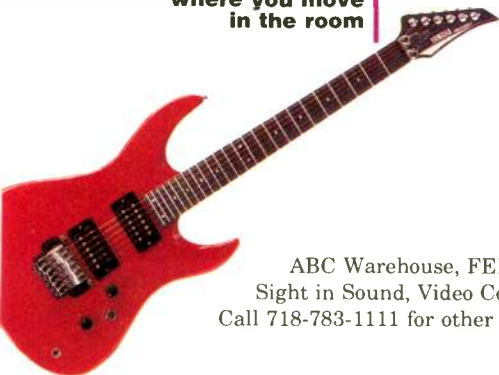
MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Controls: Woofer = W, Midrange = M, Tweeter = T, Super tweeter = ST	Amplification Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
LEGACY (Continued)	Dual 10 Subwoofer	Vented, Fourth Order Subwoof.	(2)10				W	24-120 ±2	91	30	Var.	8/8	24 x 16 x 16	Opt., Wood	Opt., Knit	90	548.00	
	Dual 12 Subwoofer	Vented, Fifth Order Subwoof.	(2)12				W	16-100 ±2	91.5	30	Var.	4/4	27 x 16 x 16	Opt., Wood	Opt., Knit	100	748.00	
	Amplified Subwoofer	Powered, Vented, Sixth Order Subwoof.	(2)12				W	16-100 ±2	99	250 Inc.	Var.		27 x 16 x 16	Opt., Wood	Opt., Knit	115	1096.00	
LINAEM	LT-1000	Trans. Line	8		(1)		M,T		89	30	150	4/3	11 x 12 x 40	Opt.	Opt., Knit	66	1695.00 Pair	
	LS-1000	Ac. Sus.	8		(1)		M,T		88	30	150	4/3	11 x 8 x 41	Opt.	Opt., Knit	54	1295.00 Pair	
	LM-1000	Ac. Sus.	6½		(1)		M,T		88	30	150	4/3	11 x 8 x 19	Opt.	Opt., Knit	52 Pair	850.00 Pair	
	4	Ac. Sus.	(2)8		(4)		M,T		85	60	100	4/2.5	29 x 10 x 52	Opt.	Opt., Knit	135	6400.00 Pair	
LINN HI-FI	Helix LS150	Ported	8		¾	Dome		55-18 ±3	88		3k	8/7	20 x 10 x 11	Black Ash	Black Knit	22	795.00 Pair	
	Nexus LS250	Ported	8		¾	Dome		50-20 ±2.5	88		2.5k	8/7	22 x 10 x 12	Black Ash	Black Knit	22	1095.00 Pair	
	DMS Isobarik	Isobarik	(2) 9x12 (2)8	(2)5	Cones	(2)¾	Domes	25-20 ±3	86	50	375,3k	4/3	17 x 15 x 30	Black Ash	Black Knit	95	5385.00 Pair	
	SARA Isobarik Kan	Isobarik	5		¾	Dome		36-20 ±3	86	35	1.5k	4/3	17 x 14 x 10	Teak	Black Foam	31	1795.00 Pair	
	Index	Inf. Baf.	8		¾	Dome		70-20 ±3	86	15	3k	8/6	8 x 6 x 12	Teak	Black Foam	11	785.00 Pair	
	Kaber	Inf. Baf.	(2)5		¾	Dome		60-20 ±3	86	10	2k	8/6	17 x 11 x 8	Black	Black Cloth	17	595.00 Pair	
									60-20 ±3	86	30	200,3k	8/6	7 x 10 x 35	Opt.	Black Cloth Knit	59	1995.00 Pair
LUXMAN	S-505	In-Wall	8		1	Dome	T	50-22 ±2.5	89	20	3k	8/5.6	14 x 10 x 3	White	White	6½	500.00 Pair	
MADISOUND	Phoenix	Sealed Box	10	5	Cone	¾	Dome		35-18	88	50	500,5k	8/5	15 x 25 x 12	Nat. Oak	Brown Knit	40	700.00 Pair; Kit, 500.00 Pair
	Sledgling	Sealed	6½		¾	Dome			90		3.2k	4/3.5	9 x 12 x 6	Oiled Wal. Oak	Brown Knit		300.00 Pair	
	The Movie	Sealed	12	(2)6	Cones	1	Dome		95	50	400,6k	8/6	Four Pieces	Oiled Wal. Oak	Brown Knit		1500.00 Sys.	
	Thallic	Sat. & Sealed Subwoof.	12	6	Cone	¾	Dome		88	100	100,4k	4/3.5	Three Pieces	Oak	Brown Knit		900.00 Sys.	
MAGNEPAN	SMGa	Planar Mag. Dipole	370 Sq. In.		Planar Mag.	58 Sq. In.	Planar Mag.		50-18 ±4	85	40	2.4k	4/4	19 x 49 x 2	Oak	Opt.	60 Pair	495.00 Pair
	MG 1.4	Planar Mag. Dipole	428 Sq. In.		Planar Mag.	68 Sq. In.	Planar Mag.		40-18 ±3	87	50	1k	5/5	22 x 60 x 2	Oak	Opt.	85 Pair	980.00 Pair
	MG 2.5/R	Planar Mag. Dipole	609 Sq. In.		Planar Mag.	9 Sq. In.	Ribbon	T	37-40 ±3	84	50	800	5/3.5	22 x 71 x 2	Oak	Opt.	105 Pair	1695.00 Pair
	MG IIIa	Planar Mag. Dipole	620 Sq. In.	170 Sq. In.	Planar Mag.	13¾ Sq. In.	Ribbon	T	37-40 ±3	85	75	300,500	4/3.5	23 x 72 x 2	Oak	Opt.	130 Pair	2195.00 Pair
	Tympani IVa	Planar Mag. Dipole	1254 Sq. In.	168 Sq. In.	Planar Mag.	13¾ Sq. In.	Ribbon	T	30-40 ±3	87	100	250,400	4/3.5	Six Panels	Oak	Opt.	260 Sys.	3750.00 Sys.
MARANTZ	SP2006	Ac. Sus.	6½		1	Dome	No							Wal.			299.95 Pair	
	SP2008	Ac. Sus.	8		1	Dome	No							Wal.			399.95 Pair	
	SP208	Ac. Sus.	8		2	Cone	No							Wal.			119.95 Pair	
	SP800	Ac. Sus.	8	4	Cone	2	Cone							Wal.			139.95 Pair	
	SP2368	Ac. Sus.															129.95 Pair	
	LSP28	Ac. Sus.	8		1	Dome	No	40-20									339.95 Pair	
	SP1000	Ported	10	4	Cone	2	Cone		40-20	89		8/	27 x 13 x 11	Black Lacq. Wal.	Black Knit		199.95 Pair	
	SP1200	Ported	12	4	Cone	2	Cone		25-20	90		8/	30 x 15 x 12	Vinyl Wal.	Black		239.95 Pair	
	SP1515	Ported	15	5	Cone	2	Cone		18-20	90		8/	30 x 17 x 13	Vinyl Wal.	Black		359.95 Pair	
	SP2005	Ac. Sus.	5¼		1	Cone								Vinyl Wal.			199.95 Pair	
MARIAH ACOUSTICS (Continued)	Thimble	Ac. Sus.	6½		1	Dome		55-20 ±3		20		5/	10 Dia. x 16	Lacq. Oak	Opt., Knit	40 Pair	398.00 Pair	

INTRODUCING OHM'S FULL ROOM STEREO™



Ohm FRS Series
\$450 to \$1,400 per pair

**Instruments
recorded left stay
left... no matter
where you move
in the room**



At last.
Speakers designed for the way
you listen to music.

Speakers that
provide a fully-
balanced, 3-dimen-
sional stereo image no
matter where you sit
or stand in the room.
Speakers that deliver
exceptional overall
sound reproduction.
Speakers you can
afford. Speakers you'll love.

We've engineered the output at
the highest frequencies to be
louder along an axis pointing
diagonally across the listening
area and softer directly in front of
the speaker. The technique is
called "Controlled Directivity."
The results are simply spectacular
as a perfect, 3-dimensional image
of the concert hall or studio fills the
entire room, not just an extremely
restricted "sweet spot."

Now, Ohm offers you a full
family of speakers that make Full
Room Stereo a reality. Just as
important, they incorporate
advanced technology such as our
Sub-Bass Activator Circuit for
even deeper, distortion-free bass

response and the patented
inverted cone Coherent Line
Source driver, pioneered by Ohm.



**Coherent Audio
Monitors**
\$300 to \$575 a pair



**Ohm Sound
Cylinders**
\$650 to \$1,200 a pair



Ohm XO Series
\$750 to \$7,100 a pair

From the new, compact FRS 5 to
the top-of-the-line Walsh 5, the
Ohm speakers pictured here offer a
selection designed to deliver the
performance you want at a price
you can afford.

Full Room Stereo.

Our advanced technology
created it. Our full family of
speakers make it easy for you to
enjoy. Visit your Ohm retailer soon
and hear the difference Full Room
Stereo can make in the way you
listen to music.



241 Taaffe Place, Brooklyn, NY 11205

You'll find Ohm products at the following locations:

ABC Warehouse, FEDCO, Hammond Electronics, Highland Super Stores, McDuff Electronics, Macy's (Northeast)
Sight in Sound, Video Concepts, West Coast Sound and many selected independent dealers.
Call 718-783-1111 for other locations.

Enter No. 73 on Reader Service Card

- Alabama**
Birmingham, Likus Audio
Dothan, Sight & Sound
Huntsville, Audio Video-Lab
Mobile, Fidler Hi-Fi
- Alaska**
Anchorage, Pyramid Audio
Fairbanks, Holt's Stereo & Strings
Berkeley, Howell's Sound Co., Inc.
Berkeley, Sounding Board
Berkeley, Good Guys
Burlingame, Kustom Hi-Fi
- Arizona**
Phoenix, Jerry's Audio
Tucson, Audio Emporium
Tucson, Jerry's Audio
- California**
Auburn, Sound and Vision
Capitola, Capitola Audio
Culver Heights, Good Guys
Concord, Good Guys
Concord, Sounding Board
Corte Madera, Good Guys
Daily City, Good Guys
Dublin, Good Guys
Emeryville, Good Guys
Encinito, Sound Factor
- Fresno, Bananas, Valley Stereo
Glendale, Marconi Radio
Hayward, Good Guys
North Hollywood, Sound Factor
Palo Alto, Western Audio Imports
Pasadena, Sound Factor
Redondo Beach, Systems Design Group
Riverside, Speakersart
Sacramento, Good Guys (Arden Way)
Sacramento, Good Guys (Stockton Blvd.)
San Diego, The Sound Company
San Francisco, Good Guys (20th Ave.)
San Francisco, Good Guys (Chestnut St.)
San Francisco, Good Guys (Van Ness)
San Jose, Century Stereo
San Jose, Good Guys (Blossom Hill)
San Jose, Good Guys (Stevens Creek Blvd.)
San Mateo, Century Stereo
San Mateo, Good Guys
Santa Barbara, California Audio Video
Santa Rosa, Good Guys
Stockton, Gluskin's
Sunnyvale, Good Guys
Tarzana, Wilson Audio Video
Ventura, Dexter's Camera & Hi-Fi
W. Los Angeles, Radiactive Sound
Walnut Creek, Sound Distinction
Westminster, Audio Today
Westminster, Videotek
- Colorado**
Boulder, Listen Up
Colorado Springs, Listen Up
Denver, Listen Up
Grand Junction, Sound Company
- Connecticut**
Brookfield, Sounds Incredible
Clifton, Leiser Superstores
Danbury, Sounds Alive
Norwich, Leiser Superstores
Orange, Sounds Alive
Stamford, County Audio
- Delaware**
Wilmington, Bryn Mawr Stereo
- Florida**
Gainesville, Discount Audio (Edwards)
Key West, Audio Video International
Meritt Island/Cocoa, Southern Audio
Miami, Brandsmart
Orlando, The Electronics Shop (Attafunte Square)
Orlando, The Electronics Shop (Fashion Square)
Orlando, The Electronic Shop (Florida Mall)
Stuart, World of Sound
West Palm Beach, World of Sound
- Georgia**
Athens, Hi-Fi Buys
Atlanta, Atlanta Soundworks
Atlanta, Hi-Fi Buys (Cobb Pkwy.)
Atlanta, Hi-Fi Buys (Peachtree Rd.)
Brunswick, Sound Advice
Macon, Stereo Warehouse
Norcross, Hi-Fi Buys
Savannah, Audio Warehouse
Tucker, Hi-Fi Buys
Valdosta, Stereo Connection
- Illinois**
Carbondale, Southern Stereo
Champaign, August Systems
Chicago, Belmont Electronics
Chicago, Martry Electronics
Chicago, Musicraft, Inc.
Evergreen Park, Musicraft, Inc.
Homewood, Musicraft, Inc.
Morton Grove, Musicraft, Inc.
Normal, Glen Proor's A/V Inc.
Oak Park, Musicraft, Inc.
Palatine, Musicraft, Inc.
Palos Hills, Gill Guston House
Rockford, Absolute Audio Sys.
Villa Park, Musicraft, Inc.
- Indiana**
Bloomington, Campus Audio
FL Wayne, Lehman's
Indianapolis, Ovation Audio (38th St.)
Indianapolis, Ovation Audio (82nd St.)
Lafayette, Pro Audio
Muncie, Great Sounds
South Bend, Audio Specialists
Terre Haute, Stereo Crafters
Valparaiso, Audio Junction
- Iowa**
Ames, Stereo Sound Studio
Davenport, Audio Odyssey
Des Moines, Stereo Sound Studio
Iowa City, HawkEye Audio
Marshalltown, Johns Hi-Fi
Sioux City, Audio Visions
- Kansas**
Emporia, Audio Video Connection
Hays, Touch Feeling of Sound
Junction City, Audio Junction
Lawrence, University Audio
Overland Park, Accent Sound
Salina, Del's TV
Wichita, Audio Visions
- Kentucky**
Florence, Swallen's
- Lexington, Ovation Audio
Louisville, Sound Gallery
- Maine**
Ellsworth, Sound & Sight
- Maryland**
Annapolis, Midsholmen Store
Baltimore, Soundscape
Bethesda, Professional Products
Gaithersburg, Audio Buys
Dwight Mills, Lightning Experiences
- Massachusetts**
Auburn, Leiser Superstores
Belmont, Trolley Stereo
Branflete, Nantucket Sound
Framingham, Lechmere
Framingham, Natural Sound
Hyannis, Nantucket Sound
Pittsfield, Taylor'd Sound
Spookton, Leiser Superstores
Strewsburg, Leiser Superstores
West Springfield, Sounds Great
Weymouth, Lechmere
Woburn, Lechmere
Worcester, D'Onno
- Michigan**
Ann Arbor, Hi-Fi Buys
Birmingham, The Gramophone
- East Lansing, Hi-Fi Buys
Flint, The Stereo Center
Grand Rapids, Stereo Showcase
Grosse Pointe, Pointe Electronics
Kalamazoo, Stereo Showcase
Potosky, Kurtz Sound
Saginaw, The Court Street Listening Room
Stevensville, Soundwaves
Traverse City, Kurtz Sound
West Bloomfield, The Gramophone
- Minnesota**
Duluth, Twin Ports Video Center
Minnetonka, Sound Center
Rochester, Amalgamated Audio
- Missouri**
Cape Girardeau, Stereo One
Columbia, Show Me Electronics
Jefferson City, Show Me Electronics
Rolla, Show Me Electronics
Sedalia, Show Me Electronics
St. Louis, Antech Laits
St. Louis, Best Sound
- Montana**
Billings, Videocat
Helena, Stereo Shop
Kalispell, Audio Visions

THIS AMAZING FREE CD OFFER ENDS SOON!

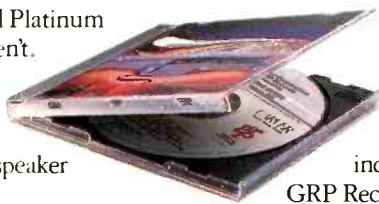
**EXPERIENCE CARVER AMAZING
LOUDSPEAKERS AT AN AUTHORIZED DEALER
AND GET A FREE \$15-VALUE TEST DISC.**

We wouldn't call our Silver Edition and Platinum Edition loudspeakers "amazing" if they weren't.

So we're offering a serious inducement for you to visit a specially-authorized Carver dealer today. An inducement to share the amazement over this remarkable speaker design.

After your demonstration, you'll receive a 16-page information booklet and a postpaid voucher good for a free compact disc.

Fill the voucher card out, mail it to us and we'll send you an exclusive Carver/GRP Records CD containing over 41 minutes of useful test signals. Sine sweeps, broadband pink noise, individual 1/3rd octave center channel frequencies and more. Use them as an aid to room equalization, to evaluate speakers, cassette decks, preamps, power amps and CD players or even as a test of your own hearing. The disc also includes 25 minutes of superbly recorded music by GRP Records artists such as Billy Cobham and Lee Ritenour. To get a free "Amazing Bytes" Carver CD, simply listen as your favorite music is brought to life through Amazing



Nebraska
Lincoln, Stereo West
Omaha, Stereo West (132nd St.)
Omaha, Stereo West (Oodge St.)

Nevada
Las Vegas, Import Audio
Reno, Good Guys
Reno, High End Stereo

New Hampshire
Manchester, Lechmere
Nashua, Lechmere
Portsmouth, State Street Discount
Salem, Lechmere

New Jersey
Borersville, CSA
Deplford, Hi-Fi Connection
Eatontown, High Tech Stereo
Flemington, Sight and Sound
Kinnelon, Sound City
Lawrenceville, Hal's Stereo
Manalapan, High Tech Stereo
Maple Shade, Bryn Mawr Stereo
Morristown, Sight and Sound
New Brunswick, Hi-Fi Haven
Northfield, Sound Inc.
Paramus, Leonard Radio
Upper Merion, CSA

New Mexico
Albuquerque, West Coast Sound
Carlsbad, Deco of Carlsbad

New York
Albany, Lechmere
Albany, Mom's Music Systems
Bedford Hills, Sound Concept
Cortmack, Sound Approach
Fredonia, Studio One
Fresh Meadows, Sound Stage Audio
Goshen, Long Player Stereo
Hicksville, Airtronics
Huntington, Performance A/V
Ithaca, Stellar Stereo
Jamestown, Studio One
Lynbrook, American Audiophile
Manhasset, Audio Experts
Manhasset, Audio Breakthrough
Merrick, Performance A/V
Nanuet, Sound Concept
New York City, Audio Breakthrough
New York City, Cosmopolitan Sound
New York City, Leonard Radio
New York City, Lyric Hi-Fi (Eastington)
New York City, Lyric Hi-Fi (Broadway)
New York City, Sound State Audio
(40th St.)

New York City, Sound State Audio
(Broadway)
New York City, Stereo Exchange
New Hartford, Big Apple
Newburgh, Audio Expressions
Oneonta, Stereo Lab
Patchogue, Square Deal
Staten Island, Clone Audio
Syracuse, Sounds Great
White Plains, Lyric Hi-Fi
Woodbury, Audio Breakthrough
Woodside, Leonard Radio

North Carolina
Asheville, Sound One
Boone, Milton's
Chapel Hill, Electronics Unlimited
Charlotte, Sound Audio
Conover, Tri City Electronics
Greenville, Todd's Stereo
Hickory, Tri City Electronics
High Point, Sound Source

Ohio
Akron, Golden Gramophone
Canton, Beiden Audio
Cincinnati, Swallen's (Glenway Ave.)
Cincinnati, Swallen's (Princeton Pike)
Cincinnati, Swallen's (Red Bank Road)

Cleveland, B&B Appliance
Dublin, Audio Encounters
Health, Threshold Audio
Lima, Hart Audio
Wansfield, Swallen's
Middleburg Heights, B&B Appliance
Parma Heights, Ericsson Stereo
University Heights, Atlantis Home
Entertainment
Warren, Maximum Hi-Fi
Zanesville, Stereo Limited

Oklahoma
Midwest City, Audio Midwest
Tulsa, Audio Advice

Oregon
Giant's Pass, Progressive Audio
Kamath Falls, Andersch Home Furnishings
Vernon, Progressive Audio
Portland, Fred's Sound of Music

Pennsylvania
Bethlehem, Canlen Audio
Bloomsburg, Pro Audio
Bryn Mawr, Bryn Mawr Stereo
C-imp Hill, Hi-Fi House
Erie, Studio One (Liberty St.)
Ewe, Studio One (Peach St.)
Frazier, Bryn Mawr Stereo

Greensburg, Pat's Stereo
Harrisburg, Hi-Fi House
Jenkintown, Bryn Mawr Stereo
King of Prussia, Bryn Mawr Stereo
Lancaster, G N T Stereo
Lancaster, Bryn Mawr Stereo
Lancaster, G N T Stereo
Loudsburg, M & M Stereo
Montgomeryville, Bryn Mawr Stereo
Natrona Heights, Stereo Land
Philadelphia, Bryn Mawr Stereo
(Cottman Ave.)
Philadelphia, Bryn Mawr Stereo
(Chestnut St.)
Pittsburg, Audio Junction
Quakertown, Bryn Mawr Stereo
State College, Paul & Tony's Stereo
Throop, Shehadi Brothers
Washington, Stereo Outlet
Whitehall, Bryn Mawr Stereo

Rhode Island
Cumberland, Sounds Unlimited
Providence, Sounds Unlimited
Warwick, Leiser Superstores
Westerly, Leiser Superstores

South Carolina
Charleston, Audio Warehouse
Columbia, Laser Experience

Hilton Head, Gramophone
Sumter, Audio Vision

South Dakota
Rapid City, Team Electronics
Sioux Falls, Gouley's Pro Audio

Tennessee
Kingsport, Auction Hi-Fi
Natrona Heights, Stereo Land
Philadelphia, Bryn Mawr Stereo
(Cottman Ave.)
Philadelphia, Bryn Mawr Stereo
(Chestnut St.)
Pittsburg, Audio Junction
Quakertown, Bryn Mawr Stereo
State College, Paul & Tony's Stereo
Throop, Shehadi Brothers
Washington, Stereo Outlet
Whitehall, Bryn Mawr Stereo

Texas
Austin, Marcum Electronics
College Station, Audio Video
El Paso, Soundquest
Houston, B&M Electronics
Houston, Groove Audio Video
Houston, Sheffield Audio

Utah
Logan, Lynn's Audio
Ogden, Hi-Fi Shop
Salt Lake City, Audio Works

Vermont
Essex Junction, I.E.S.
Rutland, Sound Directions

Virginia
Falls Church, Audio Buys

Harrisburg, Ace Music N Electronics
Manassas, Audio Buys
Roanoke, Lee Hartman & Sons

Washington
Duyima, Desco Audio & Video
Seattle, Definitive Audio
Seattle, Magnolia Hi-Fi
Spokane, Magnolia Hi-Fi
Tacoma, Magnolia Hi-Fi

West Virginia
Huntington, Pied Piper

Wisconsin
Appleton, American of Appleton
Brown Deer, American TV
Green Bay, Hi-Fi Heaven
La Crosse, Sound World
Madison, American TV
Oak Creek, American TV
Waukegan, American TV
Wausau, Team Electronics
Wisconsin Rapids, Saton One Ltd.

Wyoming
Sheridan, Star Video & Audio



Loudspeakers. Our Platinum Editions feature 60-inch full-range dipolar ribbons and four 12-inch dynamic subwoofers per speaker. The Silver Edition has 48-inch ribbons and three 12-inch subwoofers in each slim, trapezoidal panel.

Each is capable of 23Hz to 40kHz frequency response ± 3 dB. Yet measures just 1 1/2" thick! And now both Amazing Loudspeaker models are available in genuine hand-rubbed oak or piano lacquer black finish, making them as beautiful to look at as they are to listen to.

Visit one of the dealers listed above soon.

You can get a lifetime of musical enjoyment from a pair of Amazing Loudspeakers.

But you can *only* get a free compact disc if you visit a Carver dealer between now and November 30th, 1989.

All Free CD Vouchers must be properly validated by store personnel and postmarked by 10 30 89. Allow 4-6 weeks for delivery of CD. Limit, one per customer. Free information booklet subject to supply on hand. Offer good only at Carver dealer locations, listed in this ad.



CARVER CORPORATION, LYNNWOOD, WASHINGTON, U.S.A.
Distributed in Canada by EVOLUTION AUDIO INC. 1-(416) 847-8888

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Enclosure or System Type		Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Controls: Woofer = W, Midrange = M, Tweeter = T, Superwoofer = ST	Anechoic Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Woofer	Midrange																
MARIAH ACOUSTICS (Continued)	L.S. #4III	Bass Ref.	8			1	Dome				45-20 ±3	20	5/	12 Dia. x 23		Lacq. Oak	Opt., Knit	50 Pair	498.00 Pair	
	L.S. #3II	Bass Ref.	10			1	Dome				38-20	30	6/	14 Dia. x 36		Lacq. Oak	Opt., Knit	50	698.00 Pair	
	L.S. #2II	Bass Ref.	(2)8			1	Dome				35-20	30	8/	14 Dia. x 34		Lacq. Oak	Opt., Knit	50	898.00 Pair	
	Illusion	Bass Ref.	8			1	Dome				40-20	30	4/	12 Dia. x 34		Lacq. Oak	Opt., Knit	55	998.00 Pair	
MARTIN-LOGAN	The Statement	ES & Woofer	(4)12			36x72	ES	W,T			16-25 ±2	93	200	100	6/3	Two Pieces Per Side	Opt.	Opt.	2000 Sys. 350 Pair	35,000.00 Sys.
	The Monolith II	ES & Woofer	12			24x48	ES				27-22 ±2	90	50	100	6/3	26 x 74 x 12	Opt.	Opt.	150 Pair	5500.00 Pair
	The CLS II	Woofer Dipole ES	24x48								35-22 ±2	85	100		6/1.5	28 x 58 x 14	Opt.		210 Pair	3500.00 Pair
	The Sequel II	ES & Woofer	10			12x48	ES				27-22 ±2	88	50	200	6/2	14 x 72 x 13	Opt.		210 Pair	2500.00 Pair
MASTERCRAFT AUDIO	Sound Panels SP-MK 1	Ac. Sus.	8			1	Dome	T			40-22 ±3	89	30	3.1k	8/	12 x 6 x 26	Black Oak	Black Knit	58 Pair	899.00 Pair
	Sound Panels SP-MK 2	Ac. Sus.	(2)8			1, 1/4	Dome, Piezo	T			37-27 ±3	91	30	3k	4/	30 x 15 x 8	Black Oak	Black Knit	88 Pair	1250.00 Pair
	Black Box	Ac. Sus.	8			1	Dome				45-22 ±3	91	10	3.1k	8/	14 x 10 x 8	Black Oak	Black Knit	42 Pair	449.00 Pair
	Music Monitor SW-1	Ac. Sus.	10			1	Dome				38-21 ±3	92	15	2.5k	8/	15 x 26 x 11	Black Oak	Black Knit	60 Pair	559.00 Pair
		Ac. Sus. Subwoofer	12						W		28-90 ±3	89	50	90	8/	30 x 15 x 10	Black Oak	Black Knit	42	589.00 Pair
MAVRICK	Nonspeaker Ribbon Monitor	Pressure Release	6				Ribbon				40-40 ±4	91	10		7/5	8 x 13 x 17	Oak			2000.00 Pair
	Nonspeaker Ribbon System	Trans. Line	12	6	Cone		Ribbon				18-40 ±3	91	30		8/5	Three Pieces	Oak	Black Knit		3000.00 Sys.
	Nonspeaker Ribbon Reference	Trans. Line & Dipole	12		Ribbon		Ribbon				18-40 ±2	92	30		8/5	Four Pieces	Zebra Wood	Black Knit		4800.00 Sys.
	Nonspeaker Ribbon Ultimate	Trans. Line & Dipole	12		Ribbon		Ribbon				18-40 ±1	92	30		8/5	Four Pieces	Zebra Wood	Black Knit		11,000.00 Sys.
MB QUART ELECTRONICS	Quart 220	Inf. Bat.	6 1/2			1	Dome				58-32	87	25	1.5k	4/	9 x 12 x 9	Opt.	Opt.	12	449.00 Pair
	Quart 280	Inf. Bat.	8			1	Dome				50-32	88	25	1.5k	4/	11 x 17 x 11	Opt.	Opt.	22	599.00 Pair
	Quart 390	Inf. Bat.	10	4	Cone	1	Dome				40-32	88	40	400, 1.8k	4/	12 x 21 x 12	Opt.	Opt.	28	939.00 Pair
	Quart 350S	Vented	8			1	Dome				38-32	89	40	1.5k	4/	10 x 32 x 11	Opt.	Opt.	40	1059.00 Pair
	Quart 650S	Inf. Bat.	8	2	Dome	1	Dome				35-32	87	45	400, 2.9k	4/	10 x 34 x 11	Opt.	Opt.	40	1579.00 Pair
	Quart 980S	Inf. Bat.	(2)8	2	Dome	1	Dome				34-32	87	60	350, 500, 2.9k	4/	11 x 39 x 11	Opt.	Opt.	57	2649.00 Pair
	Quart 310 Sub-Woofer	Inf. Bat. Subwoofer	12								25-150	87	70	100	4/	15 x 19 x 14	Opt.	Opt.	40	899.00 Pair
McINTOSH	XRT22	Inf. Bat.	(2)12	8	Cone	(23)1	Domes				20-20	89	30	100, 250, 1.5k	8/	Two Pieces Per Side	Opt., Wood	Black	258 Side	4250.00 Side
	XRT18	Inf. Bat.	12	6	Cone	(16)1	Domes				20-20	86	30	350, 1.5k	8/	Two Pieces Per Side	Opt., Wood	Black	108 Side	2250.00 Side
	XR1052	Pas. Rad.	10	5	Cone	1	Dome				30-20	82	30	55, 450, 1.3k	8/	47 x 16 x 11	Wal.	Black	83	1250.00
	XD717	Inf. Bat.	12	6 1/2	Cone	1	Dome				30-20	87	30	350, 1k	8/	38 x 18 x 12	Wal.	Black	66	799.00
	XD715	Inf. Bat.	10	5	Cone	1	Dome				30-20	86	30	375, 1k	8/	30 x 15 x 10	Wal.	Black	43	599.00
	XL10	Pas. Rad.	8			1	Dome				45-20	89	30	90, 1k	8/	25 x 14 x 8	Wal.	Black	25 1/2	429.00
XL1	Inf. Bat.	6			1	Dome				70-20	85	30	1k	8/	13 x 8 x 7	Wal.	Black	15	525.00 Pair	
MEMOREX	Series 10		4			1	Dome				50-20	82	2.5k	8/5	7 x 4 x 4	Opt.	Opt., Metal			
MERIDIAN	D600 (With remote control)	Powered, Triamp, Vented	(2)6 1/2			1	Dome				36-20 ±3	Inc.	2.5k		36 x 8 x 12	Opt., Wood	Black Knit	71	5490.00 Pair	
	M100	Powered, Quadamp, Pas. Rad.	(4)4 1/2	(2)4 1/2	Cones	1	Dome				34-20 ±3	Inc.	500, 2.5k		40 x 8 x 19	Opt., Wood	Black Knit	99	6990.00 Pair	
	M60	Powered, Triamp, Vented	(2)6 1/2			1	Dome				36-20 ±3	Inc.	2.5k		36 x 8 x 12	Opt., Wood	Black Knit	71	3900.00 Pair	
	M20II	Powered, Biamp, Vented	(2)4 1/2			1	Dome				40-20 ±3	Inc.	2.5k		20 x 7 x 14	Opt., Wood	Black Knit	42	2990.00 Pair	
	M30II	Powered, Biamp, Vented	6 1/2			1	Dome				40-20 ±3	Inc.	2.5k		15 x 7 x 12	Opt., Wood	Black Knit	35	1990.00 Pair	
MIRAGE	260	Ported	6 1/2			3/4	Dome				60-20 ±3	88	15	2.2k	6/4	15 x 9 x 9	Opt.	Black Knit	15	260.00 Pair
	360	Ported	8			3/4	Dome				50-20 ±3	88	15	2.2k	6/4	20 x 10 x 9	Opt.	Black Knit	20	400.00 Pair
	460	Ported	8			1	Dome				40-20 ±3	88	15	2.2k	6/4	25 x 10 x 11	Opt.	Black Knit	31	600.00 Pair



ONLY ONE COMPACT SPEAKER SYSTEM CAN COMPETE WITH GLENMONITOR BLOCKHEADS . . .



. . . GLENMONITOR CUBITS

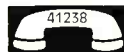
At times, the competition is extremely tough. Fortunately for us, GlenMonitor is the only competition. After all, if it weren't for our Cubits, our Blockheads would be the only compact speaker system worth listening to.

The power and precision of our Blockheads and Cubits allows them to compete with the best large scale home speaker systems. And with their unique design and finishes they are also the only contenders for the best looking speakers.

Because at GlenMonitor we want our speakers to look as great as they sound—don't you?

So while other companies are busy shouting about how good they are why don't you hear how good a compact speaker system can sound. Hear GlenMonitor Cubits and Blockheads, and start listening for the whisper between the shouts. For more information about GlenMonitor's Cubits, Blockheads and their complete home line, contact GlenMonitor USA (518) 398-5077.

For More Information



Call 1-800-553-4355

GLENMONITOR USA



LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Enclosure or System Type			Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Control? W/woofer = 1, Superwoofer = ST	Midrange M. Woofer = 1, Superwoofer = ST	Anechoic Frequency Response, Hz to kHz, ± dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material		Weight, Lbs.	Price, \$
			Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type														Tweeter Diameter, Inches	Tweeter Type		
MIRAGE (Continued)	760	Ported	(2)8			1	Dome				30-20 ±3	89	30	2.2k	8/4	37 x 11 x 14	Opt.	Black Knit	62	1000.00	Pair	
	M1	Ported, Bipolar	(2)8	(2)4	Cones	(2)¾	Domes				20-22 ±2	86	60	300, 2.2k	6/4	59 x 19 x 9	Black Lacq.	Black Knit	120	5000.00	Pair	
MISSION	761	Inf. Baf.	6½			¾	Dome				58-20 ±3	89	20	4.2k	6/5	8 x 15 x 9	Black Ash Vinyl Opt.	Black Knit	13.2	249.00	Pair	
	762	Bass Ref.	8			¾	Dome				50-20 ±3	93	20	4.3k	8/4	10 x 20 x 11	Black Vinyl Opt.	Black Knit	20.9	399.00	Pair	
	763	Bass Ref.	8			¾	Dome				42-20 ±3	89	20	3.2k	8/4	10 x 30 x 13	Black Vinyl Opt.	Black Knit	35.2	599.00	Pair	
	764	Bass Ref.	8¼			1	Dome				38-20 ±3	88	20	3k	8/4	10 x 34 x 13	Black Vinyl Opt.	Black Knit	44	999.00	Pair	
	765	Bass Ref.	(2)8			1	Dome				40-20 ±3	95	50	3.2k	/2	10 x 37 x 14	Wood Opt.	Black Knit	50.6	1299.00	Pair	
	767	Powered Inf. Baf.	(2)8¼, (2)6½			1	Dome	W			20-20 ±3	91	20	2k	8/6	11 x 55 x 17	Wood Opt., Lacq.	Black Knit Black Metal	220	3990.00	Pair	
MITSUBISHI	M-S5100	Bass Ref.	12	5	Cone	1	Dome	M, T			45-20 ±3	92	20	800, 3.25k	8/	41 x 15 x 13	Opt.	Black Knit		1600.00	Pair	
	M-S52G	Inf. Baf.	4			2	Cone									8 x 5 x 5	Opt.	Black Metal		150.00	Pair	
M & K	S-100	Ac. Sus. Sat.	(2)5			(3)1	Domes	M, T			65-22 ±3	93	7.5	2k	4/4	11 x 12 x 9	Opt., Lacq.	Black Knit	20	From 795.00	Pair	
	MX-2000	Powered Ac. Sus. Subwoof. Center Ch. & Powered Ac. Sus. Subwoof.	(2)12					W			20-125 ±3		200 Inc.	50-125 (Adj.)	600/15k	23 x 19 x 26	Black Oak	Black Knit	105	1695.00	Pair	
	MX-1000CC	Powered Ac. Sus. Subwoof. Center Ch. & Powered Ac. Sus. Subwoof.	(2)12	(2)5	Cones	(3)1	Domes	W, M, T			20-22 ±3	93	200 Inc., 7.5 Ext.	50-125 (Adj.), 2k	600/15k, 4/4	26 x 28 x 24	Gray Lacq.	Black Knit	135	1995.00	Pair	
	MX-1000	Powered Ac. Sus. Subwoof.	(2)12					W			20-125 ±3		Inc.	50-125 (Adj.)	15k	26 x 28 x 22	Gray Lacq.	Black Knit	115	1495.00	Pair	
	S1B	Ac. Sus. Sat.	(2)5			(2)1	Domes	M, T			65-22 ±3	93	7.5	2k	4/4	21 x 8 x 8	Opt., Wood	Black Knit	18	725.00	Pair	
	S2B	Ac. Sus. Sat.	6½			1	Dome	M, T			65-22 ±3	90	10	2k	4/4	13 x 9 x 8	Opt., Wood	Black Knit	15	550.00	Pair	
	S3B	Ac. Sus. Sat.	5			1	Dome	M, T			85-22 ±3	90	10	2k	4/4	11 x 7 x 7	Opt., Wood	Black Knit	9	395.00	Pair	
	SX4	Ac. Sus. Sat.	(2)5			(2)1	Domes	M, T			65-22 ±3	93	7.5	2k	4/4	20 x 8 x 7	Black	Black Knit	14	495.00	Pair	
	SX7	Ac. Sus. Sat.	4			¾	Dome				100-20 ±3	87	5	2k	4/4	8 x 5 x 5	Black Metal Opt., Wood	Perf. Metal Black Knit	6	240.00	Pair	
	V1B	Powered Ac. Sus. Subwoof.	12					W			20-125 ±3		Inc.	50-125 (Adj.)	600/15k	18 x 19 x 17	Black Opt., Wood	Black Metal Black Knit	50	850.00	Pair	
	V2B	Powered Ac. Sus. Subwoof.	12					W			24-125 ±3		Inc.	50-125 (Adj.)	600/15k	18 x 19 x 17	Opt., Wood	Black Knit	43	695.00	Pair	
	V3B	Powered Ac. Sus. Subwoof.	12					W			24-125 ±3		Inc.	50-125 (Adj.)	600/15k	18 x 18 x 15	Black	Black Knit	38	595.00	Pair	
VX4	Powered Ac. Sus. Subwoof.	12					W			30-125 ±3		Inc.	50-125 (Adj.)	600/15k	19 x 18 x 14	Black	Black Knit	38	440.00	Pair		
VX7	Powered Ac. Sus. Subwoof.	8					W			40-180 ±3		Inc.	90-180 (Adj.)	600/15k	12 x 10 x 10	Black	Black Knit	21	360.00	Pair		
MONITOR AUDIO	R100	Inf. Baf.	8			1	Dome				60-20 ±3	89	15	2.8k	8/	16 x 10 x 7	Opt., Vinyl	Black Knit	26½	349.00	Pair	
	Monitor 7	Bass Ref.	4			¾	Dome				60-20 ±3	88	15	2.9k	8/	14 x 7 x 7	Black Knit	Black Knit	16½	429.00	Pair	
	Monitor 9	Inf. Baf.	6			1	Dome				55-20 ±3	88	15	3k	8/	14 x 9 x 8	Black Knit	Black Knit	35	579.00	Pair	
	R300MD	Inf. Baf.	8			¾	Dome				50-20 ±3	90	15	3.4k	8/	19 x 10 x 13	Opt., Wood	Black Knit	44	699.00	Pair	
	R352MD	Bass Ref.	8			¾	Dome				45-20 ±3	91	15	3.9k	8/	25 x 10 x 13	Opt., Wood	Black Knit	64	899.00	Pair	
	R452MD	Bass Ref.	8			1	Dome				40-20 ±3	91	15	4k	8/	25 x 10 x 13	Opt., Wood	Black Knit	66	1199.00	Pair	
	MA852 Gold	Inf. Baf.	8			1	Dome				50-30 ±3	89	15	4.6k	8/	18 x 10 x 11	Opt., Wood	Black Knit	46	1350.00	Pair	
	MA952 Gold	Inf. Baf.	(2)6			1	Dome				45-30 ±3	89	15	4.8k	8/	31 x 9 x 13	Opt., Wood	Black Knit	80	1750.00	Pair	
	MA1200 Gold	Bass Ref.	6			1	Dome				35-30 ±3	89	15	4k	8/	36 x 8 x 10	Opt., Wood	Black Knit	75	2250.00	Pair	
	MA1800 Gold	Bass Ref.	(2)6			1	Dome				30-30 ±3	89	20	4.8k	8/	46 x 12 x 15	Opt., Wood	Black Knit	132	3600.00	Pair	
MONOLITH ACOUSTICS	I	Inf. Baf.	(2)7			1	Dome				45-22 ±3	89	50	3k	8/3	16 x 13 x 42	Teak	Black Knit	94	732.00	Pair	
	II	Inf. Baf.	(2)7	2	Dome	1	Dome				45-22 ±3	89	50	800, 6k	8/3	16 x 13 x 44	Teak	Black Knit	112	984.00	Pair	
MORDAUNT-SHORT (Continued)	MS 3.10	Bass Ref.	5			¾	Dome				75-20	88	15	5k	8/	11 x 7 x 8	Black Ash	Black Knit	8	229.00	Pair	

LISTEN AND YOU'LL SEE

B&W LOUDSPEAKERS 500

S E R I E S

The new B&W 500 Series is the latest definition for superlative sound reproduction. Four monitors to anticipate every domestic scenario. To meet every individual preference. From the unobtrusive DM550 and DM560. Discreet, low frequency performers with a shelf mounting facility. Pleasure unconfined for smaller environments. To the formidable DM570 and DM580. Prodigious. Powerful. Custom-built drivers and an all new metal dome tweeter inspired by the incomparable Matrix 801 Series. 2 Guiding performance to perfection. And still you'll wonder where it all comes from. Because nothing you have ever known will bring you closer to the live performance.



B&W
LOUDSPEAKERS

DM560 DM580 DM550 DM570

B&W Loudspeakers of America PO Box 653 Buffalo NY 14240 Tel. (416) 751-4520

Enter No. 23 on Reader Service Card

LOUDSPEAKERS

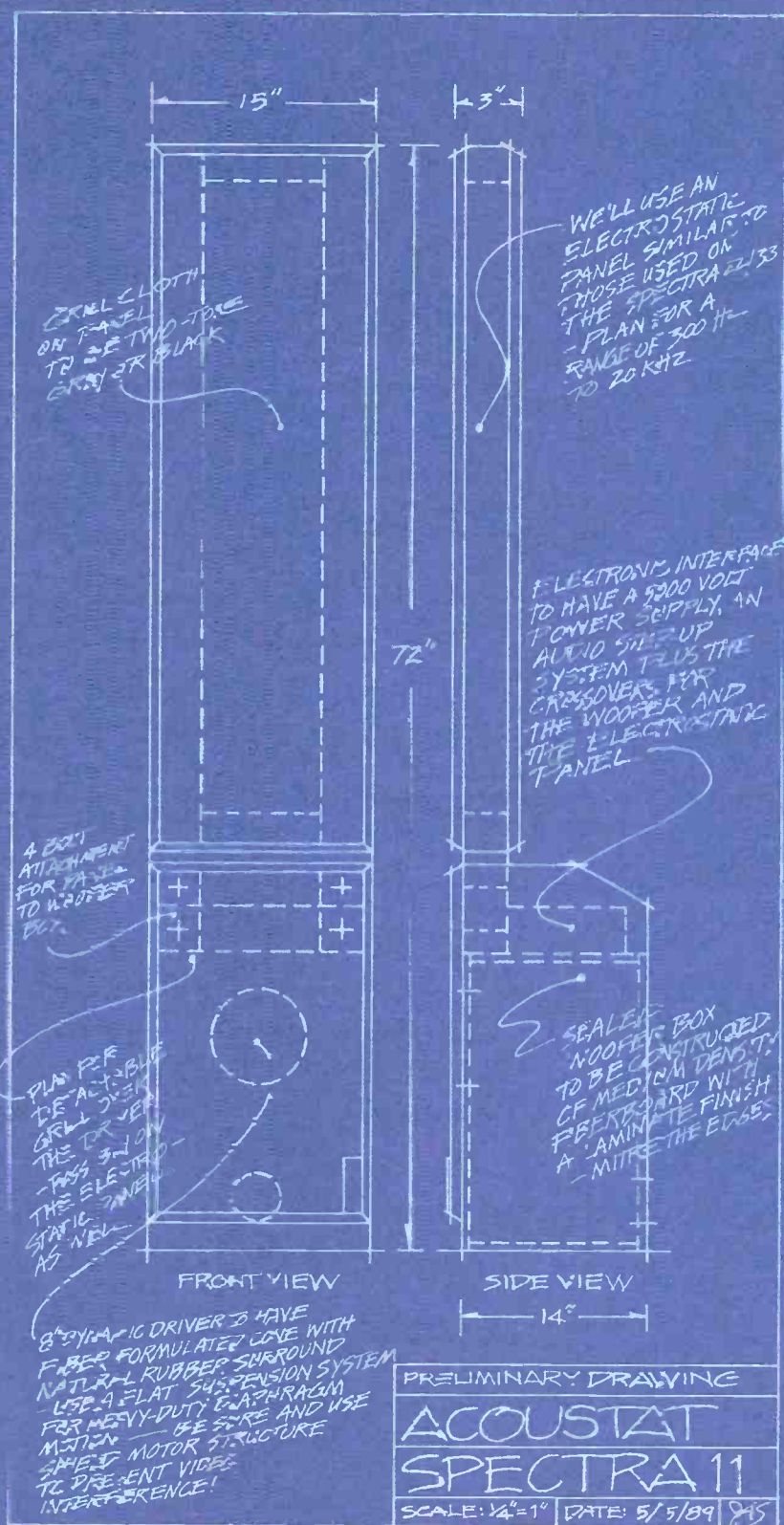
MANUFACTURER	Model	Design Principle	Enclosure or System Type	Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Sensitivity		Frequency Response		Crossover		Dimensions		Finish		Weight and Material		Price, \$
				Woofer	Midrange	Woofer	Midrange	Tweeter	Tweeter	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp. Power, Watts	Impedance, Ohms	Nominal	Minimum	Maximum	Finish	Grille Color and Material	Weight, Lbs.				
ROHRER (Continued)	RM2902R	Ported	(2)9			3	Ribbon	T	40-40	91	30	4k	8/10	51 x 20 x 12	Black	Black Knit	78	2700.00	Pair			
	RB602D	Ported	6			1/2	Dome	T	25-40	88	50	4k	8/6	41 x 9 x 9	Black	Black Knit	45	1495.00	Pair			
	RB2602D	Trans. Line Ported Subwoof.	(2)6			1/2	Dome	T	20-40	94	30	4k	4/3.2	48 x 9 x 24	Black	Black Knit	95	2995.00	Pair			
	RES28	Ported	(2)8						20-200	91	50		8/8	26 x 15 x 24	Black	Black Knit	75	2400.00	Pair			
	RE602D	Ported	6			1/2	Dome	T	35-40	89	30	4k	8/6	14 x 9 x 14	Black	Foam	30	1600.00	Pair			
	RE2602D	Ported	(2)6			1/2	Dome	T	35-40	94	30	4k	4/3.2	21 x 9 x 21	Black	Foam	50	2400.00	Pair			
	RT1201	Ported Subwoof.	12						16-100 ±3	91	50		8/6	19 Dia. x 80	Black	Black Knit	70	1600.00	Pair			
	RT212	Ported Subwoof.	(2)12						16-100 ±1	97	30		4/3	19 Dia. x 80	Black	Black Knit	90	2400.00	Pair			
	RT212.5	Ported Subwoof.	(2)12						16-100 ±3	97	30		4/3	19 Dia. x 44	Black	Black Knit	80	2400.00	Pair			
	RT212E	Ported Subwoof.	(2)12						12-100 ±3	95	50		4/3	19 Dia. x 80	Black	Black Knit	95	4200.00	Pair			
	RT212.5E	Ported Subwoof.	(2)12						16-100 ±1.5	95	50		4/3	19 Dia. x 44	Black	Black Knit	75	4200.00	Pair			
	RT215	Ported Subwoof.	(2)15						10-100 ±1.5	95	50		4/4	25 Dia. x 80	Black	Black Knit	125	6300.00	Pair			
Reference System	Ported	(4)15	(12)6	Cones	(16)3	Ribbons	T	10-40 ±1.5	98	30	50,4k	8/6	Three Pieces per Side	Black	None	500	33,000.00	Pair				
ROKSAN	Darius	Inf. Baf.	8			1	Dome		53-20	87	50	1.6k	8/4	19 x 11 x 16		Black						
ROSSMAN AUDIO	SA.5	Powered Bass Ref.	5			1	Dome	No	55-20 ±3	88	15 Inc.	2.3k	100k	13 x 9 x 12	Black Slate	Black Knit	48	400.00	Pair			
	SA.8	Powered Bass Ref.	6 1/2			1	Dome	No	42-20 ±3	89	15 Inc.	2.3k	100k	17 x 10 x 12	Black Slate	Black Knit	60	500.00	Pair			
ROYD LOUDSPEAKER	A7II	Reflex	5			3/4	Dome/ Cone		70-22 ±3	89	10	4k	8/6.7	12 x 8 x 7	Black Vinyl Opt.	Black Foam	19	350.00	Pair			
	Coniston R	Reflex	5			3/4	Dome		60-22 ±3	89	10	4k	8/6.7	12 x 8 x 7	Black Vinyl Opt.	Black Foam	20	From 400.00	Pair			
	A14II	Reflex	6 1/2			3/4	Dome		55-22 ±3	89	10	4k	8/6.7	16 x 10 x 9	Black Vinyl Wal. Ven.	Black Knit	30	550.00	Pair			
	Eden	Reflex	5			3/4	Dome		57-22 ±3	90	10	4k	8/6.7	12 x 8 x 7	Black Vinyl Wal. Ven.	Black Knit	31	850.00	Pair			
RSL	1800 Mini Mon.	Bass Ref.	6 1/2			3/4	Cone		60-20 ±3	90	15	3.5k	8/	15 x 9 x 10	Black	Black Cloth	9	79.00				
	2600 Mini Mon.	Bass Ref.	8	4	Cone	1	Dome		50-20 ±3	92	15	1k,4k	4/	14 x 9 x 11	Black	Black Metal	13	149.00				
	3800	Bass Ref.	12	4	Cone	1	Dome	M,T	32-20 ±3	92	15	800,5k	8/	26 x 15 x 12	Opt.	Black Cloth	43	319.00				
	MX-1	Bass Ref.	15	5	Cone	1	Horn		45-20 ±3	98	10	1k,4k	4/	41 x 16 x 18	Black	Black Cloth	77	199.00				
	Outsider	Ac. Sus.	6 1/2			3	Cone		60-20 ±3	90	15	2.5k	8/	12 x 8 x 7	Opt.	Black Cloth Opt., Metal	8 1/2	99.00				
	Depth Charge	Subwoof.	12						30-120 ±3	92	25	120	4/	26 x 21 x 19	Opt.	Black Cloth	66 1/2	259.00				
	Mag.	Ac. Sus.	8			1	Dome	T	45-22 ±3	90	20	3k	8/	17 x 10 x 9	Opt.	Black Cloth	19	169.00				
	Speedscn.	Pas. Rad.	8	1 1/4	Dome		Ribbon	M,T	32-20 ±3	88	35	6k,12k	8/	48 x 19 x 5	Opt.	Black Cloth	67	449.00				
SANSUI	SW-S7.7U	Sat. & Subwoof.	(2)6 1/2	5	Cone	(2)1/2	Domes		55-22 ±3	88	10	200,6k	6/	Three Pieces	Opt.	Black Knit	35	380.00	Sys.			
	SP-X5U	Inf. Baf.	6 1/2	5 1/4	Cone	1	Dome		45-23 ±3	88	10	350,7k	6/	12 x 38 x 12	Opt.	Black Knit	36	250.00				
	SP-X3U	Inf. Baf.	10	5	Cone	3/4	Dome		35-23	90	10	700,5k	8	14 x 27 x 13	Opt.	Black Knit	43	200.00				
	SP-X2U	Inf. Baf.	8			3/4	Dome		40-23	90	10	5k	8/	12 x 21 x 10	Opt.	Black Knit	28	150.00				
	SP-X1U	Inf. Baf.	6 1/2			3/4	Dome		50-22 ±3	90	10	6k	8/	10 x 15 x 9	Opt.	Black Knit	17	220.00	Pair			
	Vintage SP-100I	Inf. Baf.	8			1	Dome		40-30	88	10	1.5k	6/	11 x 18 x 13	Black	Black Knit	44 1/2	900.00	Pair			
SASS	SA-1	Tuned Port	8			3/4	Dome		40-18 ±3	90	25	2k	8/6	38 x 10 x 10	Opt., Oiled Wood	Black Knit	36	995.00	Pair			
	SA-2	Tuned Port	8			3/4	Dome		40-18 ±3	90	25	2k	8/6	23 x 12 x 13	Opt., Oiled Wood	Black Knit	30	749.00	Pair			
	BH-30	Tuned Port	6			1/2	Dome		55-18 ±4	85	15	3.5k	8/6	15 x 10 x 10	Opt., Vinyl White	Opt., Knit White	32	369.00	Pair			
	WS 105	In-Wall	5			1 1/4	Cone		70-17 ±3	88	10	1.9k	8/6	11 x 8	White	Perf. Plast. White	7	99.95				
	WS 205	In-Wall	6			1/2	Dome		60-19 ±3	90	10	3.5k	8/6	13 x 10	White	Perf. Plast. White	7	212.50				
	CS-II	Vented, Ceiling Mount	6			1/2	Dome		55-19 ±4	90	25	3.5k	8/6	19 x 13 x 8	White	Opt., White	24	225.00				
	CS-SUB	Vented, Ceiling Mount Subwoof.	8						40-200 ±3	90	35		8/7	19 x 13 x 8	Opt., White	White	30	250.00				

A unique sonic signature from Aco-Stat.
 Remarkable sound, but hence is the price.
 For under \$1000 your listening pleasure
 can begin this fall.

SPECTRA

11

ACOUSTAT



ACOUSTAT

A Division of Reckford Corporation
 Tempe, Arizona 85281

For the dealer nearest you call 1-800-366-1619

Enter No. 3 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches			Midrange Diameter, Inches			Tweeter Diameter, Inches		Separate Low Component Midrange = M, Tweeter = T, Super Tweeter = ST	Analogic Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance Ohms, Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			4	1 1/2	Dome	3/4	Dome	M, T	50-16 ± 3	88											
SASS (Continued)	ITC 1	Vented, Seventh Order	4	1 1/2	Dome	3/4	Dome	M, T			50-16 ± 3	88	50	2k, 6k	8/6	7 x 7 x 11	Opt., Oiled Wood	Opt., Oiled Wood	39 Pair	1200.00 Pair w/EQ	
	ITC 4	Vented, Seventh Order Subwoof.	10								24-120 ± 3					18 x 18 x 19	Opt., Oiled Wood	Opt., Oiled Wood	61	1400.00 Pair w/Xover	
SAVARD	Series 303	Bass Ref.	10			4	Horn				28-30 ± 5	96	5	4k	4/4	13 x 20 x 9	Oak	Black Knit	27	349.00 Pair	
	Performance Phase XV	Bass Ref.	10	2x6	Horn	(2)4	Horns				28-30 ± 5	97	5	2k, 4k	4/4	27 x 15 x 12	Oak	Black Knit	49	499.00 Pair	
	Studio Monitor Phase XXV	Bass Ref.	12	4x10	Horn	(2)4	Horns	T			25-30 ± 5	103	5	1.5k, 4k	4/4	32 x 17 x 15	Oak	Black Knit	60	669.00 Pair	
	B M F Phase VII	Bass Ref.	15	4x10	Horn	(2)4	Horns	T			23-30 ± 5	104	5	1.5k, 4k	4/4	31 x 21 x 18	Oak	Black Knit	75	995.00 Pair	
	Precision Phase XXI	Biamp, Bass Ref.	15	10, 4x10	Cone, Horn	(2) 2x6, (2)4	Horns	M, T			23-30 ± 5	105	5	150, 2k, 4k, 6k	4/4	53 x 22 x 18	Oak	Black Knit	170	1395.00 Pair	
S.C.D.	G.C. Rock Monitor II	Sealed	(2)8	3	Dome	(2)2	Ribbons	No			50-20 ± 3	91	50	800, 4k	12/5	11 x 10 x 36	Wood Vinyl Black	Black Knit	105 Pair	899.00 Pair	
	J.C. Classical Monitor II	Sealed	12	3	Dome	(2)2	Ribbons	No			38-24 ± 3	91	100	500, 4k	8/3	Four Pieces	Black Knit	None	235 Sys.	1895.00 Sys.	
SCOTT	SP 28		8			3	Cone				60-20 ± 3	90	5	4k	8/8	11 x 8 x 19	Black Wood Vinyl	Black Knit	25 Pair	59.95	
	SP 38D		8			(2)2	Cones				55-20 ± 3	90	5	1k, 4k	8/8	21 x 10 x 9	Black Wood Vinyl	Black Knit	28 Pair	69.95	
	6.2A		6			2	Cone				60-18 ± 3	90	5	3k	8/8	15 x 9 x 7	Hick. Vinyl	Black Knit	9	79.95	
	8.2A		8			2	Cone				55-18 ± 3	92	5	3k	8/8	18 x 10 x 7	Hick. Vinyl	Black Knit	12	89.95	
	10.3A		10	4 1/2	Cone	2	Cone				45-19 ± 3	92	10	1k, 4k	8/8	23 x 12 x 9	Hick. Vinyl	Black Knit	20	129.95	
	S123		12	4 1/2	Cone	2	Cone				45-20 ± 3	92	10	1k, 4k	8/8	31 x 16 x 11	Hick. Vinyl	Black Knit	33 1/2	164.95	
	AS 1B		6 1/2			1	Dome				55-22 ± 3	90	15	2.2k	4/4	15 x 9 x 8	Oak Vinyl	Black Knit	14	149.95	
	S10T5		10	(2)4 1/2	Cones	(2)1 3/4	Cones				45-20 ± 3	92	10	4k, 3.5k	8/8	31 x 13 x 9	Oak Vinyl	Black Knit	25 1/2	199.95	
	S12T6		12	(2)4 1/2	Cones	(3)1 3/4	Cones				42-20 ± 3	92	15	1.1k, 3.5k	8/8	31 x 16 x 11	Opt., Wood Vinyl	Black Knit	37	249.95	
SEATTLE SOUND	P.S. 1	Triamped, Vented, 2, 4, & 6 Orders Tuned Port.	(2)8	6 1/2	Cone	3/4	Dome	W			20-21 ± 3	Inc.	150, 2.5k		39 x 14 x 17	Opt., Wood	Black Knit	110	3500.00 Pair		
	C.I. 2	4th Order Tuned Port.	5 1/4			3/4	Dome				50-21 ± 3	89	5	2.5k	8/4	15 x 14 x 4	Black	Perf. Metal	13	499.00 Pair	
	C.I. 3	4th Order Tuned Port.	6 1/2			3/4	Dome				42-21 ± 3	91	10	2.5k	8/4	22 x 10 x 7	Black	Perf. Metal	23	599.00 Pair	
	C.I. 4	4th Order Tuned Port.	8			3/4	Dome				36-21 ± 3	92	20	2.5k	8/4	22 x 14 x 9	Black	Perf. Metal	39	899.00 Pair	
	M2	4th Order Tuned Port.	5 1/4			3/4	Dome				50-21 ± 3	89	5	2.5k	8/4	13 x 7 x 9	Opt.	Black Knit	13	499.00 Pair	
	M3	4th Order Tuned Port.	6 1/2			3/4	Dome				42-21 ± 3	91	10	2.5k	8/4	21 x 8 x 10	Opt.	Black Knit	23	599.00 Pair	
	M4	4th Order Tuned Port.	8			3/4	Dome				36-21 ± 3	92	20	2.5k	8/4	28 x 10 x 12	Opt.	Black Knit	39	899.00 Pair	
	M5	4th Order Tuned Port.	8	6 1/2	Cone	1	Dome				34-21 ± 3	93	20	180, 2.5k	8/4	31 x 11 x 13	Opt.	Black Knit	47	1199.00 Pair	
	SW1	4th Order Tuned Port, 4th Order Subwoof.	(2)8								20-150 ± 3	92	20	120	8/4	19 x 19 x 20	Opt.		49	899.00	
SHAHINIAN ACOUSTICS	Obelisk	Trans. Line, Pas. Rad.	8	(2)1 3/4	Domes	(4)3/4	Domes				28-22 ± 0, -3	90	50	900, 1.8k	5/4	15 x 13 x 29	Opt., Wood	Opt., Knit	56	2050.00 Pair	
	Arc	Pas. Rad.	8	1 3/4	Dome	1	Dome				28-18 ± 3	88	30	1.9k, 10k	4/3	14 x 10 x 28	Opt., Wood	Opt., Knit	44	1200.00 Pair	
	Lyre	Pas. Rad.	8			1	Dome				32-18 ± 3	90	30	3.5k	6/5	12 x 12 x 24	Oiled Oak	Opt., Knit	43	950.00 Pair	
	Eli	Vented	5 1/4			1	Dome	T			55-18 ± 3	90	25	4.5k	6/5	7 x 8 x 13	Oiled Oak	Opt., Knit	28 Pair	450.00 Pair	
	Double Eagle	Pas. Rad. Subwoof. Sat.	(2)8	(4)5 3/4	(2)1 3/4	Domes	(2)3/4	Domes	ST		20-200 ± 3	90	150	140	6/3	23 x 15 x 32	Opt., Wood Birch	Opt., Knit	105	1150.00 Pair	
SHANNON-BROOKE AUDIO	David	Ac. Sus.	6 1/2			1	Dome				75-20 ± 3	89	20	3.5k	8/4	12 x 8 x 14	Black Cloth	Black Cloth	17	450.00 Pair	
	Cynthia	Ac. Sus.	10			1	Dome				45-21 ± 3	87	20	1.4k	8/3	12 x 12 x 37	Black Cloth	Black Cloth	35	895.00 Pair	
	I	Ac. Sus.	12	6 1/2	Cone	3/4	Dome				27-35 ± 3	89	40	200, 3.2k	4/3	20 x 19 x 39	Wal.	Black Knit	80	1950.00 Pair	

fi·del'ə·tī

The THIEL CS5



loudspeaker system is uncompromisingly engineered to provide the most realistic music reproduction possible. It provides extreme accuracy of tonality, spatial imaging, clarity of musical detail and dynamic range. It is designed for people who want to experience all the subtle musical nuances, every delicate shading of musical timbre, and a natural, three-dimensional spaciousness... a feeling of complete musical realism.

The 5-way, electro-dynamic design incorporates THIEL's unique *Coherent Source*® technology which preserves all three types of musical information: amplitude, phase, and time. The combination of the Coherent Source design, point source radiation pattern and diffractionless cabinet design provides the utmost in natural spatial imaging.

Contributing to superior performance is the use of such unusual materials as cast marble for the baffle, Kevlar® driver diaphragms and polystyrene capacitors.

We believe the CS5s provide a most realistic and complete musical experience. We invite you to audition them with the music you love most.

Suggested Retail Price: \$9200 per pair. Call or write for product information and the name of the THIEL dealer nearest you.

THIEL • 1042 Nandino Boulevard • Lexington, Kentucky 40511 • 606-254-9427

Enter No. 92 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Sensitivity (1 Watt/1 Meter, dB)		Recommended Min. Amp Power, Watts		Impedance, Ohms		Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
SHURE HTS	HTS50CF	Inf. Baf., Fourth Order	(2)6½			1	Dome		50-20 ±5	88		2.4k	5.6/	20 x 13 x 9	Wal.	Brown	37	666.00	
	HTS50LRS	Inf. Baf., Fourth Order	6½			1	Dome		60-20 ±5	85		2.4k	5.6/	13 x 10 x 9	Wal.	Brown	24¼	444.00	
	HTS50SW	Vented, Sixth Order Subwoof.	12						33-80	91		Ext.	8/	18 x 23 x 14	Wal.	Brown	65	555.00	
SIDEREAL AKUSTIC	Mikro	Sealed	4			1	Dome		50-20	85	20	4k	8.5	5 x 4 x 7	Cloth	None	6	470.00 Pair	
SIEFERT RESEARCH	Maxim III	Ducted Port	6½			1	Dome		46-22 ±3	87	25	3.5k	8/6	13 x 11 x 9	Opt.	Black Knit	18	499.00 Pair	
	Maxim III H	Ducted Port	6½			1	Dome		48-24 ±1.5	87	25	3.5k	8/6	13 x 11 x 9	Opt.	Black Knit	18	549.00 Pair	
	Maxim IV	Ducted Port	6½			1	Dome		46-24 ±1.5	87	25	3.5k	8/6	15 x 11 x 9	Opt.	Black Knit	22	599.00 Pair	
	Magnum III	Ducted Port	8	4	Cone	1	Dome		38-24 ±3	88	25	350,3.5k	6/4	22 x 14 x 13	Opt.	Black Knit	42	899.00 Pair	
SIGMET	SL280	Vented	8			1	Dome		40-25	87	20	3k	8/4	10 x 13 x 25	Oiled Oak	Gray Knit	37	850.00 Pair	
	SL260	Vented	6			¾	Dome		50-25	86	20	4k	8/4	8 x 13 x 16	Oiled Oak	Gray Knit	23	600.00 Pair	
	SL230	Ac. Sus. Sat. & Vented Subwoof.	(2)6	3½	Cone	¾	Dome		50-20	88	20	200,3k	6/3	Three Pieces	Opt.	Gray Knit	35 Sys.	700.00 Pair	
E.S. SINFONIC	LS1200	Second Order	(2)10	5.2	Cone, Dome	1	Dome	W.M. T.ST	28-25	90	150	250,850, 4k	4/	16 x 14 x 51	Acryl.	Black	75	7000.00 Pair	
SNELL ACUSTICS	K/II	Inf. Baf.	8			1	Dome	T	70-20 ±2	90	10	2.7k	6/4	18 x 11 x 9	Opt., Ven. Opt.	Black Cloth	52 Pair	465.00 Pair	
	J/III	Bass Ref.	8			1	Dome	T	49-20 ±2	91	15	2.7k	6/4	23 x 13 x 10	Opt., Ven. Opt.	Black Cloth	35	680.00 Pair	
	E/III	Bass Ref.	8			1¾	Domes	T	39-20 ±1.75	91	15	2.7k	6/4	35 x 13 x 11	Opt., Ven. Opt.	Black Cloth	50	990.00 Pair	
	C/II	Bass Ref.	10	5	Cone	1¾	Domes	T	34-22 ±3	88.5	20	275,2.7k	8/4	46 x 15 x 12	Opt., Ven. Opt.	Black Cloth	90	1990.00 Pair	
	A/III/i	Inf. Baf.	12	4	Cone	1¾	Domes	T	33-20 ±1.5	86	100	275,2.7k	8/4	51 x 24 x 14	Opt., Wood Ven. Opt.	Black Cloth	320 Pair	4680.00 Pair	
	Q	Inf. Baf.	6½			1¾	Domes	T	70-20 ±1.5	90	15	2.2k	8/8	16 x 11 x 7	Opt., Ven. Opt.	Black Cloth	24	780.00 Pair	
SONANCE	M30	In-Wall Inf. Baf.	4			1	Dome		70-20 ±2	86	5	4.5k	8/8	9 x 7 x 3	White	Opt., White	4	300.00 Pair	
	IA	In-Wall Inf. Baf.	6½			2	Cone		85-12 ±5	90	5	3k	8/8	12 x 9 x 3	White	Opt., White	8	185.00 Pair	
	II	In-Wall Inf. Baf.	6½			1	Dome		50-20 ±3	89	5	5k	8/8	12 x 9 x 3	White	Opt., White	8	245.00 Pair	
	III	In-Wall Inf. Baf.	6½			1	Dome	T	45-20 ±2	88	5	2.5k	8/6	12 x 9 x 3	White	Opt., White	9	375.00 Pair	
	IV	In-Wall Inf. Baf.	8¼			1	Dome	T	35-22 ±2	89	5	2.5k	8/8	16 x 12 x 3	White	Opt., White	11	650.00 Pair	
	PSW2	In-Wall Inf. Baf. Subwoof.	8¼						30-125 ±3	87	(2) 25	125	8/4	16 x 12 x 3	White	Opt., White	14	450.00 Pair	
	ASW1	In-Wall, Powered Inf. Baf. Subwoof.	8¼						30-100 ±2	92	Inc.	50/75/100 (Sel.)	8/8	16 x 12 x 3	White	Opt., White	15	1500.00 w/VCA1 Amp; 260.00 w/o Amp	
SONOGRAPHE	SL21	Bass Ref.	6½			1	Dome		52-20 ±3	90	20	1.5k	8/4	10 x 14 x 14	Oiled Oak	Opt., Foam	22	695.00 Pair	
	SW500	Bass Ref. Subwoof.	10						28-110 ±3	90	50		8/4	18 x 18 x 19	Oiled Oak	Opt., Cloth	40	495.00	
	SW1000	Bass Ref. Subwoof.	(2)10						25-110 ±3	90	50		8/4	18 x 36 x 19	Oiled Oak	Opt., Cloth	80	849.00	
SONY	SS-TL-5	Trans. Line	8	6½,5	Cones	1	Dome		30-27	89		150,900, 3k	8/	11 x 42 x 14	Oak Ven. Sim. Oak	Black Knit	65	900.00 Pair	
	SS-TL-3	Trans. Line	6½	5	Cone	1	Dome		35-25	89		600,5k	8/	9 x 40 x 12	Sim. Oak	Black Knit	40	500.00 Pair	
	SS-TL-1	Trans. Line	6½			2	Dome		40-22	88		3k	8/	9 x 37 x 12	Sim. Oak	Black Knit	33	250.00 Pair	
	SA-W30	Powered Subwoof.	12					Adj.	20-140 +3, -4.5		60 Inc.	Adj.	6/	19 x 20 x 16	Black	Black Knit	41	300.00 Pair	
SOTA	Vista	Bal. Port	7		Cone	¾	Dome	No	45-22 ±3	88	25		8/6	10 x 8 x 20	Opt.	Black	30	950.00 Pair	
	Panorama	Bal. Port	7			1	Dome	No	42-22 ±3	88	25		8/6	14 x 8 x 16		Black Foam	35	1600.00 Pair	
	Horizon	Bal. Port	8	4	Cone	1	Dome	No	25-22 ±3	88	25		8/6			Black Foam		3600.00 Pair	



**MUSIC
MAY
CHANGE**

**BUT
A
DIAMOND
IS
FOREVER**

All pictures shown in same proportion



For Information Contact:

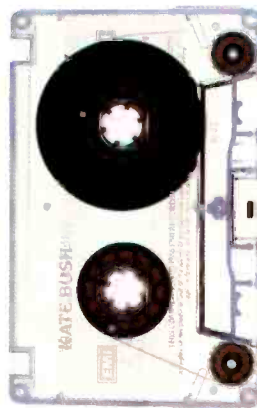


TRANS PACIFIC MARKETING
1230 Calle Suerie Camarillo CA U.S.A. 93010
Ph. 805.987.1312 FX 805.987.1956

Wharfedale

□ BRINGING MUSIC TO LIFE □

Sandless Way, Crossgates, LEEDS LS15 8AL.
Tel: (0532) 601222.



As technology produces a constant change in the size and quality of our musical sources it's reassuring to know that one speaker manufacturer has predicted the trend well in advance. Introduced in 1983, the Wharfedale Diamond has broken down the barriers of small speaker design to yield a performance that's perfectly attuned to today's high quality digital and analogue signals in modern space efficient living environments. The latest Diamond III takes full advantage of our very own technical advances such as a special soft dome tweeter and patented Build Ring Technology. Put more simply it continues to be Britain's best selling, most flexible and room friendly small loudspeaker.

Audition the glittering range soon at your nearest Wharfedale Dealer or contact us directly for full

colour brochure.
Enter No. 129 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Controls? Woofer - W, Midrange - M, Tweeter - T	Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
SOUND DYNAMICS	100 S MK II	Bass Ref.	6½			1	Dome		50-20 ±3	93	10	2k	8/4	9 x 16 x 9	Opt., Vinyl Wal.	Black	20	260.00 Pair
	500 CM	Bass Ref.	10			1	Dome		34-23 ±3	98.5	10	2k	8/4	23 x 12 x 12	Wal. Vinyl	Black	38	550.00 Pair w/ Stands
	700 CM	Bass Ref.	12			1	Dome		32-23 ±3	101	15	1.9k	8/4	28 x 14 x 12	Wal. Vinyl	Black	45	800.00 Pair w/ Stands
	1500 CM	Bass Ref.	15			1	Dome		28-23 ±3	102	20	1.8k	8/4	35 x 18 x 16	Wal. Vinyl	Black	90	1100.00 Pair
SOUND-LAB	Oynastat	ES & Dynamic ES	10½			48x10	ES	W,T	28-22 ±2	88	50	150	8/6	72 x 17 x 3	Opt., Wood	Opt.	75	2250.00 Pair
	A-1	ES						W,T	30-22 ±2	84	100		8/3	81 x 35 x 11	Opt., Wood	Opt.	185	9395.00 Pair
	A-3	ES						W,T	32-22 ±2	84	100		8/3	73 x 31 x 9	Opt., Wood	Opt.	145	6660.00 Pair
	A-5	ES						W,T	34-22 ±2	84	100		8/3	72 x 28 x 8	Opt., Wood	Opt.	122	3995.00 Pair
	A-2X	ES	48x20		48x4	ES	T	34-22 ±2	86	100	750	8/6	57 x 28 x 3	Opt., Wood	Opt.	88	3145.00 Pair	
	A-4	ES	61x20		61x4	ES	W,T	32-22 ±2	86	100	750	8/6	70 x 28 x 3	Opt., Wood	Opt.	105	4195.00 Pair	
	A-6	ES	72x40		61x4	ES	W,T	22-22 ±2	86	100	750	8/5	81 x 44 x 5	Opt., Wood	Opt.	210	13,125.00 Pair	
	B-1	ES Subwoof.						W	20-350 ±2	86	100	To 350	16/16	81 x 44 x 5	Opt., Wood	Opt.	220	6000.00
	B-3	ES Subwoof.						W	20-350 ±2	86	100	To 350	16/16	73 x 44 x 5	Opt., Wood	Opt.	210	5850.00
	B-5	ES Subwoof.						W	22-350 ±2	84	100	To 350	50/50	72 x 57 x 28	Opt., Wood	Opt.	185	4700.00
SOUNDWAVE FIDELITY	Silhouette	Ac. Sus.	(2)8			(2)1	Domes		55-20	90	30	3k	6/	16 x 12 x 20	Opt.	Opt.	37	950.00 Pair
	Sonata	Ac. Sus.	(2)8			(2)1	Domes		50-20	90	30	3k	6/	13 x 10 x 36	Opt.	Opt.	39	1600.00 Pair
	Soliloquy	Ac. Sus.	(2)8			(2)1	Domes		30-20	91	50	3k	6/	16 x 12 x 38	Opt.	Opt.	56	2400.00 Pair
	Grand Soliloquy	Ac. Sus.	(4)8			(2)1	Domes		20-20	91	100	150,3k	6/	19 x 14 x 44	Opt.	Opt.	107	3400.00 Pair
SPACE & TIME	Timekeeper Omni 1	Inf. Baf. Sat.	6½	3x½	Ribbon			W	45-25	86	30		8/4	20 x 15 x 18	Wal.	Black	30	1800.00 Pair
	Timekeeper Omni 2	Subwoof.	6½						15-100	86	30		8/4	48 x 12 x 24	Wal.		100	
	Timekeeper Reference 1	Inf. Baf.	(2)6½	2x 3x½	Ribbon				30-25	88	50		8/4	48 x 25 x 18	Wal.		70	2600.00 Pair
	Timekeeper Reference 2	Inf. Baf.	(4)6½	4x 3x½	Ribbon				25-25	89	80		8/4	60 x 25 x 20	Wal.		90	3600.00 Pair
SPEAKERLAB	SL 88	Bandpass Subwoof.	(2)8						25-120 ±3	90	15	120	8/6	15 x 16 x 23	Oiled Oak		79	359.00
	Auricle 57	Ribbon							145-20 ±3	90	20	150	4/4	71 x 13 x 4	Oiled Wal.	Black Knit	50 Pair	650.00
	Auricle 38		8			4x40	Ribbon		30-20	86	25	150	8/6	71 x 13 x 15	Opt., Wood	Black Knit	70	995.00 Pair
	DAS. 8	Tuned Port	6½	3	Dome	1	Dome		42-21 ±3	91	30	650,5k	8/6	21 x 8 x 10	Opt., Wood	Black Knit	29	279.50
	DAS2	Tuned Port	5¼			¾	Dome		50-21 ±3	91	5	2.5k	4/6	13 x 7 x 8	Opt., Wood	Black Knit	13	119.00
	OAS3	Tuned Port	6½			¾	Dome		42-21 ±3	91	10	2.5k	4/3.3	21 x 8 x 10	Opt., Wood	Black Knit	23	179.00
	DAS4	Tuned Port	8			¾	Dome		36-21 ±3	92	20	2.5k	4/3.3	28 x 10 x 12	Opt., Wood	Black Knit	39	239.00
	OAS6	Tuned Port	10	8	Cone	1	Dome		30-21 ±3	94	20	180,2.5k	4/3.4	36 x 12 x 14	Opt., Wood	Black Knit	62	459.00
	DAS7	Tuned Port	10,12	6½	Cone	1	Dome		25-21 ±3	94	20	180,350,3k	4/3.2	38 x 14 x 16	Opt., Wood	Black Knit	86	569.00
	DAS SW	Subwoof.	10						30-160 ±3	92	20	150	8/6	18 x 18 x 18	Opt., Wood	Black Knit	62	359.00
SPENDOR	LS 3/5a	Inf. Baf.	4½			1	Dome		80-20 ±3	83	25	3k	15/8	12 x 7 x 7	Opt.	Black Cloth	12	595.00 Pair
	Prelude Series 2/2	Bass Ref.	8			1	Dome		50-20 ±3	88	20	3k	8/7	20 x 10 x 11	Opt.	Black Cloth	28	750.00 Pair
	SP-2 Series 2/2	Bass Ref.	8			1	Dome		50-20 ±3	88	25	3k	8/7	20 x 10 x 11	Opt.	Black Cloth	32	895.00 Pair
	SP-1	Bass Ref.	8			(2)¾, 1¼	Domes		45-20 ±3	88	25	3k	8/7	25 x 12 x 12	Opt.	Black Cloth	42	1295.00 Pair
	S-100	Bass Ref.	13	6½	Cone	1	Dome		38-20 ±3	89	50	600,4k	8/7	28 x 15 x 17	Opt.	Black Cloth	80	2295.00 Pair
SPICA	Angelus	Inf. Baf.	8			1	Dome		35-17.5 ±3	87	25	3.4k	8/6	46 x 21 x 10	Opt., Wood	Black Cloth	57	1275.00 Pair
	TC-50	Inf. Baf.	6½			1	Dome		58-16.5 ±3	84	25	2.7k	4/	13 x 16 x 12	Opt., Wood	Black Cloth	45	550.00 Pair
SPL	1000	Bass Ref.	(2)5¼			¾ -	Dome		40-20 ±3	90	10	3k	8/4	21 x 10 x 12	Opt.	Black Knit	26	350.00 Pair
	2000	Pas. Rad.	8			1	Dome		35-22 ±3	95	10	2.2k	8/4	33 x 12 x 9	Opt.	Black Knit	33	500.00 Pair
	3000	Bass Ref.	(2)8			1	Dome		30-22 ±3	96.5	15	2.2k	8/4	37 x 12 x 16	Opt.	Black Knit	52	750.00 Pair
	4000	Bass Ref.	(2)10			1	Dome		25-22 ±3	98	20	2.2k	8/4	43 x 13 x 16	Opt.	Black Knit	65	1000.00 Pair

“Why all Boston Acoustics speakers sound alike. More or less.”

—Andy Petite, chief designer, Boston Acoustics



At Boston Acoustics, we design each of our speakers to be musically accurate based on a live music reference stan-

dard. In other words, instruments and voices played through our speakers have all the qualities of real live music.

Which is why all of our systems have a remarkable sonic resemblance.

To achieve that “live standard,” we design accurate octave-to-octave tonal balance and wide dispersion into our speakers – from our popular A40 Series II bookshelf to our

impressive T1000 tower.

We even go a few steps further by using the highest quality materials in all of our speakers, by manufacturing each one to a rigid tolerance, and by testing every single system before it leaves the factory.

But if each of our speakers has the same tonal qualities, why offer different models? Because not all listening conditions and personal preferences are the same.

In larger rooms, at higher listening levels, the superiority of our more expensive systems is obvious. They play louder without strain, reproduce deeper bass and offer exceptional sonic imaging. Our smaller speakers match that musicality, accuracy and

tonal balance. The only difference is that they’re designed to reproduce a wide musical range in smaller rooms at lower volumes.

So no matter which Boston Acoustics system you choose – one of four bookshelf models, three tower systems or our latest subwoofer/satellite model, the SubSat Six – you can be sure of one thing: what you hear will be as close to the original music as today’s technology allows.

Testing this is simple. Visit your Boston Acoustics dealer and listen to any Boston speaker. The differences from one speaker to another will become readily apparent. And so will the similarities.

The A40 Series II. \$180 a pair.
“... attains an aura of spaciousness surpassed only by some of the far more expensive multi-directional speakers.”
— *The New York Times*



The T830. \$500 a pair.
“... we were enormously impressed ... superb sound, practical size and proportions, and affordable price.”
— Julian Hirsch, *StereoReview*

Boston Acoustics

70 Broadway, Lynnfield, MA 01940 (617) 592-9000

Prices are suggested retail price.

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches				Midrange Diameter, Inches		Tweeter Diameter, Inches		Sensitivity		Crossover		Dimensions		Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Sens. Level	Controls	Woofer = W.	Tweeter = T.	Subwoofer = ST	Hz to kHz, ± dB	Recommended Min. Amp Power, Watts	Impedance, Ohms	Nominal Minimum				
SRT	Bolero	Ported	5¼			1	Dome			50-19 ±3	90	10	300,3k	4/3.5	8 x 9 x 14	Opt.	Opt.	17	1580.00 Pair	
	Bolero Forte	Subwoof.	6½							25-140 ±3	93	20		4	8 x 24 x 9	Opt.	None	22	920.00 Pair	
	Bolero Grande	Ported	(2)5¼			1	Dome			30-20	88	20	300,3k		8 x 33 x 10	Opt.	Opt.	38	3000.00 Pair	
STREAMLINE SYSTEMS	M-1 Nearfield Monitors	Vented	8			1	Dome			42-24	88	20	2.4k	8/6	16 x 10 x 7	Oak	Brown	32	2400.00 Pair	
SUMD	Aria	Planar Dipole								40-20 ±3	86	50		4/4	60 x 30 x 3	Oak	Black Knit	70	3000.00 Pair	
	Samson	Ducted Port Subwoof.	15							25-125 ±0.5	91	200	Sel.	8/7	30 x 24 x 19	Oak	Black Knit	150	749.00 Pair	
SWAN'S SPEAKER SYSTEMS	Swan III	Ducted	(2)5¼			1	Horn			55-20	90	75	2.5k	8/7	8 x 6 x 36	Opt.	Foam	30	From 1795.00 Pair	
	Swan IV	Sat. & Subwoof.	(2)10	(2)5¼	Cones	1	Horn			25-20	90	100	200,2.5k	8/7	Four Pieces	Opt.	Foam	240 Sys.	From 5995.00 Sys.	
	Swan IV Special Edition	Sat. & Subwoof.	13¼	(2)5¼	Cones	1	Dome			23-25	90	100	200,3k	8/6	Four Pieces	Opt.	Foam	250 Sys.	From 6995.00 Sys.	
	Swan V	Ducted	(2)5¼			1	Dome			55-25	90	100	3k	8/7	8 x 6 x 36	Opt.	Foam	30	From 2395.00 Pair	
	Swan VII	Ducted	(2)6½				Dome			40-25	90	100	3k	8/7	10 x 8 x 40	Opt.	Foam	40	From 2995.00 Pair	
SYMDEX AUDIO SYSTEMS	Epsilon Signature	Ported	10	7	Cone	1	Dome						100,2.3k	8/4	13 x 13 x 48	Opt.	Black Knit	100	3000.00 Pair	
	Gamma Signature	Ported		7	Cone	1	Dome						2.3k	8/4	6 x 10 x 44	Opt.	Black Knit	40	1600.00 Pair	
SYNTHESIS	Reference System	Bass Ref. Sat. & Subwoof.	(2)10			1,1½	Dome, Leaf	W		25-35 ±3	91	50		8/4	Four Pieces	Oiled Oak	Opt.	350 Sys.	7350.00 Sys.	
	LM310	Bass Ref.	10			1	Dome			28-20 ±3	91	20	85,1.25k	8/4	14 x 15 x 44	Oiled Oak	Opt.	90	w/Xover 3250.00 Pair	
	LM260	Bass Ref.	8			1	Dome			42-20 ±3	91	20	1.25k	8/4	11 x 20 x 40	Oiled Oak	Opt.	58	1695.00 Pair	
	LM210	Bass Ref.	6			1	Dome			48-20 ±3	89	20	1.5k	8/4	11 x 11 x 34	Oiled Oak	Opt.	42	1195.00 Pair	
	CM205	Bass Ref.	6			1	Dome			54-20 ±3	89	20	1.5k	8/4	10 x 11 x 16	Oiled Oak	Opt.	20	995.00 Pair	
TADDEO	Domestic Monitor One		6½			1½	Dome			44-22 ±3	92	20	2k	8/8	40 x 9 x 11	Oiled Oak	Black Knit	47	849.00 Pair	
TANGENT	10	Inf. Baf.	8			1	Horn			75-20 ±3	94	20	3.5k	6/4.5	16 x 11 x 8	Oiled Wal.	Black Knit	18½	190.00	
	20	Pas. Rad.	8			1	Horn			42-20 ±3	94	20	1.8k	6/4.5	22 x 13 x 11	Oiled Wal.	Black Knit	24	249.00	
	30	Inf. Baf.	(2)8			1	Horn			50-20 ±3	96	20	1.8k	6/4.5	27 x 14 x 12	Oiled Wal.	Black Knit	45	299.00	
	40	Pas. Rad.	(2)8			1	Horn			42-20 ±3	96	20	1.8k	6/4.5	31 x 14 x 12	Oiled Wal.	Black Knit	49	379.00	
	50	Pas. Rad.	(3)8			1	Horn			44-20 ±3	98	20	2.2k	6/4.5	36 x 14 x 12	Oiled Wal.	Black Knit	58	498.00	
TANNOY	DC-1000	Ducted Port	8			1	Dome			48-25 ±3	90	10	2.3k	8/5	10 x 19 x 8	Black Ash	Black Knit	17½	800.00 Pair	
	DC-2000	Inf. Baf.	8	8	Cone	1	Dome			44-25 ±3	92	10	400,2.3k	6/4	10 x 28 x 10	Black Ash	Black Knit	44	1300.00 Pair	
	DC-3000	Slotted Port	8	8	Cone	1	Dome			30-25	92	10	400,2.3k	6/4	10 x 36 x 12	Black Ash	Black Knit	59	1900.00 Pair	
	C-6	Ducted Port	6½			¾	Dome			59-20	90			8/6	8 x 12 x 8	Black Ash	Black Knit	10	349.00 Pair	
	C-8	Ducted Port	8			1	Dome			55-20	92			8/6	10 x 19 x 9	Black Ash	Black Knit	17½	459.00 Pair	
	C-10	Ducted Port	10			1	Dome			47-20					12 x 24 x 11	Black Ash	Black Knit	27	569.00 Pair	
	E-11	Ducted Port	6½			1	Dome			55-20 ±3	88	10	3k	8/6	8 x 15 x 8	Black Ash	Black Knit	11½	425.00 Pair	
	M-15	Ducted Port	8			1	Dome			48-20 ±3	89	10	3k	8/6	10 x 19 x 8	Black Ash	Black Knit	15½	650.00 Pair	
	J-30	ABR	8	8	Cone	1	Dome			40-20 ±3	90	10	3k	8/6	10 x 28 x 10	Black Ash	Black Knit	35	1075.00 Pair	
	J-95	Inf. Baf.	8	8	Cone	1	Dome			30-20 ±3	90	10	400,3k	8/5	10 x 36 x 12	Black Ash	Black Knit	52	1500.00 Pair	
	TDL	Studio 1	Trans. Line	6½			1	Dome			28-20	86	30	3k	8/5	13 x 9 x 33	Opt.	Opt.	40	1445.00 Pair
Reference Standard Monitor		Trans. Line	(2) 9½x6½	(2)4½	Cones	(3)1	Domes			16-35	87	50	200,3.5k, 13k	8/5	20 x 22 x 48	Wal./Brass	Brown	154	6995.00 Pair	
Studio 3		Trans. Line	(2) 9½x6½	4½	Cone	(2)1	Domes			18-35	87	40	300,3.5k, 13k	8/5	18 x 12 x 47	Wal./Brass	Brown	103	4595.00 Pair	
Studio 2		Trans. Line	(2)8			1	Dome			20-20	87	30	3k	8/5	16 x 12 x 39	Wal./Brass	Brown	59	1995.00 Pair	
(Continued)		Studio 2	Trans. Line	8			1	Dome			24-20	87	30	3k	8/5	15 x 11 x 35	Wal./Brass	Brown	48	1595.00 Pair

MAGNEPLANARS®

Top Choice of Tough Customers

FROM STEREOPHILE, VOL.12, NO.1 (JAN. 1989)

the **stereophile** readership survey

TOP 30 LOUDSPEAKER BRANDS

Brand name

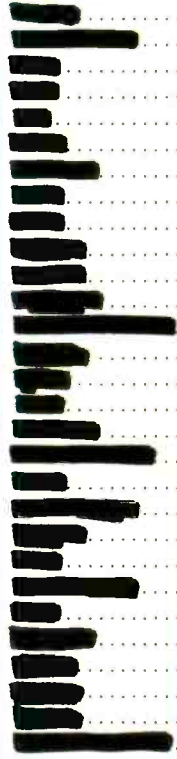
Magnepan

Percentage
of Stereophile
readership
owning brand

6.9%

Percentage of
speaker owners
that would not buy
the product
if they had it
to do over again.

1%



6.9%

1%

 **MAGNEPAN**

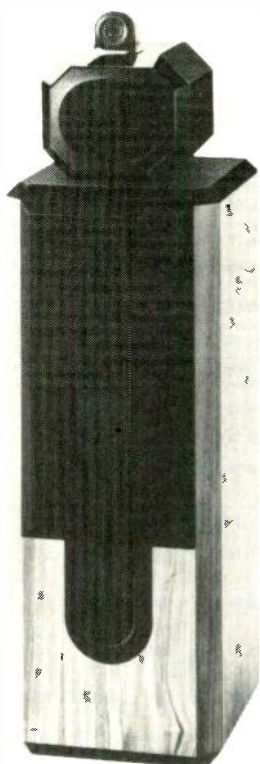
1645 Ninth St., White Bear Lake, MN 55110

Enter No. 58 on Reader Service Card

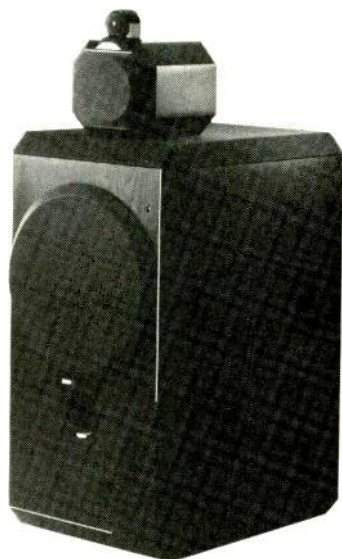
LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Enclosure or System Type				Tweeter Diameter, Inches	Tweeter Type	Separate Low Control? Midrange = H, Tweeter = T	Analogic Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt, 1 Meter, dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches													
TDL (Continued)	Super Compact	Bass Ref.	8			1	Dome		28-20	87	25	3k	8/4	22 x 11 x 20	Wal./Brass	Brown	53 Pair	1095.00	
	Compact	Bass Ref.	6			1	Dome		30-20	86	20	3k	8/4	12 x 9 x 18	Wal./Brass	Brown	44 Pair	935.00	
TEAC	ST-X1	Ac. Sus.	6½			¾	Dome		60-22 ±3	89	10	2k	6/	10 x 15 x 7	Sim. Oak	Gray Knit	10 Pair	230.00	
	ST-X3	Ac. Sus.	8			¾	Dome		55-22 ±3	89	15	1.5k	6/	12 x 20 x 8	Sim. Oak	Gray Knit	16 Pair	319.95	
	ST-X5	Ac. Sus.	10	5	Cone	¾	Dome	M	45-22 ±3	90	20	1.2k,6k	6/	13 x 30 x 8	Sim. Oak	Gray Knit	29 Pair	239.95	
TECHNI- COUSTICS	Alpha II	Vented	6½			1	Dome		48-20 ±3	90	15	5k	8/6.6	20 x 13 x 9	Wal. Lam.	Brown Knit	25	250.00	
	Beta	Vented	10			1	Dome		36-20 ±3	92	15	3.5k	6/3.8	27 x 17 x 11	Wal. Lam.	Brown Knit	52	399.00	
	Gamma	Vented	8			1	Dome		32-20 ±3	89	25	3k	8/5.6	25 x 11 x 17	Wal. Lam.	Brown Knit	48	450.00	
	Delta	Vented	10	5	Cone	1	Dome	M,T	32-20 ±3	94	25	800,5k	8/	32 x 20 x 13	Wal. Lam.	Brown Knit	67	600.00	
	Epsilon	Vented	12	5	Cone	3½	Horn	M,T	46-20 ±3	95	25	800,5k	8/	32 x 20 x 13	Wal. Lam.	Black Knit	70	750.00	
	Rock Master Jr.	Vented	15		Horn		Horn		58-20 ±3	97	40		8/6.3	32 x 20 x 13	Black Paint	Black Metal	67	650.00	
	Rock Master	Vented	12			4x11	Horn	T	39-18 ±3	92	40	3.5k	8/5.8	26 x 16 x 17	Black Paint	Black Metal	75	900.00	
TECHNICS	SB-CX700	Pas. Rad.	12	4	Cone	1	Dome	T	40-22 ±2	88	60		6/	35 x 15 x 12			55	350.00	
	SB-CX500	Pas. Rad.	10	4	Cone	1	Dome	T	55-22 ±3	88	40		6/	32 x 13 x 12			40	300.00	
	SB-CX300	Bass Ref.	8			1	Dome		75-20 ±4	88	40		6/	18 x 11 x 10			20	200.00	
	SB-RX50	Bass Ref.	9½			1½	Flat	T	30-48	87		2.2k	6/	12 x 19 x 11			36	609.00	
	SB-RX30	Bass Ref.	9			1½	Flat		44-30	88		2.5k	6/	10 x 15 x 9			16	549.00	
	SB-F1MK2K	Ac. Sus.	4¾			1½	Flat		48-35	86		2k	8/	9 x 5 x 5			7	319.00	
	SB-F2MK2K	Ac. Sus.	5½			1½	Flat		55-33	88		2.5	8/4	11 x 6 x 7			7	389.00	
	SB-C250	Bass Ref.	7			1	Dome					3k	8/	9 x 15 x 8			7	329.00	
	SB-S20	Ac. Sus.	4			1½	Cone		47-30	86		3k	8/				30	99.00	
	SB-L96	Bass Ref.	15	4¾	Cone	2½	Cone		42-20	92		3k,5k	8/	18 x 31 x 13			41	169.00	
	SB-L76	Bass Ref.	12	4	Cone	2½	Cone		43-20	92		2.5k,5k	8/	14 x 27 x 13			53	239.00	
SB-L56	Bass Ref.	10	4	Cone	2½	Cone		47-20	92		2.5k,5k	8/	13 x 26 x 11			42	199.00		
SB-L36	Bass Ref.	10			2½	Cone		57-20	92		4k	8/	13 x 23 x 9			34	129.00		
TERPSICHORE	QT-1	Trans. Line	5½			1¾	Inv. Dome		50-20	89	50		6/3	8 x 10 x 40	Opt.	Opt.	48	2000.00	
	QT-2	Trans. Line	7			1¾	Inv. Dome		40-20	90	100		6/3	10 x 15 x 44	Opt.	Opt.	90	2500.00	
	Bifocal	Trans. Line Woofer	(2)8				Inv. Dome		25-1		100		8/4	20 x 10 x 40	Opt.	Opt.	90	1200.00	
THIEL	CS 5		(3)8	5,2	Cone, Dome	1	Dome		23-20 ±1	87	100	80,400, 1k,3k 400,3k	3/2	13 x 17 x 64	Opt.	Black Knit	180	9700.00	
	CS 3.5	Electr.	10	4	Cone	1	Dome		20-20 ±2	88	40		4/4	13 x 13 x 41	Teak	Black Cloth	75	2450.00	
	CS 2	Bass Ref.	8	3	Cone	1	Dome		38-20 ±2	87	40	800,3k	6/5	12 x 12 x 39	Teak	Black Cloth	62	1650.00	
	CS 1.2	Bass Ref.	6½			1	Dome		52-18 ±2	87	40	2.5k	4/4	10 x 10 x 36	Teak	Black Cloth	47	1090.00	
TNT-LINES	B1	Bass Ref.	7			1½	Inv. Dome		45-20 ±3	89	30	450,3k	8/3.4	14 x 9 x 6	Opt., Wood	Brown Knit	24	695.00	
	B2K	Bass Ref.	7			1½	Inv. Dome		40-20 ±3	90	50	350,3k	8/3.4	16 x 11 x 14	Opt.	Brown Knit	32	950.00	
	T3K	Trans. Line	10	5¼	Cone	1½	Inv. Dome		25-20 ±3	91	60	450,3.5k	8/6.8	48 x 12 x 24	Oak	None	125	3995.00	
	T2K	Trans. Line	8	5¼	Cone	1½	Inv. Dome		33-20 ±3	90	60	450,3.5k	8/6.8	46 x 10 x 23	Oak	None	115	2995.00	
TOWNSHEND AUDIO	Glastonbury II	Bass Ref.	4¾			½x4	Leaf		20-50 ±2	88	12	8.7k	8/7.5	11 x 18 x 35	Black Text.	Black Knit	125	3800.00	
TRIAD DESIGN	System Six Woofer	Powered Woofer	8					W	40-140 ±3	90	70		8/8	10 x 10 x 10	Opt.	Opt.	16	300.00	
	System Seven Woofer	Powered Woofer	12					W	28-110 ±3	90	70		8/8	13 x 13 x 13	Opt.	Opt.	24	450.00	
	System Six Satellite	Inf. Bat. Sat.		3½	Cone	¾	Dome		165-20 ±2	89	20	3.2k	8/4	4 x 4 x 7	Opt.	Opt.	3	300.00	
	System Seven Satellite	Inf. Bat. Sat.		5	Cone	1	Dome		140-20 ±2	88	20	2.5k	8/6	6 x 6 x 10	Opt.	Opt.	7	450.00	
	System Six	Sat. & Powered Woofer		8	3½	Cone	¾	Dome	W	40-20 ±3	89	20	150,3.2k	8/4	Three Pieces	Opt.	Opt.	23	600.00
	System Seven	Sat. & Powered Woofer		12	5	Cone	1	Dome	W	28-20 ±3	88	20	120,2.5k	8/6	Three Pieces	Opt.	Opt.	42	900.00
(Continued)	System Ten	Inf. Bat.	10	4	Cone	1	Dome		35-18 ±2	89	35	900,4.4k	8/5	17 x 12 x 43	Opt., Wood	Opt., White	65	2500.00	

B&W CONGRATULATES STEREO EXCHANGE NYC'S #1 MATRIX DEALER ON THE GRAND OPENING OF THE LARGEST AUDIO SPECIALTY STORE IN AMERICA.



802 Matrix \$3,600



801 Matrix \$5,000

- 30,000 Square Feet on Three Levels
- Nine Sound Rooms
- Components, Systems, Multi-Room Installations Entertainment Centers
- From \$100 - \$100,000
- Custom Installation
- Audio/Video Consultants
- In-House Repair
- Pick-up & Delivery Service
- And the World's Largest Used High-End Dealer

STEREO EXCHANGE

THE SHOWCASE FOR
HOME ENTERTAINMENT.

"In my opinion, the B & W 801 Matrix 2 represents the pinnacle of current full-range dynamic speaker design..."

"...for the emotional involvement only live performance can provide...with absolute sonic honesty...the B & W 801 Matrix 2 Monitor is musically, the end of the road."

Lewis Lipnick-Stereophile, Vol. 10, No. 9 (9/87)

We're open 7 days a week so you can come anytime to hear the entire line of B & W Matrix 2 Monitors, or call for an appointment.

Authorized Dealerships:

Apogee Arcam, Ariston ASC Tube Traps Audioquest Boston Acoustics B&K (#1 N.Y.C. Dealer), B&W, (#1 NYC Matrix Dealer) California Audio Labs Carver Celestion SL Chicago Stands conrad-johnson, Counterpoint (#1 U.S. Dealer) CWD, Dual, Duntech Eminent Technology, Fosgate, Grado, Infinity Kimber Kable Luxman Magnum Dynalab (#1 E. Coast Dealer) Mod Squad (#1 E. Coast Dealer), MIT, NAD, Nitty-Gritty, Proton, Rogers Sony ES Sonographe, Sota Cosmos Spica (#1 E. Coast Dealer) Stax Straightwire Sumiko Sumo Target, Threshold—Forte (#1 N.Y.C. Dealer), Tice (#1 U.S. Dealer) Van Den Hul (#1 U.S. Dealer), VPI (#1 U.S. Dealer) Velodyne Vendetta, VTL (#1 E. Coast Dealer), Wadia, Well Tempered (#1 E. Coast Dealer), etc

**NEW LOCATION: 627 BROADWAY, N.Y. 10012 • OTHER LOCATION 687-A BROADWAY N.Y. 10012
(212) 505-1111 • OUTSIDE N.Y.C. (800) 833-0071 • MOST MAJOR CREDIT CARDS ACCEPTED.**

Enter No. 89 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Control	Woofer M. Weight = W	Midrange M. Weight = M	Tweeter M. Weight = T	Superwoofer = ST	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
TRIAD DESIGN (Continued)	In-Wall System Six	In-Wall Sat. & Powered Woofer	8	3 1/2	Cone	3/4	Dome	W	42-20 ±3	89	20	160,3,2k	8/4	Three Pieces		Opt.	20 Sys.	600.00 Sys.		
	In-Wall System Seven	In-Wall Sat. & Powered Woofer	12	5	Cone	1	Dome	W	38-20 ±3	88	20	120,2,5k	8/6	Three Pieces		Opt.	40 Sys.	900.00 Sys.		
	In-Wall System Six Woofer	In-Wall Powered Woofer	8					W	42-160	90	70 Inc.		8/6			Opt., White	16	300.00		
	Triad In-Wall	In-Wall Powered Woofer	12					W	38-120	92	70 Inc.		8/6			Opt., White	24	450.00		
UNITY AUDIO	CLA 1	Bass Ref.	10	6 1/2	Cone	1	Dome	No	34-20 ±2	89	40	175,2,2k	8/5	9 x 10 x 44	Oak	Black Knit	55	1695.00 Pair		
	CLA 2	Bass Ref.	8	6 1/2	Cone	1	Dome	No	43-20 ±2	89	40	175,2,2k	8/5	9 x 10 x 39	Oak	Black Knit	45	1195.00 Pair		
	CLA 3	Bass Ref.	8			1	Dome		47-20 ±2	88	40	2,2k	8/7	9 x 5 x 38	Oak	Black Knit	30	850.00 Pair		
	PARM	Biamp. Sat. & Subwoof.	(2)13	(2)7	Cones	1 1/4	Dome		23-22 ±1.5			120,2k	6/3	Three Pieces	Corian	Black Knit	400 Sys.	15,000 Sys.		
	CLA Signature	Bass Ref.	11	7	Cone	1 1/2	Dome		30-21 ±2	90	100	135,2k	7/5	9 x 10 x 43	Opt.	Black Knit	68	2750.00 w/Over Pair		
VANDERSTEEN AUDIO	1B	Trans. Line	8			1	Dome	T	38-20 ±3	90	20	2,8k	8/6	12 x 10 x 36	Opt., Wood	Opt., Knit	50	650.00 Pair		
	2Ci		10,8	4 1/2	Cone	1	Dome	M,T	29-21 ±3	88	40	500,5k	8/4	16 x 10 x 36	Opt., Wood	Opt., Knit	63	1195.00 Pair		
	3	Third Order Biamp.	10,8	4 1/2	Cone	1	Dome	M,T	28-40 ±3	88	100	80,500,5k	8/6	16 x 10 x 48	Opt., Wood	Opt., Knit	90	2395.00 Pair		
	4A	Inf. Bal. Powered Inf. Bal. Subwoof.	(2)12, (3)8	4 1/2	Cone	1 1/8, 3/4	Domes	M,T	26-30 ±3	88	100	80,500, 5k,13k 80	8/4	18 x 17 x 52	Opt., Wood	Opt., Knit	150	4250.00 Pair		
	2W							W	26-80 ±3		300 Inc.			18 x 17 x 18	Opt., Wood	Opt., Knit	90	1250.00 w/Amp		
VECTOR RESEARCH	VSP-82	Inf. Bal.	8			2	Cone	No	40-17.5 +3,-4	89	10	2k	8/	19 x 11 x 8	Oak	Black Knit	29 Pair	79.95		
	VSP-102	Bass Ref.	10			1	Dome	No	30-20 +2,-2.5	91	10	3.5k	8/	27 x 13 x 11	Oak	Black Knit	26	149.95		
	VSP-123	Bass Ref.	12	5	Cone	1	Dome	No	20-20 ±3	92	10	500,3,5k	8/	27 x 14 x 11	Oak	Black Knit	37	199.95		
	VSP-124	Pas. Rad.	12	5	Cone	1	Dome	No	20-20 +3,-2	92	10	500,3,5k	8/	39 x 14 x 12	Oak	Black Knit	47	259.95		
VELODYNE ACOUSTICS	VA1012	Powered Subwoof.	10					W	25-75 ±3		60 Inc.	75		18 x 18 x 16	Black	Black Knit	40	645.00 w/Amp		
	Servo 1200	Powered Servo Subwoof.	12					W	20-Var.		100 Inc.	40-100		18 x 18 x 16	Black	Black Knit	55	895.00 w/Amp		
	ULD-12	Powered Servo Subwoof.	12					W	15-85 ±3		100 Inc.	85		21 x 16 x 17	Opt.	None	51	1195.00 w/Amp		
	ULO-15	Powered Servo Subwoof.	15					W	15-85 ±3		400 Inc.	85		22 x 17 x 18	Opt.	None	76	1795.00 w/Amp		
	ULD-18	Powered Servo Subwoof.	18					W	15-85 ±3		400 Inc.	85		23 x 31 x 21	Opt.	None	105	2595.00 w/Amp		
VENTURI	V62	Venturi Vented	6			3/4	Dome		52-20 ±3	90	20	4k	8/	14 x 9 x 9	Opt., Lam.	Black Knit	14	199.00 Pair		
	V620	Venturi Vented	6			3/4	Dome		49-20 ±3	90	20	3k	8/	23 x 9 x 11	Opt., Lam.	Black Knit	24	329.00 Pair		
	V820	Venturi Vented	8			1	Dome		40-22 ±3	91	20	2.5k	8/	27 x 10 x 12	Opt., Lam.	Black Knit	29	439.00 Pair		
	V630	Venturi Vented	6	6	Cone	1	Dome		49-22 ±3	90	20	1.5k,5k	6/	34 x 9 x 11	Opt., Lam.	Black Knit	37	599.00 Pair		
	V830	Venturi Vented	8	6	Cone	1	Dome		40-22 ±3	91	30	1k,5k	8/	40 x 10 x 12	Opt., Lam.	Black Knit	45	799.00 Pair		
VINTEC ACOUSTICS	Valour	Vented	6 1/2			1	Dome		60-21 ±1.25	86	30	1.8k	8/5	16 x 9 x 12	Oak	Black Knit	27	1000.00 Pair		
	Vibrato	Vented, Subwoof.	(2)10						26-150 ±2	86	30	90	8/4	22 x 18 x 18	Oak	Black Knit	70	1100.00		
	Vanguard	Vented	(2)6 1/2			1 1/8	Dome		58-20 ±1.5	91	30	1.5k	5/3	38 x 10 x 12	Oak	Black Knit	70	1800.00 Pair		
	Vesuvius	Vented Subwoof.	(4)10						20-150 ±2	91	30	90	4/2	33 x 22 x 22	Oak	Black Knit	160	2300.00		
VMPS	QSO 404	Ported	8			1	Dome	T	48-17 +0,-3	90	20	3.5k	8/6	18 x 12 x 9	Oiled Wal.	Black Cloth	25	229.00		
	Mini Tower IIa	Pas. Rad.	(2)10	5	Cone	(2)1	Dome, Piezo Domes, Ribbon	M,T, ST	28-30 +0,-3	92	20	500,4,5k, 15k	8/6	39 x 12 x 15	Opt., Wood	Black Cloth	70	479.00		
	Super Tower III	Pas. Rad.	(2)15, (2)12, (2)10	(4)5	Cones	(4)1, 3/4x3	Domes, Ribbon	M,T, ST	17-50 +0,-3	98	20	80,500, 4,5k,15k	8/6	72 x 17 x 19	Opt., Wood	Black Cloth	300	4795.00 Pair		
	QSO 808	Ported	(2)10	5	Cone	1	Dome	M,T	34-20 ±3	94	20	600,5k	8/6	26 x 15 x 12	Oiled Wal.	Black Knit	50	690.00 Pair		
(Continued)	Tower II/R	Multiband Bass	(3)12	5	Cone	1,(1)	Dome, Ribbon	M,T, ST	22-50 ±3	95	20	80,400,4k, 12k	8/6	43 x 15 x 15	Oiled Wal.	Black Knit	95	1329.00 Pair		

Not For Sale

Years ago, I was working my way through med school and bought my first system. The only place I splurged was on speakers. I bought a pair of KLIPSCH® HERESYs,® but to save money I got them in unfinished wood cabinets.

Now I'm a doctor and, frankly, making some bucks. So I recently went back to the same dealer and dropped a bundle for all new electronics and a different brand of speakers.

When I set up the new equipment, I wanted to hear the improvement, so I hooked up the old HERESYs next to the new speakers.

I was quickly disappointed. The old HERESYs sounded a lot better than the new speakers. They just had more life and clarity. I felt like I had wasted my money on speakers.

My dealer was great about it. He let me exchange those speakers for a beautiful new pair of KLIPSCHORNs.® They have the biggest, most lifelike sound I've ever heard.

The old HERESYs? I'm not sure what to do with them but they're definitely not for sale. Neither are the KLIPSCHORNs.

For your nearest KLIPSCH dealer, look in the Yellow Pages or call toll free, 1-800-223-3527.

 **klipsch**[®]
A LEGEND IN SOUND.™

P.O. BOX 688 • HOPE, ARKANSAS USA 71801

Enter No. 55 on Reader Service Card

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle	Enclosure or System Type		Woofer Diameter, Inches		Midrange Diameter, Inches		Tweeter Diameter, Inches		Tweeter Type		Sensitivity Level (Cones/Woofer = W, Ribbons/Domes/Tweeters = T, Superwoofers = ST)		Anechoic Frequency Response, Hz to kHz, ±dB		SPL, 1 Watt/1 Meter, dB		Recommended Min. Amp Power, Watts		Crossover Frequencies, Hz		Impedance Ohms: Nominal/Minimum		Dimensions, Inches (To Nearest Inch)		Finish	Grille Color and Material	Weight, Lbs.	Price, \$
			Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange	Woofer	Midrange				
VMPS (Continued)	Super Tower/R	Multiband Bass	(2)15, 12	(2)5	Cones	(2)1, (2)2	Domes, M.T.	20-50 ±3	96	20	80,400,4k, 12k	8/6	49 x 22 x 17	Oiled Wal.	Black Knit	150	1938.00													
	Super Tower IIa/R Special Edition	Multiband Bass	(2)15, (3)12	(4)5	Cones	(5)1, (1)	Domes, Ribbons, Domes, Ribbon	17-50 ±3	100	20	80,400,4k, 12k	8/6	76 x 22 x 17	Oiled Wal.	Black Knit	250	3876.00													
	Smaller Subwoofer	Pas. Rad. Subwoof.	12					28-600 ±3	92	20	Var.	8/6	26 x 15 x 16	Oiled Wal.	Black Knit	52	299.00													
	Original Subwoofer	Pas. Rad. Subwoof.	12					19-600 ±3	94	20	Var.	8/6	27 x 22 x 17	Oiled Wal.	Black Knit	95	399.00													
	Larger Subwoofer	Pas. Rad. Subwoof.	15, 12					17-250 ±3	95	20	Var.	4/3	39 x 22 x 17	Oiled Wal.	Black Knit	140	549.00													
WALLSPEAKER TECHNOLOGIES	Series II	Vented/Trans. Line	7			1	Inv. Dome	T	42-17.5 ±3	89	25	2k	8/5	13 x 3 x 49	Gran.	Opt.	45	1650.00												
	Series III	Vented/Trans. Line	8	5	Cone	1	Inv. Dome	M,T	37-18 ±3	90	25	300,3.5k	8/3	13 x 3 x 73	Gran.	Opt.	57	2450.00												
WATERWORKS ACOUSTICS	Soundpipe One	Sealed Sat.	5			1/2	Cone/Dome		80-20 ±3	88	10	5k	8/6	13 x 6 x 8	Opt.	Steel	6	349.00												
	Soundpipe Two	Sealed Sat.	(2)5			3/4	Cone/Dome		70-20 ±3	90	10	5k	4/3	22 x 6 x 8	Opt.	Steel	10	649.00												
	Soundpipe Sub	Sealed Subwoof.	10					30-100 ±3	90	10	100	6/3	16 Dia. x 18	Opt., Enam.	Steel	35	449.00													
WAVEFORM RESEARCH	The Waveform Loudspeaker	Bass Ref.	15	(2)6 1/2	Cones	1 1/8	Dome, Ribbon	W	28-20 ±1	90	150	150,2k,9k	8/4	20 x 30 x 48	Black Enam.	Black Knit	180	9800.00												
WENGER/ALS	1104CM	Pas. Rad. Ceiling Mount	10	5	Cone	(2)1	Domes		32-20	91	100	650,5k	6/4	24 x 24 x 15	Opt.	Knit	54	859.00												
	1104	Pas. Rad.	10	5	Cone	(2)1	Domes		32-20 ±3	91	50	650,5k	6/4	16 x 13 x 9	Opt.	Black Knit	35	857.00												
	1124	Pas. Rad.	12	5	Cone	(2)1	Domes		25-20 ±3	93	50	500,5k	6/4	34 x 15 x 11	Black	Black Knit	57	987.00												
	1154SW	Pas. Rad. Subwoof.	15						20-800 ±3	95	150		6/4	34 x 19 x 15	Black	Black Knit	65	499.00												
	2154	Pas. Rad. Subwoof.	(2)15						20-800	98	150		6/4	32 x 34 x 19	Black	Black Knit	125	813.00												
	4154	Pas. Rad. Subwoof.	(4)15						20-800	101	250		6/4	33 x 33 x 33	Black	Black Knit	250	1546.00												
	1154S	Triamped Pas. Rad.	15	10	Cone	(2)5, 2	Cones, Compr.	T	32-20 ±3	94	400	125,1.4k, 5k	6/4	33 x 23 x 18	Opt.	Black Knit Opt.	165	3500.00												
WEST COAST AUDIO	LS 220	Ac. Sus.	5 1/4			3/4	Dome					2.75k	4/	7 x 10 x 10	Black Lam.	Gray Knit	22	220.00												
	LS 320	Ac. Sus.	(2)5 1/4			3/4	Dome					2.75k	8/	7 x 11 x 16	Black Lam.	Gray Knit	36	320.00												
	SB 170	Subwoof.	8									150	4/	15 x 15 x 17	Black Lam.	Black Knit	Pair	170.00												
	SB 270	Subwoof.	(2)8									150	8/	15 x 28 x 17	Black Lam.	Black Knit		270.00												
	LS 720	Ac. Sus.	(2)6 1/2	5 1/4	Cone	3/4	Dome					150,2.75k	8/	8 x 14 x 40	Black Lam.	Gray Knit		720.00												
	LS 920	Biamp. Ac. Sus.	(2)8	6 1/2	Cone	3/4	Dome					80,2.75k	8/	10 x 16 x 46	Black Lam.	Gray Knit		920.00												
	LS 2000	Biamp. Line Source	(4)8	(4)5 1/4	Cones	(4)3/4	Domes					80,2.75k	4/	Four Pieces	Black Lam.	Gray Knit		2000.00												
	LS 4000	Biamp. Line Source	(8)8	(8)5 1/4	Cones	(8)3/4	Domes					80,2.75k	8/	Four Pieces	Black Lam.	Gray Knit		4000.00												
WESTLAKE AUDIO	BBSM-4/4F	Ported	(2)4			3/4	Dome		65-20 ±3	89	25	1.5k	4/2	8 x 15 x 10	Opt.	Opt.	25	775.00												
	BBSM-5/5F	Ported	(2)5			1 1/4	Dome		63-18 ±3	90	25	1.2k	4/2	11 x 18 x 10	Opt.	Opt.	35	900.00												
	BBSM-6/6F	Ported	(2)6	3 1/2	Cone	1	Dome		60-20 ±3	91	50	600,6k	4/2	11 x 22 x 13	Opt.	Opt.	53	1200.00												
	BBSM-8/8F	Ported	(2)8	3 1/2	Cone	1	Dome		65-18 ±3	92	50	600,5k	4/2	13 x 26 x 17	Opt.	Opt.	77	1525.00												
	BBSM-10/10F	Ported	(2)10	6 1/2	Cone	1 1/4	Dome		50-16 ±3	94	75	600,4k	4/2	16 x 30 x 22	Opt.	Opt.	115	1975.00												
	BBSM-10VF	Ported	(2)10	6 1/2	Cone	1 1/4	Dome		45-16 ±3	94	75	600	4/2	44 x 27 x 17	Opt.	Opt.	175	2375.00												
	BBSM-12/12F	Ported	(2)12	6 1/2	Cone	1 1/4	Dome		50-16 ±3	94	100	500,4k	4/2	19 x 34 x 23	Opt.	Opt.	160	2275.00												
	BBSM-12VF	Ported	(2)12	6 1/2	Cone	1 1/4	Dome		40-16 ±3	89	100	500,4k	4/2	48 x 30 x 19	Opt.	Opt.	240	2725.00												
	BBSM-15/15F	Ported	(2)15	10	Cone	1	Horn		50-15 ±3	98	150	350,1.6k	4/2	27 x 41 x 25	Opt.	Opt.	345	4800.00												
	SM-1/1F	Quadamp. Ported	(2)18	12	Cone	2, 1 1/2	Horns		28-20 ±3	104	100	200,800, 3.2k, 10k	4/2	39 x 49 x 32	Opt.	Opt.	450	16,625.												
	TM-3/3F	Biamp. Ported	(2)15	2	Horn	2, 1	Horns		34-16 ±3	97	100	800,4k	4/2	30 x 44 x 20	Opt.	Opt.	325	6775.00												
	TM-3VF	Biamp. Ported	(2)15	2	Horn	2, 1	Horns		34-16 ±3	97	100	800,4k	4/2	44 x 34 x 21	Opt.	Opt.	370	7525.00												
	HR-1/1F	Quadamp. Ported	(2)15	10	Cone	2, 1	Horns		34-16 ±3	97	100	250,1k, 5.2k	4/2	31 x 44 x 21	Opt.	Opt.	350	7625.00												
	HR-1VF	Quadamp. Ported	(2)15	10	Cone	2, 1	Horns		34-16 ±3	97	100	250,1k, 5.2k	4/2	48 x 34 x 21	Opt.	Opt.	375	8625.00												
HR-7UF/7U/7F	Quadamp. Ported	(2)12	10	Cone	1 1/2	Horns		48-20 ±3	95	100	400,1.8k, 7.2k	4/2	24 x 38 x 18	Opt.	Opt.	185	5975.00													

LOUDSPEAKERS

MANUFACTURER	Model	Design Principle, Enclosure or System Type	Woofer Diameter, Inches	Midrange Diameter, Inches	Midrange Type	Tweeter Diameter, Inches	Tweeter Type	Separate Level Controls / Woofer W. Midrange = 0, Tweeter = 1, Superwoofer = ST	Anechoic Frequency Response, Hz to kHz, ±dB	SPL, 1 Watt/1 Meter, ±dB	Recommended Min. Amp Power, Watts	Crossover Frequencies, Hz	Impedance, Ohms: Nominal/Minimum	Dimensions, Inches (To Nearest Inch)	Finish	Grille Color and Material	Weight, Lbs.	Price, \$
WHARFEDALE	504.2	Tuned Port	4			¾	Dome		48-22 ±3	86	20	3.5k	8/6.4	11 x 7 x 8	Black Knit	Black Knit	20 Pair	200.00
	505.2	Inf. Baf.	8			¾	Dome		42-22 ±3	87	20	5k	8/6.4	17 x 10 x 9	Black Knit	Black Knit	24 Pair	280.00
	Coleridge	Ported	8		1	Dome			45-20 ±3	89	30		8/	18 x 10 x 10	Black Vinyl	Gray Knit	30 Pair	700.00
	Harewood	Ported	8		1	Dome			40-20 ±3	89	30		8/	22 x 10 x 10	Ash Black	Gray Knit	36	1000.00
	Delta 30	Tuned Port	6½			¾	Dome		45-20 ±3	89	15	5k	8/6.4	15 x 8 x 6	Ash Black	Black Knit	17½ Pair	135.00
	Delta 50	Inf. Baf.	8			¾	Dome		45-20 ±3	89	15	5k	8/6.4	18 x 10 x 8	Oak Black	Black Knit	26¾ Pair	175.00
	Delta 70	Tuned Port	8			¾	Dome		40-20 ±3	89	15	3.5k	8/6.4	21 x 11 x 8	Oak Black	Black Knit	33 Pair	225.00
	Delta 90	Tuned Port	10	4	Cone	¾	Dome		35-20 ±3	89	15	1k,5k	8/6.4	27 x 12 x 9	Oak Black	Black Knit	33 Pair	350.00
	Diamond III	Tuned Port	4			¾	Dome		50-20 ±3	86	20	3.5k	8/6.4	9 x 7 x 8	Oak Black	Black Knit	15½ Pair	150.00
	Ritz Diamond	Tuned Port	6½			¾	Dome		40-22 ±3	90	15	5k	8/6.4	14 x 9 x 8	Oak Black	Black Knit	17½ Pair	225.00
	Active Diamond Plus	Powered Tuned Port	4			¾	Dome		50-20 ±3	Inc.	3.5k			9 x 7 x 8	Oak Black	Black Knit	18 Pair	175.00
WILSON AUDIO SPECIALTIES	WAMM Series VI	Sat. & Subwoof.	18, (2) 8¼x 11¼ 6½	(2)4½	Cones	(2)1, (9) 5x5	Domes, ES	W, M, T, ST	17-30 (Adj.)	99	50	55,400, 3k	4/3	Four Pieces	Opt.	Black Foam	1850 Sys.	88,000.00 w/EO
	WATT II	Ported	18		1	Dome	No		50-18 ±3	91	30	1.8k	4/2	12 x 14 x 17	Opt.	Black Foam	120 Pair	From 5700.00 Pair
	WHOW Universal Powered POW WHOW	Ported Subwoof. Powered Ported Subwoof.	18					W	16-55	91	80	55	30/11	17 x 29 x 40	Opt.		210	10,500.00 w/Xover
								W	16-55	91	400 Inc.	55		17 x 29 x 40	Opt.		260	13,500.00 w/Xover & Amp
WOLCOTT AUDIO	Omnisphere MDF-1	Ported	(4)6½		1½	Dome	T		30-18 ±3	90	20	2k	8/5	21 x 21 x 49	Oiled Oak Black Lacq.	Brown Knit Foam	110	4500.00 Pair
	Omnisphere MDH-2	Ported	(4)6½		1½	Dome	T		30-18 ±3	90	20	2k	8/5	21 x 21 x 49	Oiled Oak Black Lacq.	Brown Knit Foam	110	4750.00 Pair
XSTATIC SYSTEMS	EC-2	Inf. Baf.	10				ES	No	38-22 ±3	90	50	150	8/3	73 x 24 x 14	Opt.	Opt.	120	3850.00 Pair
	EC-3	ES	22x70						40-22 ±3	87	50		6/2	74 x 25 x 23	Opt.	Opt.	100	5200.00 Pair
	TL-X	Powered Trans. Line Subwoof.	(4)10						17-100 ±3	300 Inc.	100			74 x 22 x 22	Opt.	Opt.	290	3800.00 Pair
YAMAHA	NSA95	Ac. Sus.	4½			2	Cone		120-18	91	5		4/	9 x 9 x 3	Opt.	Opt., Knit	4¾	69.95 Pair
	YST SV-90	Bass Ref.	4¾			1	Dome		35-20			2.5k		15 x 10 x 9	Blue Knit	Blue Knit	9	450.00 Pair
	YST SF-90	Bass Ref.	(4)4			1	Dome		30-20			2.5k		12 x 20 x 4	Blue Knit	Blue Knit	12¾	900.00 Pair
	NS-E90	Bass Ref.	4						120-20	88	20		6/	5 x 10 x 5	Blue Knit	Blue Knit	4½	80.00 Pair
	YST-S1	Powered Bass Ref.	6			1	Dome		28-20		50 Inc.			17 x 4 x 15	Black Knit	Black Knit	18¾	1200.00 Pair
	NS-1	Ac. Sus.	6¼			1¼	Dome	T	60-30	86	60	2.5k	6/	8 x 15 x 11	Birch Knit	Brown Knit	20¾	w/Amp 499.00
	NS-10M	Ac. Sus.	7			1¾	Dome		60-20	91	50	2k	8/	8 x 15 x 8	Black Knit	Black Knit	13¼	199.00
	NSW10	Powered Subwoof.	8					W			60 Inc.		6/	15 x 10 x 17	Black Knit	Black Knit	29¾	359.00 w/Amp
	NSW2	Powered Subwoof.	10					W			40 Inc.		6/	18 x 14 x 12	Black Knit	Black Knit	26½	289.00 w/Amp
YST-SW100	Powered Subwoof.	(2)7½					W	24-150	91	70 Inc.		5/	8 x 22 x 16	Black Knit	Black Knit	35¼		
YANKEE AUDIO	FPR-72 MKII	Planar Ribbon	1020 Sq. In.						29-20 ±2	88	75		3/3	30 x 72 x 3	Opt., Wood	Opt., Knit	270 Pair	5800.00 Pair
ZEBRA ACOUSTICS	Z-6	Ducted Port	6½			2	Cone		60-20	93	5	1k	8/6	10 x 16 x 9	Black Ash Vinyl	Gray Knit	10¼	79.95
	Z-8	Ducted Port	8			2	Cone		45-20	94	5	1k	3/6	11 x 19 x 10	Black Ash Vinyl	Gray Knit	13½	99.95
	Z-10	Ducted Port	10	4	Cone	2	Cone		35-20	92	10	1k,5k	8/6	13 x 24 x 11	Black Ash Vinyl	Gray Knit	21	119.95
	Z-12	Ducted Port	12	4	Cone	2	Cone		25-20	90	10	1k,5k	8/6	16 x 31 x 13	Black Ash Vinyl	Gray Knit	32½	149.95
ZSE	380	Dipole							35-25	91	50	1.2k	8/6	34 x 17 x 27	Oiled Wal.	Brown Knit	45	1800.00 Pair w/Xover

Place Dir. Showcase tab here

DEALER SHOWCASE



Steve Campbell, owner

- Spectral
- Mark Levinson
- Bryston
- Magnum Dynalab
- Entec
- McIntosh
- Adcom
- NAD
- Luxman
- CWD
- Weil-Tempered
- Van den Hul
- MIT
- Rega
- Grado Signature
- Monster Cable
- California Audio Labs
- Pioneer LaserDisc
- Component Guard
- Martin Logan
- Klipsch
- Vandersteen
- Celestron SL
- Wilson Audio
- Spica
- Mitsubishi Video

205-539-9806

Monday-Saturday 10am to 6pm CST

All products priced at manufacturers suggested retail
Major credit cards accepted

2212 Whitesburg Dr., Suite E
Huntsville, AL 35801

audio one

ARCICI
BEDINI • CARDAS
CONVERGENT AUDIO TECHNOLOGY
DIMENSIONAL OPTICS
EBONY ACOUSTICS
EMINENT TECHNOLOGY
MAVRICK AUDIO
MELOS • MERRILL
MOREL & FEATURING:

NONSPEAKER

FREE SHIPPING (US) • IN HOME DEMOS
CUSTOM HOME INSTALLATIONS

LOS ANGELES 818/883-3826
SAN DIEGO 619/480-4804

**SERIOUS AUDIOPHILES
DESERVE SERIOUS SERVICE.**

Acoustat • AKG • Audible Illusions • Audio Pro •
Audioquest • Beyer Dynamic • Blaupunkt • Bose •
Celestion • Counterpoint • Crest • Dahlquist •
dbx • DCM • Dual • Fosgate • Grado Signature •
Hafner • Harman Kardon • JBI • JSE • Lexicon •
Magnum Dynalab • Mod Squad • NEC • Niles
Audio • Nitty Gritty • Ohm Acoustics • Onkyo •
Ortofon • Philips • Precise • Proton •
PS Audio • Revox • SAE • SME • Sonance • Sony •
Suniko • Stax • Straightwire • Superphon •
Talisman • TDK • Teac • Thorens • Ungo Box •
Velodyne • VPI • Wharfedale

Reference Audio Systems

Call Us . . . (213) 719-1500

18214 Dalton Ave., Dept. A10, Gardena, CA 90248

VALUEable

Products, Service and Consultation
designed to give you the maximum
performance for your dollar.

Adcom • B&W • Polk • NAD • Celestion • Carver
PS Audio • Kyocera • M&K • Denon • Terk
Proton • Pioneer Video • ADS • Tera
Canon Video • Stax • Magnum • Linn • Hafner
Ambria • Thorens • Mod Squad • Lexicon
Grado • Signet • Klipsch • Rotel • Nitty Gritty
Tara Labs • Livewire

**Systems
Design
Group**

(213) 370-8575
1310 Kingsdale Ave.
Redondo Beach, CA. 90278
Mon-Fri 11am-7pm
Sat 11am-6pm

AUDIOCENTER INC.

KRELL • KRELL REFERENCE
KRELL DIGITAL • KRELL CABLES
MARTIN-LOGAN • VANDERSTEEN
QUICKSILVER • STRAIGHTWIRE
ARAGON • SOTA • PROAC
B&W • CLEARAUDIO • REGA
ROTEL • EUPHONIC TECH • STAX
FALL DEMO SPEAKER SALE

4134 NORTH FEDERAL HIGHWAY
FORT LAUDERDALE, FLORIDA 33308

(305) 566-0233

OUR 20th YEAR!



MARK LEVINSON • QUAD • MIRAGE M-1 •
ARAGON • ADCOM • ORACLE •
MAGNEPLANAR • THETA DIGITAL •
MONSTER CABLE • STRAIGHTWIRE • NITTY
GRITTY • CWD • B&O • YAMAHA • PHASE
TECH • NILES • AUDIO PRO • PROTON
VIDEO • SUMIKO

SPECIALIZING IN HIGH DEFINITION AUDIO,
CUSTOM INSTALLATION & ENGINEERING

904-642-6677

**House
of
Stereo**

3505 Southside Blvd, Jacksonville, FL 32216



"Only the finest in audio components"

Electronics: Accuphase ■ Conrad
Johnson ■ Jeff Rowland ■ Motif ■ Muse
■ B and K ■ Marantz ■ Audio Dynamics
■ SAE ■ Dynalab ■ Mod Squad

Speakers: Sound Lab ■ Nestorovic
■ JSE ■ Dahlquist ■ DBX ■ Snell
■ Rauna ■ Fostex

Turntables: VPI ■ JA Michell ■ Systemdek

Accessories: Carnegie Two ■ Straight-
wire ■ Van den Hul ■ Audioquest ■ SME

Your unique audio specialist located at:

2740 E. Oakland Park Blvd.

FT. LAUDERDALE, FLORIDA 33306

(305) 564-0772-0773

FAX: (305) 564-0774

Dealers . . . Just
as you're reading
this ad, so are
thousands of
buyers.

For complete
information on
placing your
ad, call

Carol Berman at
(212) 719-6338.

SPEAKERS REBUILT

All makes, all models

Dealer for:

Carver

B&B Research

Rave

Audio Dynamics

Boston Acoustics

B.I.C.

K-Mod

Atlanta Sound Works

2901 Buford Hwy.

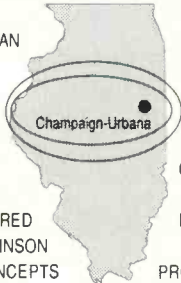
AT NORTH DRUID HILLS RD.

404-325-1808

Champagne AUDIO

THRESHOLD
MARTIN-LOGAN
THIEL
CAL
B&K
MIT
GRADO
MODSQUAD
WELL TEMPERED
CONRAD-JOHNSON
MUSICAL CONCEPTS

SPENDOR
FORTE
LUXMAN
PRECISE
SONRISE
HAFLER
CELESTION
ENTECC
DAHLQUIST
MAGNAVOX
PROTONVIDEO



39 E. Green St.
Champaign-Urbana, IL

I-57 to I-74, S. on Neil, E. on Green

SPEAKER SPECIALISTS!

Stop in our factory showroom
or call us at (312)-769-5640
for complete info on our full
line of high performance

SPEAKERS & KITS.

Authorized Dealer For:
Adcom*Arison*B&K*Counterpoint
Dynalab*Meitner*Musical Concepts
Parasound*Proton*PS Audio*VPI
VTL and more.

Car Audio:ADS*Boston Acoustics*Cooustic
Kenwood*Nakamichi*Soundstream

CHICAGO SPEAKERWORKS

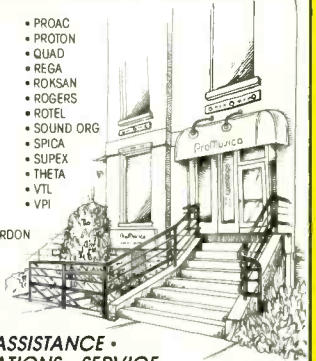
5700 N Western Ave, Chgo Il, 60659

ProMusica

AUDIO SPECIALISTS

WE SELL MUSIC: AUDIO EQUIPMENT
IS SIMPLY A MEANS TO THAT END.

- ACCUSTAT
- ADCOM
- ARAGON
- ARCAM
- ARICI
- AUDIOTECH
- BEYER
- CREEK
- CW3
- DUAL
- ENERGY
- GOLDRING
- GOODMANS
- GRADO
- HARMAN/KARDON
- JANIS
- LINN
- MOD SQUAD
- NAIM
- PARADIGM
- PROAC
- PROTON
- QUAD
- REGA
- ROSSAN
- ROBERTS
- ROTEL
- SOUND ORG
- SPICA
- SUPEX
- THETA
- VTL
- VPI



EXPERT ASSISTANCE •
INSTALLATIONS • SERVICE

2236 N. CLARK • CHICAGO, IL 60614 • 312-883-9500

Visit our **SPEAKER FACTORY SHOWROOM**
at 3021 Sangamon Ave., Springfield, IL 62702

Authorized Dealer:

- B&K/Sonata
- Thorens
- Sumo
- Soundcraftsmen
- Parasound
- Belles
- Fosgate
- Audio Dynamics
- Audioquest



LEGACY
SIGNATURE II

800-283-4644
call for literature

Reel to Real Designs

Aragon . . . Apogee . . . Audible Illusions
. . . Audioquest . . . Audio Research . . .
Bryston . . . Canon . . . Compact Discs
. . . Counterpoint . . . Creek . . . CWD . . .
Denon . . . Dynavector . . . Grado . . .
Lexicon . . . Livewire . . . Magneplaner
. . . Magnum Dynalab . . . Mariah . . .
Mark Levinson . . . Mission . . . NAD . . .
Nova . . . Pinnacle . . . Revolver . . . SME
. . . Sota . . . Sumiko . . . Sumo . . . Stax . . .
Symdex . . . Vandersteen . . . VPI . . . YAMO
And Much More!

Hi Fi Exchange

FORESIDE MALL • ROUTE ONE
FALMOUTH, ME 04105
(207) 781-2326

Audio Research	Infinity	Meitner
Oracle	Hafler	Vandersteen
KEF	Threshold	Rega Planar
Tandberg	Revox	Nitty Gritty
Snell	CWD	Sony ES
Nakamichi	MIT	Sme V
Denon	Koetsu	Velodyne
Carver	Monster Cable	Adcom
Rogers	Linn HiFi	Janis
NAD	Perreaux	
B&W		
Stax		

The
ultimate
audio
store.

Telephone
508
879
3556

401
Worcester
Road
Framingham
Massachusetts
01701

Natural Sound.

O'Coin's

SERVING CENTRAL NEW ENGLAND WITH
VALUED PRODUCTS FOR OVER 30 YEARS

AKG, APATURE, AUDIO CONTROL, AUDIO
DYNAMICS, AUDIOQUEST, BEYERDYNAMIC,
BOULDER, CARVER, DUAL, ESOTERIC, FORTE,
HAFLER, HARMAN/KARDON, HK CITATION,
INTRACLEAN, KEF, LEXICON, MAXELL, MISSION,
NAL, NITTY GRITTY, ONKYO, ONKYO GRAND
INTEGRA, ORTOFON, PANAMAX, PARASOUND,
PARSEC, POLK AUDIO, REVOX, SONY VIDEO,
TDK, TECHNICS, TRIAD . . . AND MANY MORE
AT PRICES THAT SOUND RIGHT.

O'COIN'S

239 Mill Street Worcester, MA 01602
508-791-3411 x 315
M-F 10-9pm, Sat 9-6pm
DISCOVER, MASTERCARD, VISA . . .
FINANCING AVAILABLE

JS

J S AUDIO

Our own line of handcrafted speakers
Speaker parts • Repair • Complete
audio & video systems featuring:

LUXMAN HAFLER
AUDIO DYNAMICS PROTON
HARMAN KARDON NEC

and more . . .

Come audition NEC's dynamic
PRO-LOGIC Renaissance
surround system

643 Speedwell Ave,
Morris Plains, NJ 07950
201-292-2799

Sauant Audio & Video

The Most In Musical Enjoyment
For The Novice & Connoisseur

Apogee • Arcici • Atma-sphere
Audio Prism • Audioquest • Basis
Benz • Cardas • Cello • Chesky
Chicago Speaker Stand • Classé
Clearaudio • Cogan Hall • Creek • Distech
Electron Kinetics • Eminent Technology
Garrott • Lantana • Last • Magnan
Merrill • Mod Squad • Morch • Nestorovic
Rega • Reference Recordings • Sequerra
Sheffield Lab • Souther • Superphon
Tara Labs • Tice Audio • Vendetta
Research • VMPS • VPI • Wadia • Yankee
& More

287 Clarksville Road
Princeton Jct., N. J. 08550
(609) 799-9664

DEALER SHOWCASE

THE FINEST IN HOME AUDIO, CAR STEREO & VIDEO EQUIPMENT

AUTHORIZED DEALER FOR

- ADS
- ADVENT
- AIWA
- AKG
- ALTEC LANSING
- AUDIO CONTROL
- AUDIO SOURCE
- CERWIN-VEGA
- CITIZEN
- CWD
- dbx
- DCM
- DENON
- HAFLER
- INFINITY (car)
- KENWOOD
- KICKER
- MITSUBISHI
- MONSTER CABLE
- MISSION
- ONKYO
- ORION CAR AMPS
- PHILIPS
- PINNACLE AUDIO
- POLK AUDIO (car)
- PROTON
- SAE
- SANSUI
- SONANCE
- SONY
- SOUND CRAFTSMEN
- STAX
- TOSHIBA
- TRIAD
- YAMAHA

Sound CITY
Meadtown Shopping Center
Route 23 South
Kinneton, N.J. (201) **838-3444**

ALPHA STEREO

Quality Components. Professional Installation & Service



"We are known for the
companies we keep"

Adcom, NAD, Rotel, Onkyo, Dual,
Mission, Celestion, Paradigm,
Soundstream, Audioquest,
Cooustic, Monster Cable, Ortofon
Polk Audio, Alpine, AKG

Northern NY's oldest & most renowned dealer
345 Cornelia St., Plattsburgh, NY 12901
518-561-2822

Monday-Friday 10am-8pm. Saturday 10am-6pm
Mastercard, Visa, Discover, Amex

Aural Gratification

- | | |
|----------------|----------------|
| APATURE | MONSTER |
| ARCAM | NAD |
| ASC TUBE TRAPS | ORTOFON |
| AUDIO CONTROL | SHURE HTS |
| AUDIO RESEARCH | SIGNET |
| AUDIOQUEST | SIMPLY PHYSICS |
| B&W | SME |
| DUAL | SONRISE |
| ENTEC | SONY ES |
| GRADO | SOUNDSTREAM |
| KRELL | STAX |
| LAST | SUMIKO |
| LAZARUS | TERK |

Simply The Best!

The Best BRANDS
The Best SERVICE
The Best ADVICE
The Best PRICE

New York's Custom Installation Experts!

AR • Adcom • Apogee • Audible Illusions • Audio
Research • Bang & Olufsen • Belles • B&K • B&W
Counterpoint • Dahlquist • Dual • Eminent
Technology • Grado • Harman/Kardon • Janis
JVC • Kinergetics • Live Wire • Monitor Audio
Monster/Genesis • NAD • NEC • Nakamichi
Phillips • Pioneer Video • Pioneer Elite • Polk Audio
Proton • PS Audio • Shure Ultra • Sony • Spendor
Stax • Straight Wire • Systemdek • Tara • Target
TDL • Thorens • VPI • And More of the Best!

AudioBreakthroughs

199 Amsterdam Ave. 1534 Northern Blvd. Turnbury Commons
New York, NY 10023 Manhasset, NY 11030 Woodbury, NY 11797
212/595-7157 516/627-7333 516/367-7171

audio experts

Integrity and Service!

SPECIAL EVENT

Wednesday, Oct. 18th 6-9pm

Join us for a presentation of
the phenomenal **Carver**
speakers. Representatives from
Carver will audition both the
Silvers and the Platinums. You
will receive a free compact
disc directly from Carver for
attending. RSVP. Refreshments will
be served.

We Specialize in Custom
Installations.

(914) 698-4444

875 Mamaroneck Ave.,
Mamaroneck, NY 10543



- | | |
|----------------|---------------|
| LIVEWIRE | TDL |
| MAGNUM-DYNALAB | THETA DIGITAL |
| MARTIN-LOGAN | VAN DEN HUL |
| MIRAGE | VPI |
| MISSION/CYRUS | WELLTEMPERED |
| MIT | WILSON AUDIC |



THE HI-FI OASIS
1980 Central Ave. • Albany, NY 12205 • 518 452 3525

Southeastern Ohio Sounds GREAT!

Infinity-Infinity Kappa
Boston Acoustics
Denon-Yamaha
Mitsubishi
Precise

Hi-tech a/v media room



132 Putnam Street
Marietta, Ohio 45750 614-373-6737

If It Sounds Too Good To Be True...It Probably Came From Us

Free Shipping • We Take Trades

Acoustat • Adcom • Aiwa • Aragon
• B&K • Classe • Cal Labs •
Conrad Johnson • Creek • Cyrus • Entec
• Epos • Heybrook • Janis • Linn •
Marantz • Mission • Mod Squad • NAD
• Naim • Paradigm • Philips •
Pinnacle • ProAc • Proton • Rega • Snell
• TDL • Thorens • Triad • VPI •



1428 SE 36th • Portland • Oregon
1 - (503) - 234 - 2052

ARCH ELECTRONICS INC.

2006 Chestnut St., Phila, PA 19103
(215) 563-4660

Complete Audio Video Store for
All Levels of HiFi Enthusiasts

Featuring:

- | | |
|----------------|------------------|
| ADVENT | GRADO |
| ARISTON | HAFLER |
| AUDIO DYNAMICS | JBL |
| BOGEN | MONSTER CABLE |
| CAMBRIDGE | PASO |
| CELESTION | SONY HI-FI/VIDEO |
| DISCWASHER | TECHNICS |

... AND MORE!!

MAIL ORDER INVITED

Accepting Visa & Mastercard

PHILADELPHIA AUDIOPHILES

We proudly represent:

Acoustic Energy	Kimber Kable	Rogers
Adcom	Kinergetics	Rotel
Apogee	Klyne	Royd Audio
Arcam	Koetsu	Snell
Ariston	Lazarus	Soundcraftsmen
Audioquest	Maplenoil	Sound Lab
B&K Components	MFA Systems	Stax
Cambridge	Micro Seiki	Straightwire
Celestion	Mission/Cyrus	Sumiko SME
Counterpoint	M&K Sound	Superphon
Dynavector	Mod Squad	Systemdek
Eminent Tech.	NAD	Target
Goldring	Oracle	Triad Design
Grace	Parasound	Van Den Hul
Grado	PS Audio	VPI
Infinite Slope	Rega Planar	Well Tempered

SOUND SERVICE CO.

8010 Bustleton Ave. Philadelphia, PA 19152
(215) 725-1177-8 Bank Cards Accepted

Acoustat
Aragon
Ariston
Audible Illusions
Audioquest
B&K • CAL
Celestion
conrad-johnson
Creek
Eminent Technology
Grado
Heybrook
Kimber Kable
Koetsu
Madrigal Carnegie
Magnum Dynalab
MIT • Meitner
Monster
ProAc
PS Audio
Quad
Quicksilver
Rega Planar
Rotel
SME
Sonographe
Spendor
Spica
STAX
Superphon
Vandersteen
VPI • VTL
Well-Tempered



Rhode Island's
State-Of-The-Art
Audio Store.

**OCEAN
STATE
AUDIO**

304 Thayer Street
Providence, RI
(401) 521-1140
Open Mon-Fri 11-8, Sat 11-6

Introducing Texas' New Definitive Reference

ADS • Analogic • Ariston
Bryston • Classe' • Duntech
Dynavector • Esoteric • Goldring
Hales • Krell • Digital • Luxman
MIT • Mordaunt-Short
Oracle • Rotel • Snell

**AUDIO
INSIGHT**

Located in Dallas Texas
214/437-4167

Your Most Valuable Component



You are undoubtedly a knowledgeable Audiophile, or you would not be reading this magazine. But shopping for a new component can be a very frustrating experience. Lack of expertise on the part of many audio salespeople is commonplace, and hype seems to have replaced honesty. Let's change that; call me today (I answer all calls personally) for a respite from mediocrity. I think you will be pleasantly surprised with my philosophy of doing business.

-Galen Carol

Apogee • Threshold • SOTA • Convergent Audio • Vendetta • Quad • Counterpoint • WATT • Classe • Celestion • SME • Quicksilver • California Audio • VPI • Aragon • Spica • Eminent Technology • B&K • Alma-Spheres • Audible Illusions • Arcam • Forte • Stax • Target • RAM • Sound Anchors • Arcici • Alphason • Premier • ASC • Superphon • and many more!

Free Informative Newsletter • Monthly specials on new, used and demo equipment.

Galen Carol Audio

P.O. Box 17562 San Antonio, TX 78217 512-494-3551

The Texas Specialists

AUDIO

- B&W • B&K • Sony ES • Luxman
- Carver • Allison • Sonance • Velodyne
- Lexicon • Canton • Ohm • Shure
- Sound Connections • Van den Hul • M&K
- Dual • Ortofon • Sennheiser • Niles Audio
- Proton • Bose • Sonrise/Xylophile • Target
- Monster Cable • Parasound • Ambria
- White Instruments • Terk

VIDEO

- Sony • Proton • JVC • Minolta • Panasonic
- Sonrise/Xylophile • Pioneer

AUDIO



Financing Available
We Accept All Major Credit Cards

2624 Westheimer at Kirby
Houston, Texas 77098 713-523-2900

OMNI SOUND

For the
sound
mind

Analogic Design Group
ASC Tube Traps
Athena
Audible Illusions
Audioquest
Avalon Acoustics
Chicago Speaker Stand
Clearaudio
Duntech
Eminent Technology
Forte' Audio
Grado
Jeff Rowland Design Group
Kimber Kable
MIT
Monster Cable
Nitty Gritty
Onkyo
Precise Acoustics
Proton
PS Audio
Sony ES
SOTA
Southern
Spectrum
Spica
Thiel
Threshold

DALLAS, TEXAS...214/931-6664
4833 Keller Springs Road (75248)

Vermont's Audio Leader!

ARISTON
TOSHIBA • AIWA • DUAL
PARADIGM • A&R CAMBRIDGE
DENON • SUPERPHON • KLIPSCH
KEF • ADVENT • ADS • ROTEL
MARANTZ • REGA • AUDIOQUEST
B&K • AUDIO CONTROL • AKG
SENNHEISER • CREEK • GRADO
TARGET • AVIA • AUDIOLAB
ORTOFON • SPICA • KIMBER
PRO-AC • VPI • MAGNUM

"INTELLIGENT AUDIO AT
REASONABLE PRICES"



207 College St • Burlington, VT • 802-863-4372

SENSIBLE, PERSONAL HiFi ADVICE, TOLL-FREE

HERE IN VERMONT, PEOPLE DEMAND VALUE.
WE DON'T WASTE CUSTOMERS' MONEY,
AND NEITHER DO THESE FOLKS:

ADCOM ARISTON CELESTION DUAL
GRADO LABS HAFLER MAGNAVox CD
MOD SQUAD MONSTER CABLE NAGAOKA
ORACLE POLK ROTEL WHARFEDAILE

5-YEAR WARRANTIES ON ALL NEW EQUIPMENT,
INCLUDING CD PLAYERS, TURNTABLES, AND TAPE DECKS!
NO CHARGE FOR SHIPPING.

128 MAIN ST.
BRATTLEBORO VERMONT 05301
SCIENTIFIC STEREO
1-800-456-HIFI

LISTEN UP!

We have developed a modification that dramatically improves the sound of all compact disc players at a price that is a true bargain ... only

\$105.00 U.S.

Money Back Guarantee

For information and review about this procedure, please send a self-addressed stamped envelope to the address below or feel free to call us

Executive Stereo

896 Queen Street West
Toronto, Ontario M6J 1G6 Canada
(416) 538-4000

CLASSIFIED ADVERTISING

CLASSIFIED ADVERTISING LINE ADVERTISING

CLASSIFIED LINE ADS ARE PAYABLE IN ADVANCE BY CHECK OR MONEY ORDER ONLY. (Sorry, we cannot accept credit cards or bill for line advertising.) ALL LINE ORDERS should be mailed to:

AUDIO MAGAZINE, P.O. Box 9125
Dept. 346-01, Stamford, CT 06925

ORDERS WILL NOT BE PROCESSED WITHOUT ACCOMPANYING PAYMENT FOR FULL AMOUNT. Agency discounts do not apply to line advertising.

CLOSING DATE—First of month two months preceding the cover date. If the first of the month falls on a weekend or holiday, the closing date is the last business day preceding the first. ADS RECEIVED AFTER THE CLOSING DATE WILL BE HELD FOR THE NEXT ISSUE UNLESS OTHERWISE STATED.

GENERAL INFORMATION—Ad copy must be typewritten or printed legibly. The publisher in his sole discretion reserves the right to reject any ad copy he deems inappropriate. ALL ADVERTISERS MUST SUPPLY: Complete name, Company Name, Full street address (P.O. Box numbers are insufficient) and telephone number. Classified ads do not carry Reader Service Card Numbers.

DISPLAY ADVERTISING

DISPLAY ADVERTISERS should make space reservation on or before the closing date. Ad material (film or velox) may follow by the tenth. DISPLAY ADVERTISERS MUST SUPPLY CAMERA READY ART. PRODUCTION CHARGES WILL BE ASSESSED ON ANY AD REQUIRING ADDITIONAL PREPARATION.

ALL DISPLAY CORRESPONDENCE should be sent to:

Carol A. Berman, AUDIO MAGAZINE
1151 Broadway, New York, NY 10036

FOR RATES & ADDITIONAL INFORMATION:

DISPLAY ADS: Carol Berman (212) 719-6338
CLASSIFIED LINE ADS: 800-445-6066

TFS - the cable with Natural Advantages... 99.9999% PURE SILVER



Hand crafted & individually tested.

LEKTRAFIL SYSTEMS INC

593 PHELPS AVE., VICTORIA, B.C. CANADA V9B 3J2
(604) 474-5667 • DEALER INQUIRIES WELCOME



Your search for refinement will end here.

Brown Electronic Labs

2530 Berryessa Rd., Suite 126, San Jose, CA 95132

ANNOUNCEMENTS

Aaaannouncingggg!! Aaaannouncingggg!!

MOSCODE HYBRID HAFLER

POWER AMPS—Enjoy the benefits of Moscode™ Tube Technology with a Moscode™ Conversion for Hafflers. Call/Write: SOUND SERVICES, 238 Liberty Ave., New Rochelle, NY 10805. (914) 633-3039.

AUDIO RESOURCE HAS MOVED to its new 4400 sq. ft. store at 3133 EDENBORN AVENUE, METAIRIE, LOUISIANA 70002. We now have five private listening rooms where you can audition one of the LARGEST SELECTIONS of HIGH END AUDIO EQUIPMENT in the country. AUDIO RESOURCE continues to offer precision-matched tubes, plus sales, service, and restoration of vintage components. Call or write for information on our products and services AUDIO RESOURCE, 3133 EDENBORN AVE, METAIRIE, LA 70002. (504) 885-6988.

ANNOUNCEMENTS

AUDIO CLASSICS

Precision Stereo Components Bought-Sold-Traded-Repaired-Modified-Updated-Appraised. **AMPLIFIERS:** Conrad-Johnson Premier 1B (\$5950) \$3900; Hafler XL280 Demo (\$675) \$575, XL600 Demo (\$1195) \$995; Krell KMA100 II (\$6000) \$3500, KSA100 II (\$3650) \$2500; McIntosh MC30 \$2-300, MC40 \$400, MC50 pr. \$500, MC60 \$550, MC225 \$700, MC240 \$800, MC250 \$350, MC502 (\$1100) \$650, MC752 (\$895) \$625, MC2120 \$850, MC2250 (\$2495) \$1700, MC2300 \$1700, MC7200 (\$2495) \$2100; Threshold S200 (\$1950) \$1200. **CD PLAYERS:** Magnavox; McIntosh MCD7000 (\$1399) \$8-900, MCD7005 (\$1599) \$1200, MCD7007 (\$1995) \$1600; Revox B225 (\$1150) \$525. **EQUALIZERS:** Audio Control C101 (\$429) \$399, Octave (\$179) \$149, Ten \$229, Ten Plus (\$329) \$295; Cello Palette (\$12,864) \$7,500; McIntosh MQ101 \$99-175, MQ102 \$60, MQ104 (\$500) \$99-285, MQ107 (\$650) \$400. **HEAD AMPS:** Audio-Research MCP33 (\$1395) \$700. **INTEGRATED AMPLIFIERS:** McIntosh MA230 \$399; MA5100 \$400, MA6100 \$500-600. **PREAMPLIFIERS:** Cello Etude (\$1200) \$800; Conrad-Johnson PV1 \$375, PV4 (\$495) \$375; Hafler Iris Demo (\$800) \$679; Krell KRS1A (\$8200) \$5900; McIntosh C11 \$700, C20 \$600, C22 \$1800, C24 \$250, C26 \$400, C28 \$500, C31V (\$1895) \$1500, C34V (\$2195) \$1800. **PROCESSORS:** Audio Control Phase Coupled Activator (\$279) \$239; dbx 110 NEW (\$99) \$49; Lexicon CP1 (\$1295) \$1050, CP2 (\$895) \$799; Nakamichi HiCom II (\$480) \$100. **RECEIVERS:** McIntosh MAC1700 \$450, MAC1900 (\$949) \$500, MAC4100 \$1050, MAC4275 (\$1798) \$1200. **SPEAKERS:** Acoustat Spectra 33 (\$2250) \$1999; Apogee Duetta Signatures (\$3735) \$2585; Castle Durham (\$575) \$475; Dahlquist DQ10 \$600; JSE Infinite Slope Demos .6 (\$599) \$475, Used 2 (\$2295) \$1400; McIntosh ML1C \$550, ML2C (\$1598) \$700, ML4C (\$2400) \$900-1800, XL1 (\$525) \$375, XL1W (\$549) \$375, XR5-19 \$900, XR6 \$800, XR16 \$800, XRT20 \$3200; Velodyne 1200 (\$895) \$815, ULD12 (\$1195) \$1095, ULD15II (\$1795) \$1669, ULD18II (\$2595) \$2395. **TAPE DECKS:** Tandberg TCD330 \$300. **TEST EQUIPMENT:** Audio Control SA3050A 1/3 Octave Real Time Analyzer (\$965) \$877; McIntosh MPI4 \$1400; Sound Technology 1000A \$1500, 1701A (\$4950) \$3250. **TUBES:** Many major brands. **TUNERS:** Magnum Dynalab FT101 Demo (\$698) \$599, 205 Demo (\$229) \$199, FT101A Demo (\$1195) \$995, FT11 Demo (\$449) \$425; McIntosh MR55 \$100-350, MR65B \$200-500, MR66 \$350, MR71 \$600-750, MR73 \$450, MR75 (\$1349) \$800, MR80 (\$2495) \$1500. **TUNER PREAMPS:** McIntosh MX110 \$250-500, MX112 \$450, MX117 \$1200. **TURNABLES:** Ariston Icon (\$520) \$439, Q-Deck (\$365) \$289; Dual CS5000 (\$569) \$399. Audio Repairs-Updates-Modifications by Cliff Ramsey, former Senior Service Technician at McIntosh with over 25 years experience. **FREE** Catalogue. Layaway Program. Major Credit Cards accepted. 8AM-5PM EST Mon.-Fri., **AUDIO CLASSICS**, POB 176 Walton, NY. 13856

607-865-7200

—Audio Advertiser for over a Decade—

We Are Pleased To Introduce



Now The Exclusive American Importer Of Koetsu Moving Coil Cartridges.

For Information On The World's Finest Phono Cartridges Please Contact

Eric Block, Vice President
Koetsu USA, Inc.
712 South Military Trail
Deerfield Beach, FL 33442

Telephone: 305-698-6102 Fax: 305-480-6410

Dealer Inquiries Invited

ANNOUNCEMENTS

ATTENTION TUBE ENTHUSIASTS

We are pleased to introduce our first kit product: a tube amplifier in the Dynaco tradition with parts quality and performance comparable to or exceeding that of units costing several times more.

SF-75 TUBE MONOBLOCK AMPLIFIER-1 (Conservatively rated (1) 75 watts/channel, 2) Massive 1000ul power supply with shunts, 3) Regulated B+ for input/driver stage, D.C. on filaments, 4) GOLD AERO tubes (M.P. on outputs/individually biased), 5) TIFFANY input & MUSIC-POST speaker jacks, 6) REL-CAP polystyrene coupling and shunt caps, 7) VISHAY & HOLCO resistors, 8) Custom CARDAS signal wire, 9) Highest quality ultra-linear output transformer, 10) Operates on either 100/120/220/240 Volts. DECEMBER 1989 AVAILABILITY. ESTIMATED PRICE \$1395.00 U.S. (1595.00 CAN.) per pair + shipping. Please CALL, WRITE or FAX for further information.

SONIC FRONTIERS

181 KENILWORTH AVENUE, TORONTO, ONTARIO, CANADA. M4L 3S7. TEL: (416) 691-7877, FAX: (416) 338-2562.

Audio Abode, Dallas' sensible alternative, features products by Audioquest, Aural Symphonics, B&K, BEL, Chesky, Clearaudio, Eminent Technology, Focus, Maplenoll, Melos, Morrison, Quicksilver, Reference, Sheffield, Superphon, Tice, VPI and others. Auditions by appointment, evenings and weekends. (214) 369-2092.

C A B E R N E T

PREMIUM CD TURNTABLE

A precision, highly refined laser assembly combined with the ultimate in laser/motor control electronics. This CD front end is mounted in an exquisitely designed, highly damped base with digital electrical/optical outputs. The Barclay Cabernet connected to the latest D/A converter boxes provides CD playback which is unsurpassed.

BARCLAY CABERNET

BARCLAY CD Turntables and players are designed and manufactured by SOLOIST AUDIO. Details, call or write 348 Tuttle Rd., San Antonio, TX 78209 1-800-648-6637.

CASH PAID FOR STEREO/VIDEO EQUIPMENT & CD'S. BUY-SELL-TRADE. AMEX/DISCOVER/MC. STEREO VIDEO EXCHANGE, 485 ROUTE 1, EDISON, NJ 08817 (201) 985-1616, FAX: (201) 985-7574.

...CIZEK'S BACK!..

BRAND NEW DESIGNER SERIES SPEAKER SYSTEMS. Features new innovations including patented crossover network. Repair, modify & upgrade old Cizek speaker systems. HTA INC., 1611 Crenshaw, Torrance, CA 90501, Suite 142, Dept. AM1089 Phone (213) 539-2469 Voice Box 300.

High-end and hard-to-find audio components. New and used. Foreign and domestic. Low, low prices! **AUDIO AMERICA** (Virginia). Call 1-703-745-2223.

HOUSTON HIGH END

THE ESOTERIC EAR is your only outlet for the finest in home audio! **Expert consultation**, "home-style" sound rooms, **no pressure** atmosphere. Free newsletter. Featuring: SimplyPhysics—VPI—SOTA—PREMIER—EMINENT TECHNOLOGY—TALISMAN—AUDIOQUEST—PHILIPS—MAGNUM—ROTEL—MELOS—DISTECH—MOD SQUAD—PRODIGY—VANDERSTEEN—COUNTERPOINT—KRELL—APOGEE—MARTIN LOGAN—Audiophile LP's & CD's—Audiophile Magazines.

13194 VETERANS MEMORIAL PARKWAY

713-537-8108

INVESTORS WANTED: On Dec. 20, 1989, the most advanced and unique acoustic generating device will be available to the discriminating esoteric audiophile. This state of the art speaker shall be the best and like no other. Period. (Pat. Pend.) For more information on the concept of becoming associated with this speaker company; please send \$15.00 to: AWH, P.O. Box 591, Bellport, N.Y. 11713.

electronics

AUDIO RESEARCH
BRYSTON • DENON
KLYNE • MAGNUM
N.A.D. • ROTEL
THRESHOLD

loudspeakers

INFINITY • M & K
MARTIN LOGAN
PARADIGM • THIEL
VANDERSTEEN

phono c.d.

GRADO • MERIDIAN
ORACLE • PROCEED
SME • SOTA
SUMIKO • THORENS
VPI • van den HUL

cables

audioquest • M.I.T.
MONSTER/SIGMA

other good stuff

A.S.C. Tube Traps
C.W.O. furniture
"Phantom" Shadows



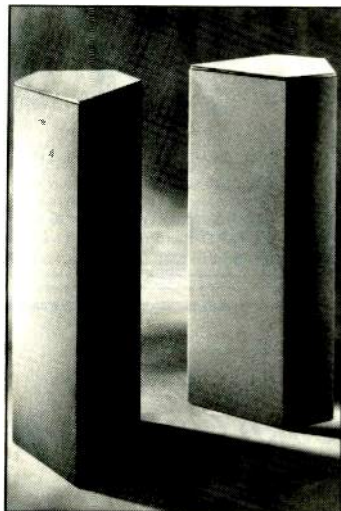
Over the past eight years, we've been chosen by these eight manufacturers to be their **exclusive dealer for all Long Island:**

Audio Research
Bryston • Klyne
Martin Logan
Oracle • Proceed
Thiel • Threshold

Visit us...We'll become *YOUR* choice, too!

4 Large Music Rooms • Private Demos by Appointment
Delivery and Expert Installation throughout Metro New York
1067 MONTAUK HIGHWAY
WEST BABYLON, NEW YORK **(516) 661-3355**

AudioVisions



Soundwave Baffleless Loudspeakers

REFLECTION FREE SOUND

Soundwave loudspeakers have the open, seamless, and transparent sound of the best "panel" (electrostatic, ribbon, and planar) speakers, while offering the superior dynamic range and extended bass response of the best "dynamic" designs. And they offer a stereo image that is second to none.

A revolutionary patented design, achieved by the utilization of acoustic intensity mapping techniques, Sound

wave loudspeakers have a unique "baffleless" enclosure, special drive units, and a 180 degree radiation pattern. The result is sound so natural and three dimensional, you'll think there are live musicians performing in your listening room.

"...The net result was a big, smooth, open sound, exceptionally free from typical box coloration." —Jim Stoneburner, *Stereophile*, Vol. 12, No. 7, July 1989

"Soundwave loudspeakers create a breathtaking stereo image, possess extraordinary dynamic range, and are harmonically correct; they're the most musical I've ever heard," says Dr. Christopher Rouse, world famous composer.

For further information, write **Soundwave Fidelity Corp.**
3122 Monroe Avenue, Rochester, New York 14618 • (716) 383-1650

TIFFANY

THE CRITICS' CHOICE

Demand Responsive Power Cord

TIFFANY ELECTRONICS announces the first power cords (patent pending) specifically designed for audio that meet UL standards, an exotic product at a realistic price.

These power cords have proven to offer dramatic improvements in sound quality in both large power amplifiers with large current draw as well as in pre-amps, turntables and other AC powered units in the audio chain.

The two models (TPC-60 designed for 60 Hz lines; the TPC-50 for 50Hz) are tuned to their respective AC line frequencies. Just as a ported loudspeaker is most efficient at its resonant frequency, the same holds true for power transmission through a complement of wire.

OEM & EXPORT SALES: TIFFANY ELECTRONICS GROUP (212) 744-4456

U.S. DEALER SALES: PANTHER ENTERPRISES (213) 399-4434

CANADIAN DEALER SALES: DAUMIER MARKETING (416) 528-8999

MBI

TIFFANY ELECTRONICS GROUP

PH (212) 744-4456 FAX (212) 744-5276

DIV. OF M. BERN'S INDUSTRIES, INC. BOX D GRACIE STA. NEW YORK, NY 10028

ANNOUNCEMENTS

Micro Music Manager, Opus 2, No. 2, a database manager for the classical enthusiast. Cap. limited only by fixed disk size. 13 fields per record. Query, Sort, Print, Text Search, View, Find, Attach notes, Word Completion, Rebuild, Template feature, more IBM PC, compatibles w/512K. \$65.00 includes s/h. MC/VISA (expir. date) M3 Software, P.O. 27638, Austin, TX 78755

MOSCODES, FUTTERMANS, AUDIO RESEARCH SP3, 6 & 8'S MODIFIED & SERVICED BY GEORGE KAYE, Moscode Designer—Tremendous improvement. Protect your investment. SOUND SERVICES, 238 Liberty Avenue, New Rochelle, NY 10805. (914) 633-3039.

NO HYPE...JUST GOOD MUSICAL DEMONSTRATIONS. NO PRESSURE...JUST GOOD ADVICE.

We have built **Satisfying Musical Systems** with our customers for 20 years and we do installations...anywhere. We Make Music with CREEK, LEVINSON, LINN, PROCEED, SONOGRAPHIE, VANDERSTEEN and more...Visit us for an enjoyable listening experience. We can accommodate you best by appointment.

THE SOUND ENVIRONMENT
OMAHA and LINCOLN, NEBRASKA
402-391-3842

... NONSPEAKER™
RESOLUTE, MUSICAL & ULTIMATE. 619/480-4804.

PHONON ACOUSTICS

PARTNERS WANTED in joint venture producing revolutionary speaker design. For information please send \$15 to PHONON ACOUSTICS, 6 Burr Oak Drive, Pittsford, NY 14534.

SAVE 40% ON HIGH-END HOME SPEAKERS, SUBWOOFERS, AMPLIFIERS. FREE CATALOG!! CATALOG, 3021 SANGAMON AVENUE, SPRINGFIELD, IL 62702. 1-800-283-4644.

SOUND ADVICE

STEREO BUYING GUIDE PROGRAM! Enter price and specifications, program prints out ratings. IBM or compatibles. Specify disk size. \$19.95 + \$1.75 P&H (TX +6%). 2,300-unit data base: \$6.00. GAELRIC SOFTWARE, P.O. Box 22393, Houston, TX 77227-2393. 713-772-6949.

SUPER PURE COPPER

Ultron Speaker Wire, Interconnects and Power Cords—Wire 100 times purer than oxygen-free copper. Also Audiophile Quality Power Strip. Clarity Audio Systems (415) 641-7130.

THE STEREO ILLUSION
DIFFUSE FIELD EQUALIZATION by PRECIPICE

Stereo, imperfect by definition, cannot realize its potential. Flat frequency response is heard inaccurately because inner ear comb filtering alters timber and image perception (Audio 12/83). Diffuse field contouring creates flat response at the eardrum. PRECIPICE first to introduce Diffuse Field Equalization for loudspeakers, incorporates crosstalk cancellation achieving your system's potential stereo illusion. Patent pending. Not for electrostatic loudspeakers, bridged and floating ground amplifiers.

Diffuse Field Equalization for STAX earspeakers SRD4/6/7 drivers. Affordable alternative to STAX ED-1. Dramatic imaging, spacious, forward. Minimizes above and behind the head localization. Natural timber reduces fatigue. Stax becomes the true alternative to loudspeakers.

Discreet output line level circuitry, air core coils, film capacitors and resistors, eliminates active signal processor limitations and distortion. \$249 a piece, 14 day return. BOX 21818, SOUTH EUCLID, OH 44121. Brochure available.

Audio Den Ltd.

Authorized Sales and Service

Serving The Discerning Audiophile Since 1975

- ADCOM*
- ARAGON
- ARCAM
- ARISTON
- B & K
- CAL
- CELESTION
- CONRAD-JOHNSON
- CWD
- DUAL
- GRADO
- HAFLER

- KLIPSCH
- MAGNEPAN
- MIRAGE
- M.I.T. CABLES
- MONSTER CABLES

- NAD
- NAKAMICHI*
- PARADIGM
- ROGERS
- SHURE ULTRA

- SONANCE
- SONOGRAPHIE
- SOTA
- SOUNDSTREAM
- SSI
- STAX
- THETA DIGITAL
- VAN DEN HUL
- VELODYNE
- V.T.L.
- WELL-TEMPERED
- YAMAHA*

*IN STORE ONLY

2021 SMITH HAVEN PLAZA (ROUTE 347)
LAKE GROVE, N.Y. 11755

(516) 360-1990

Auditions By Appointment

What price Performance?

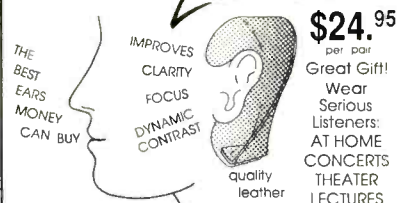
Modular speaker systems that offer high accuracy and flexibility!

Prices start at \$450.00

Lantana

P.O. Box 1958 • Garden Grove, CA 92642
(800) 234 - TADS (8237)

NEW AND IMPROVED EARS BY
SERIOUS Listeners®



THE ORIGINAL LISTENING ENHANCEMENT TOOL
We guarantee you will hear the difference!

Send check or money order for \$24.95 to:
Serious Listeners P.O. Box 565 Burlingame, CA 94011
Phone Orders: 800-326-1201 Dealer inquiries welcome



ATTENTION RECORD COLLECTORS



What do the Library of Congress, the Smithsonian Institute, hundreds of radio stations, record stores and libraries have in common?

They all use VPI Record Cleaners to clean their valued records.

“VPI—THE PROS CHOICE!”

VPI Industries Inc., 77 Cliffwood Avenue, #3B, Aberdeen, NJ 07721
Tel: 201-946-8606 Fax: 201-946-8578

ANNOUNCEMENTS

"THE CONNECTION" professional termination for 12 gauge to 10 gauge speaker cable. New design developed after six years of research. Fits equipment with holes for cable insertion and/or clip-on securing device. Large size and unique design. Improvements over previous design are: 1-The base and treble audibility, 2-Definition, 3-Imagery, 4-Time alignment & 5-Separation. An inexpensive upgrade that can be heard. Costs less than \$18 per set of four, less than \$34 per set of eight. May be crimped on, soldered on, or both. "THE CONNECTION" will be available approximately November 1989. Send inquiries to: JACK'S TERMINATIONS, 10646 West Sundance Mountain, Littleton, CO 80127 or phone (303) 973-0292 after 7PM Mountain time. More details in following issues of Audio.

FOR SALE

AAA—AUDIO ELITE IN WISCONSIN!!!

DENON, HAFLER, PS AUDIO, YAMAHA, B&K, JSE, NAKAMICHI, PROTON, CARVER, ONKYO, ADS, VPI, DCM, SPECTRUM, SONOGRAPH, AR, FRIED, NITTY GRITTY, SUMIKO, THORENS, KEF, ADCOM, SUPERPHON, SNELL, M&K, LUXMAN, BOSE, PHILLIPS, DCM, VELODYNE and any others you desire. (414) 725-4431.

CALL US WE CARE!!!

AAA-CALL US LAST! LUXMAN, DENON, AR, YAMAHA, CARVER, BOSTON ACOUSTICS, ADCOM, PS AUDIO, HAFLER, ADS, B & K, ONKYO, KEF, PROTON, SNELL, DCM, NAKAMICHI, INFINITY, JSE, SPICA, SUPERPHON, M & K, BOSE SPECTRUM, VPI, SONOGRAPH, SUMIKO, THORENS. WHY CALL US LAST? 414-727-0071. WE HAVE THE LOWEST PRICES!!!

AAAFORDABLE, MUSICAL COMPONENTS

BY: B&K • VPI • SME • MIT • TARA • KIMBER • MFA • BERNING • SUPERPHON • MUSICAL CONCEPTS • ROTEL • KINERGETICS • EMINENT TECHNOLOGY • WELL TEMPERED • PREMIER • GRADO • GARRETT • FRIED • SOUND LAB • PRECISE • ARCICI, and more! Call for best prices. ALPINE AUDIO, (703) 628-3177

AAA—LOW PRICES—HIGH END EQUIPMENT!!!

DENON, PS AUDIO, HAFLER, YAMAHA, B&K, CARVER, AR, NAKAMICHI, SUPERPHON, LUXMAN, THORENS, M&K, SNELL, SPECTRUM, INFINITY, ONKYO, PROTON, KEF, SONOGRAPH, FRIED, NITTY GRITTY, SUMIKO, BOSE, PHILLIPS, DCM, VELODYNE and any others you desire. AUDIO ELITE, (414) 725-4431, Menasha, Wisconsin.

OUR PRICES CAN'T BE BEAT!!!

ADCOM and B&K MODIFICATIONS by MUSICAL CONCEPTS

Musical Concepts, enjoying our 10th successful year, brings unmatched expertise to Adcom and B&K. Our record is clear! When our products are reviewed, they're compared to the best (*The Absolute Sound*™ #55). Now owners of B&K and Adcom can enjoy the kind of sound that has made Musical Concepts a "runaway" success! Adcom modifications from \$195, B&K from \$219, options include special wire/connectors and dual-mono. Musical Concepts, One Patterson Plaza, St. Louis, MO. 63031, 314-831-1822, DEALER INQUIRIES INVITED.

ADCOM, B&K, HAFLER MODIFICATIONS

PROPRIETARY CLASS "A" F.E.T. CIRCUITRY TRANSFORMS THESE AMPLIFIERS INTO PRISTINE EXAMPLES OF MUSICAL REFINEMENT, OUR MONEY-BACK POLICY PROVES IT! ADCOM AND B&K \$269.00 INSTALLED; REPLACEMENT INPUT BOARDS FOR HAFLER DH SERIES \$200.00 KIT, \$300.00 INSTALLED.

CD PLAYERS

F.E.T. MAGIC FOR YOUR MAGNAVOX PLAYER \$199.00 INSTALLED. ALSO, OUR COMPLETE CDB-582 WITH CLASS "A" DISCRETE F.E.T. OUTPUT, A FIRST AT THIS PRICE! \$599.00 INCLUDING 2ND DAY AIR SHIPPING AND OUR MONEY-BACK GUARANTEE!

SUPERMODS

2375 WEST 21ST AVE., EUGENE, OR 97405. 503-344-3696

WAVETRACE TECH.

4215 EAST BAY DR. #1205C, CLEARWATER, FL 34624. 813-536-2904

A JANIS BASS SYSTEM

IT'S THE CHOICE
WHEN ONLY THE BEST WILL DO

- Perfect coherence with all speakers
- Flat, calibrated low bass response
- No exaggerated, equalized bass response
- High speed transient response
- Up to four times more amplifier response
- Up to four times more speaker response

John Marovskis Audio Systems, Inc.
2889 Roebing Avenue
Bronx, New York 10461 (212) 892-7419

FOR SALE

AAA-YAMAHA, DENON, CARVER, BOSTON ACOUSTICS, LUXMAN, AR, ADCOM, PS AUDIO, HAFLER, ADS, B & K, ONKYO, KEF, PROTON, SNELL, DCM, NAKAMICHI, INFINITY, NAD, JSE, SPICA, SUPERPHON, M & K, SPECTRUM, VPI, BOSE, SONOGRAPH, SUMIKO, FRIED, THORENS, PLUS A LARGE SELECTION OF OTHERS 414-727-0071.

ABSOLUTE POLARITY/LEVEL/BALANCE infinite resolution remote controller for virtual direct-wire auditioning by the serious Audiophile. Change polarity instantly, select alternate inputs, make precision level/balance adjustments from your favorite listening position. The Thornton Controller Model 100. \$985 from TBG Productions, P.O. Box 34710, San Francisco, CA 94134. FAX (415) 468-5481. PHONE (415) 467-5697.

NEW
from
QED



THE MINI AMP RANGE

HEADPHONE AMPLIFIER

MICROPHONE AMPLIFIER

R.I.A.A. (Disc) PRE-AMPLIFIER

For more information contact the
Exclusive North American Distributor:

may audio marketing inc.

P.O. Box 1048, Champlain,
N.Y. 12919 - Tel.: (518) 298-4434
in Canada: (514) 651-5707

FOR SALE

AFFORDABLE HIGH-END, NEW AND DEMO UNITS: B&K, Musical Concepts, Angstrom, Merlin, Kinergetics, Straight Wire, Chicago Stands, Echo Muffs, ARIEL, Carmel, IN 46032. Visa/MC. (317) 846-9766 or (317) 841-7154, 5-10 pm.

Great Performances Deserve An Encore.



The new Encore DL 2010 Preamp achieves straight wire gain performance by eliminating all mechanical contacts from the signal path and minimizing path length.

ENCORE

Electronics, Inc.

For more information
call or write:

(816) 763-8057

7105 East 132nd, Grandview, MO 64030

AUDIO OUTLET

wishes to say

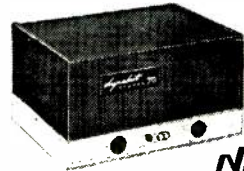
"THANK YOU"

to all our customers for their patronage over the past three years. We will continue to provide the best service, the best advice and the best prices to the "high-end" audio customer.

SOUND ADVICE . . . without the price.

914-666-0550

P.O. Box 673, Bedford Hills, New York 10508-0673



**Stereo 70
TUBE
Amplifier
dynakit**

World's largest-selling TUBE power amplifier KIT returns! NEW for '88 -- "as original" classic, all-NEW parts, fiberglass p.c. board. **\$499.00 + UPS.** VISA/MC/COD: (614)889-2117 10-4

SUPER DAC!

SUPER linear Premium Chip sets with the fabulous TDA1541A S1 CROWN DAC mated with the SAA7220P/B. Improves resolution on all 16-bit Philips/Magnavox CD players. Set includes gold-plated, machine pin IC sockets. Price: \$124.95 plus \$5.00 S&H.

Information: 203 431-6434 Credit Card Orders: 1-800-444-1428

EUPHONIC
technology

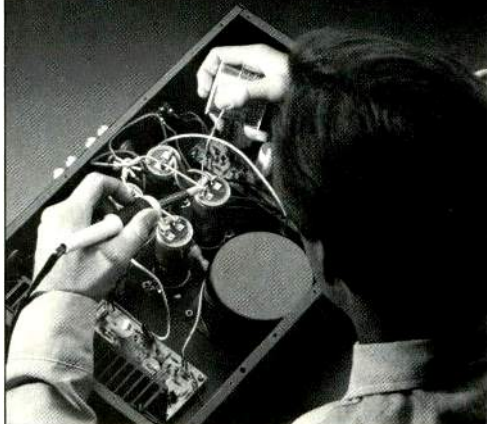


19 Danbury Road
Ridgefield, CT 06877

FOR SALE

AAAAH! FREE UPS SHIPPING! B&K, PS AUDIO, CELESTION, SUPERPHON, ARISTON, ORTOFON, ONKYO. EXPERT CONSULTATION—ASK FOR AUDIO DEPARTMENT. THRESHOLD AUDIO, 605 HEBRON, NEWARK-HEATH, OHIO 43056. (614) 522-4501.

IMPROVE YOUR AMP!



If you own an **Adcom, B&K, or Hafler** stereo amp, you've got fine sound, for a low price. Now, after long research — and consulting with factory engineers — we've made strategic modifications to dramatically enhance their sound. With Professional Mod Service's exclusive technology, your amp will sound as smooth and clean as amps for double the price! Bass will be more powerful, mids and highs clearer, less distorted.

Call us, we'll pick up your amp.

Call us and we'll send UPS to pick up your amp at home or work. Or send us your amp with \$199.95 plus \$14.95 shipping. Our technicians will modify, spec out your amp and return it UPS, insured. Satisfaction guaranteed.

1-800-334-0295

Amex/Visa/MC/Discover

Professional Mod Service, Inc.
225 Oakes SW
Grand Rapids, MI 49503
616-451-3527 FAX 616-451-0709

FOR SALE

ADS., NAKAMICHI, CARVER, BANG OLUFSEN, REVOX, B&W, KEF, HARMON/KARDON, N.A.D., LUXMAN, HAFLE, TANDBERG, ADCOM, DENON, KLIPSCH, YAMAHA, D.B.X.; INFINITY, J.B.L. AND OTHER QUALITY COMPONENTS. BEST PRICES—LIVE PROFESSIONAL CONSULTATION WEEKDAYS—AUTOMATED PRICING AND INFORMATION AVAILABLE 24 HOURS. ALL PRODUCTS COVERED BY MANUFACTURER'S U.S.A. WARRANTY. AMERISOUND SALES INC., EAST: (904) 262-4000 WEST: (818) 243-1168.

AFFORDABLE HIGH-END AUDIO, ACOUSTIC ENERGY, AUDIBLE ILLUSIONS, AUDIOQUEST-LIVEWIRE, ASC TUBE TRAPS, TARA-LABS, B&K SONATA, CELESTION, DYNAVECTOR, ENTEC GARROTT, EPOS, KEF CUSTOM SERIES, KIMBER KABLE, LEXICON, MAGNUM DYNALAB, MERLIN, MISSION/CYRUS, THE MOD SQUAD, NILES, PHILIPS AUDIO VIDEO, REGA PLANAR, STAX, SONUS FABER, SONRise CABINETS, SONANCE, TERA VIDEO, TARGET STANDS, VELODYNE. FOR FREE BROCHURE AND LITERATURE CALL-301-890-3232 FAX 301-890-3819 J S AUDIO ONE CHILDRESS COURT, BURTONSVILLE, MARYLAND 20866 AUDITION BY APPOINTMENT, MONDAY THRU FRIDAY 10AM TO 7PM, SATURDAY 11 TO 5, VISA, MASTERCARD, AMERICAN EXPRESS.

ALABAMA—WEST GEORGIA: CELESTION, B&K, KINERGETICS, QUAD, SPICA, MEITNER, CAL AUDIO, WELL TEMPERED, VPI, AUDIOQUEST, MIT AND MORE!! ACCURATE AUDIO, 110 E. SAMFORD AVENUE, AUBURN AL 36830. (205) 826-1960.

ARC D115 \$1900; SP-6E \$850; EC-21 \$650; EC-4 \$550; McINTOSH MR-80 \$1500; MR-67 \$450; MR-71 \$650; C-11 \$500; MAC-1900 \$550; MAC-1500 \$400; MQ-107 \$200; MR-55 \$75; LUX 2003 CROSSOVER \$450; COUNTERPOINT SA-2 MC PREAMP \$550; REL PRECEDENT TUNER \$850; HEATHKIT 1013 AUDIOSCOPE \$450; LEAK .1 STEREO PREAMP, STEREO 20 AMP \$550; PAIR QUAD II'S \$800; MUSICAL REFERENCE MODEL 9 \$1100; TWO E.H. SCOTT 800-B AM/FM RECEIVERS \$1000; MARK LEVINSON ML-10A \$1700. (713) 973-9480.

A SOUND EXCHANGE

Utah's New, Used, Demo, Classics store. Examples: Superphon DM-220 \$749, Revelation II \$619 (demo) Mark Levinson ML-7A \$3350 B&K 202 + \$598, Rowland 7s \$5500/pr., Coherence I \$2750, Soundlab Dynastat \$1199, Linn LP-12 Ittok Arm \$1199. Sound Exchange 5130 South State Street, Murray, UT 84107. (801) 268-6066.

ATTENTION HAFLER, DYNA, MAGNAVOX OWNERS!

Audio by Van Alstine builds complete new higher performance circuits for you. Not "modifications," but original new engineering designs that eliminate transient distortion, have no on or off thumps, are durable and rugged, and sound closer to live than anything else at a rational price. Our complete do-it-yourself rebuild kits start at \$200, including all new PC cards. Complete wonderfully-musical factory wired amplifiers, preamplifiers, tuners, CD players, and a great \$99 phono cartridge. Write or call for our new illustrated catalog. Audio by Van Alstine, 2202 River Hills Drive, Burnsville, MN 55337. (612) 890-3517.

AUDIO ARCHIVES IN SAN DIEGO. We have MERLIN SIGNATURE speakers (Cardas-wired), CARDAS cables, WINGATE Class-A amps, CONVERGENT tube preamp, SOUND ANCHOR equipment stands. (619) 455-6326.

AUDIOPHILES: NO RISK AUDITIONINGS! On-premises engineering, state-of-the-art audio: B&K, Audioquest, Counterpoint, Eminent Technology, JSE, Sony ES, Kinergetics, Magnum Dynalab, & many more! We pay shipping. **SOUND UNLIMITED**, 169 Church St., Bristol, CT 06010. Est. 1959, (203) 584-0131.

AUDIO NEXUS = QUALITY

Featuring legendary **VANDERSTEEN** loudspeakers & **COUNTERPOINT** electronics.

Apogee • Ariston • Audioquest • Bel • B&K • British Fidelity • Counterpoint • Eminent Technology • Forte • Fried • Jamo • JSE • Kimber Kable • Klyne • Magnum Dynalab • Meicos • MIT • Monster Cable • Musical Concepts • Nitty Gritty • Premier • PS Audio • Precise • Rotel • Rowland Research • SME • Sonographe • Sony ES • Sota • Stax • Systemdek • Talisman/Alchemist • Vandersteen • Vendetta **SUMMIT, NJ. (201) 277-0333.**

Audio Research D75A, ALL new tubes! \$549; Magnepan TII-A's \$460; Spectrum 208A's. \$249. Willing to negotiate. Elliot Rosen, 2000 University Ave., Dubuque, IA 52001. (319) 582-9589.

FOR SALE

AUDIOPHILE PARTS

WonderCap, Rel-Cap, Solen, Wima, Aselco, Vishay, Hoico, Resistra, Cardas, VandenHul, MIT, TaraLabs, Telfon, WBT, MusicPost, Tiffany, Gold Aero (10% discount), Grado, Q.E.D., Target, etc. PreAmp (Daniel) and PowerAmp Kits, Parts upgrade Kits. Call/Write/FAX for free catalogue. **SONIC FRONTIERS**, 181 Kenilworth Ave., Toronto, Ontario, Canada. Tel: (416) 691-7877, FAX (416) 338-2562.

BARCLAY CD PLAYERS SUPERPHON & PROAC

SOLID CORE CABLES, TARA LABS and MUSIC METRE—Custom Terminations. Creek, Epos ES14, Grado, Musical Concepts, Target, **WELL TEMPERED**. VISA/MC. AUDIO EXCELLENCE, LIVERPOOL, NY. (315) 451-2707.

BEST TRADES OFFERED. We buy sell, trade, consign most high-end products. Audio Doctor, 1518 W. Commercial, Buffalo, MO 65622. 417-345-7245. COD-VISA-MC. Newsletter.

B&K MODIFICATIONS: IMPROVED DETAILING, INCREASED DEPTH OF soundstage & transparency, deeper & tighter bass. State-of-the-art!! We pay shipping. SOUND UNLIMITED, 169 Church St., Bristol, CT 06010. Est. 1959. (203) 584-0131. MC/VISA/AMEXP ACCEPTED

B&K, Kimber, Synergistic, Talisman, Kinergetics, Audiolab, Merlin, ASC Tube Trap, GyroDec Fluxbuster \$139, Target, CdSaver \$9. Cramolin, Tweek \$15, ProAc, SME, MagnumDynamab, AcousticEnergy, AudioPrism. LP/CD's: Athena, "Basho's Pond" LP-\$10, Chesky "Jazz" CD-\$14, Dorian, HarmoniaMundi, MobileFidelity, Opus3, Proprius, Reference, "Dafos" CD-\$20, Sheffield, WaterLily "Delmon" LP-\$35/CD-\$20, Wilson, Vector Electronics, Box 82404, Portland, OR 97282-0404. (503)233-2603. Visa/MC/Amex/COD.

BRITISH FIDELITY SALE

SHOW STOCK—SAVE UP TO 50%
Shipped in their original cartons, these show stock units are performance perfect, with full two year warranty, but have very minor cosmetic flaws. They can be seen and heard at our showroom in Washington D.C., or write for more information.
R.C.S. AUDIO INTERNATIONAL, INC.
1055 Thomas Jefferson St. N.W.
Washington, D.C. 20007
(202) 342-0400

BUY/SELL IN THE MONTHLY AUDIO VIDEO TRADER. \$15/yr, SAMPLE \$1 + SASE. FREE ADS! 330 S. MAIN WAKE FOREST, NC 27587

CABLE TV CONVERTERS AND DESCRAMBLERS: ZENITH, JERROLD, TOCOM, SCIENTIFIC ATLANTA, HAMLIN, OAK. ORDER YOURS TODAY! VISA-MC-COD. 1-800-327-8544.

CABLE TV CONVERTERS. Jerrold, Oak, Scientific Atlanta, Zenith, and many others. "New" MTS Stereo Add on: Mute & Vol., 400 and 450 owners! Visa, Mastercard, American Express, B & B Inc., 4030 Beau-D-Rue Drive, Eagan, MN 55122. (1-800-826-7623).

CALL 1-800-648-6637 FOR THE FINEST SOUNDING CD MODS that you can install yourself. We have the Philips Select S1 Crown D/A converters, \$55. Premium Digital Filter chips, \$45., and many other mods for your Magnavox, Philips, Sony, Revox, and Denon CD players. Call or write for info. Soloist Audio 348 Tuttle, S.A., TX 78209.

CALL TOLL FREE! 1-800-826-0520 FOR: ACOUSTAT, Aptature, Audio Control, Nitty Gritty, M&K, Oracle, Proac, Proton, Stax, Thorens, Dahlquist, Hafler, Monster Cable, Belles, CWD, dbx, Fried, Harman Kardon, 3D, Onkyo, Grado, Audioquest, Celestion, DCM, Duntech, Niles, Citation, Kinergetics. Sound Seller, 1706 Main St., Marinette, WI 54143. (715) 735-9002.

THE D.A.T. ROOM

The east coast's first all digital audio tape listening room. D.A.T. tape recorders—home, portable and pro-units, D.A.T. software—full line of titles in stock. Full warranty, all accessories, major credit cards. **THE D.A.T. ROOM at DISCORAMA** 186 W. 4th St., New York, NY 10014 (212) 989-7236

AQ Systems, Ltd.
Since 1980

2525 Arapahoe Ave. E4/284
Boulder, CO 80302
303/443-4443 **by appt.**

... attention to details ...

- Room acoustics & acoustical treatment
- Connectors & connections
- CD stabilizer rings
- A/C power line conditioning & power cords
- Speaker cable & interconnects
- Isolation bases, spikes, etc.
- Equipment racks & speaker stands
- Future: 'fully balanced system'

...will improve the sound of your system!

—everything matters & makes a difference—

*watch for our continuing informative bulletins!

Hafler

IRIS pre amp { remote control system }
IRIS tuner
XL 280 — mono's!
XL 600 powerful!
—'SE' series—
100 pre amp
120 amp
130 AM-FM

Hafler speakers • Audio Pro subwoofers
Sonrise audio cabinets • Xylophile audio cabinets • Sound Anchors speaker stands • Target • van den Hul • Distech Straightwire • Aural Symphonics
Audioquest • Sound Connectors • WBT Tiffany • ZSE speakers • ATC speakers Tice Audio, Power Block & Titan
Nelson-Reed • Audiophile, Analog & CD's

MACALAN **dynamab**

Tube
an FM tuner for the...
... 'audio elite'

Classé Audio

DR-5 pre amp
DR-8 amp
DR-6 pre amp
DR-9 amp
Class A DR-3B amp
DR-3-VHC amp
DR-7 pre amp

Legacy Loudspeaker Systems
Legacy 1
Legacy 2 Plus

ABSORB YOURSELF



Sorbothane® has an incredible ability to absorb energy. This allows AudioQuest Sorbothane products to effectively damp and isolate all vibration sensitive equipment — CD/laser players and audio and video electronics.

P.O. Box 3060
San Clemente, CA 92672 USA
Tel: 714-498-2770 Fax: 714-498-5112



WeberWire was created by Jeff Weber, Grammy® winning record producer, as a completely neutral transfer path between amplifier and loudspeaker to facilitate evaluation of original master tapes

WeberWire is superior in every characteristic:

Resistance 0.00053 Ohm/ft. for transmission and return paths combined!

Current capacity 100 RMS amperes, 500 pk. amperes

Inductance 0.024 mH/ft. 8 ft. lengths exhibit less than 0.2 dB loss at

100 kHz with typical loudspeaker loads

Capacitance 0.2 nanoFarads/ft. enable use without external "damping" networks

WeberWeave distributes impedance characteristics to suppress resonance and reduce phase noise

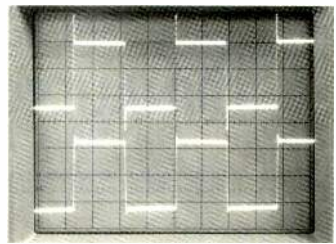
Balanced-lamina Pure silver surfacing on oxygen-free copper balances skin effect resistance to maintain constant resistance to the highest frequencies

Teflon® insulation Maintains a 2.1 dielectric constant from dc to 100 kHz. (Other insulations may vary by as much as 100% over this range.)

High-current terminations Gold plated connection hardware exceeds welding requirements

*Trademark of DuPont

Fig. 1 Transmission characteristics for 15 ft. of WeberWire—1Ω source, 8Ω resistive load—communicating a 100 kHz square wave. The upper limit of WeberWire is just beginning to be observed as the extremely high harmonics of the overshoot from the signal generator (upper trace) are noticeably reduced. Nevertheless, the bandwidth of WeberWire permits the wave itself to be reproduced without tilt or other anomaly.



Exclusively distributed by InConcert division Threshold Corporation 12919 Earhart Ave., Auburn, CA 95603. 800-888-8055

You heard it right.

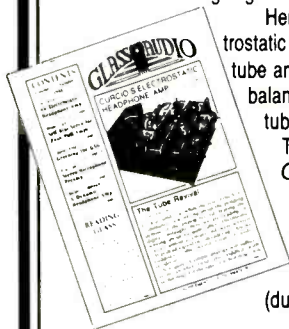
The newest audio magazine is all about vacuum tubes!

Glass Audio is designed for you dedicated music lovers who've always known that tube equipment sounds better than solid state. We think you'll be pleased to have a magazine to keep you current with all the on-going developments in vacuum tube technology, applications and equipment.

Here's a sampling from our premiere issue: An elegant driver for electrostatic and electrodynamic headphones. A self-bias servo for push-pull output tube amplifiers. Upgrades for the classic Revox tape recorders. A stereo balanced transformer input microphone preamp. A quality dynamic headphone tube amplifier. Plus a major update on the entire field by Ken Kessler.

These articles aren't just for reading or browsing. They're for doing. *Glass Audio* includes schematics and instructions, just like our other publications, *Audio Amateur* and *Speaker Builder*.

We don't expect everyone to subscribe—just those with the special taste for warm, satisfying tube sound. A sample copy of our premiere issue is yours for the asking. Please write or phone. 603-924-9464 (during business hours.) \$10/1 yr. (2 Issues); \$18/2 yrs.



PO Box 176, Peterborough, NH 03458



A Dream Come True

CS AUDIO

AUTHORIZED FRANCHISE DEALERSHIP

193 Bellevue Ave. Upper Montclair, NJ 201 744-0600
20 Olcott Sq. Bernardsville, NJ 201 953-9777



FOR SALE

CASH FOR USED PWR/PREAMPS —ARC, Levinson, Krell, Threshold & Conrad-Johnson. Pickup amps from your home or just ship UPS/COD. Call CA (213) 257-6726 Senie, or Fax (213) 258-7525.

FOR SALE

Custom DAT Tapes. "Three Centuries of French Organ Music" & "Fenstermaker Plays Bach". Both from live concerts at Grace Cathedral, from digital masters. \$30.00 each. T-V Recording, Box 70021, Sunnyvale, CA 94086.

FOR SALE

ADS., NAKAMICHI, CARVER, BANG OLUFSEN, REVOX, B&W, KEF, HARMON/KARDON, N.A.D., LUXMAN, HAFLE, TANDBERG, ADCOM, DENON, KLIPSCH, YAMAHA, D.B.X., INFINITY, J.B.L. AND OTHER QUALITY COMPONENTS. BEST PRICES—LIVE PROFESSIONAL CONSULTATION WEEKDAYS—AUTOMATED PRICING AND INFORMATION AVAILABLE 24 HOURS. ALL PRODUCTS COVERED BY MANUFACTURER'S U.S.A. WARRANTY. AMERISOUND SALES INC., EAST: (904) 262-4000 WEST: (818) 243-1168.

CLASSIC AUDIO, LTD.

CA260 DUAL MONO TUBE AMPLIFIER—10 DAY HOME AUDITION—MADE WITH REAL McINTOSH TRANSFORMERS—SAVE!! FACTORY DIRECT—IN STOCK—CLASSIC AUDIO, LTD., 238 LIBERTY AVE., NEW ROCHELLE, NY 10805. (914) 633-3039.

COMPACT DISC PLAYERS BY MUSICAL CONCEPTS

"EPOCH", with dual-mono outboard supply and sound rated "Best of Summer CES" by many! "ERA" replaces and improves CD-3/TPS (reviewed *The Absolute Sound* #52), separate analog supply, superb imaging, transparent! The "ENIGMA", so much for so little! Complete new "582" chassis, 1yr. warranty! "ENIGMA" \$595, "ERA" \$895, "EPOCH" \$1195. We'll modify 16-bit Philips/Magnavox!

ADCOM, B&K AND HAFLE MODIFICATIONS BY MUSICAL CONCEPTS

Inductorless, refined, transparent! Many former tube lovers are using our amplifiers? Hafle modifications from \$149, B&K from \$219/installed. Adcom (GFA-555, 545, 535) from \$195/installed. Options, include special wire/connectors, Dual-Mono.

NEW STANDARDS

TEFLON™ MC-2 preamplifier retrofits Hafle, B&K and Adcom preamps. Why is the MC-2T replacing \$5000 tube preamps? MC-2T is the ultimate price/performance standard!

SuperConnect III! You can't buy better! \$55/1M pair.

DEALER MUSICAL CONCEPTS SEND INQUIRIES ONE PATTERSON PLAZA FOR INVITED ST. LOUIS, MO 63031 REVIEWS/BROCHURE 314-831-1822







DAYTON WRIGHT SPEAKERS MODEL XGBMK3 WITH T3300-A BIAS SUPPLY. TWO PAIR AVAILABLE. NEED WORK. \$500 PER PAIR OR BEST OFFER. (404) 321-6333.

DUNTECH SOVERIGN 2001 LOUDSPEAKERS. Japanese Ash Finish, Mark II crossovers. Mint condition. \$9,950. (213) 934-1817 PST. Leave Message.

DYNACO ST70 UPGRADES. Gold EL34 Sockets. 1215 Microfarad on-board solid state B+ . triode output, more. Complete service. DoReTech Audio Services, Box 6054, South Hackensack, NJ 07606-4354. (201) 233-2659.

DYNAUDIO TECHNOLOGY UNLIMITED

30 W-100 30 W-54 24 W-100 24 W-75 21 W-54 17 W-75

DYNAUDIO [®] OF AMERICA 8982 TABLE BLUFF CROSS PLAINS, WISCONSIN 53528							
Diameter	mm	300	300	240	240	222	177
Voice Coil Diameter	mm	100	54	100	75	54	75
Harmonic Distortion	%	< 0,8	< 1,5	1	< 0,3	< 1	< 0,2
Power Capability DIN	W	450	210	350	120	160	150
Power Capability Impulse 10 Msec	W	1000	1000	1000	1000	1000	1000
Frequency Range	Hz	22-900	30-3000	35-3000	35-5000	35-5000	42-3500
Resonance Freq.	Hz	24	22	32	33	30	39
Sensitivity 1W/1M	dB	91	92	90	90	92	89
Impedance	Ohm	8	8	8	8	8	8
Net Wt.	g	2100	2900	1850	920	2500	800

FOR SALE

DEAL WITH US!

Since 1965, CUSTOM STEREO has offered the best values in quality audio and video equipment. If you are looking for high-end electronics without the high-end price tag, look no further. We are authorized dealers for such well-known brands as: YAMAHA, NAD, BANG & OLUFSEN, BOSE, KLIPSCH, LINN, STAX, TASCAM, TEAC REELS, TERA, VELODYNE, NAKAMICHI, LEXICON, BOSTON ACOUSTICS and many more great lines. Let us be your one-stop shopping center for demonstrators and trade-in components.

CUSTOM STEREO
1391 SOUTH HAMILTON
COLUMBUS, OH 43227
(614) 235-3531

ELECTRONIC-CROSSOVERS, SUSSONIC FILTERS.
 For mono or stereo subwoofers, bi-amping, tri-amping, etc. Free flyer wireviews. ACE AUDIO CO., #532 5th Street, East Northport, NY 11731-2399.

Experience WADIA'S Accuracy, MERLIN'S Magic, PRO-AC'S Response, CLASSE'S Elegance, EMINENT TECHNOLOGY'S Precision, LFD'S Simplicity and PAWEL ACOUSTIC'S Beauty. VANDEN PLAS AUDIO (205) 823-6284. Birmingham, AL.

GAS EQUIPMENT OWNERS: Since 1977 we have provided expert service on GAS equipment, from repairs to complete rebuilds. Expert service on ALL high-end equipment. One year guarantee. GASWORKS 5563 Kendall Street, Boise, Idaho 83706 (208) 323-0861.

GUARANTEED USED EQUIPMENT: • Tandberg 3001 Tuner \$1000.00 • Nakamichi OMS5All CD \$900.00 • Nakamichi Dragon \$1200.00 • Athena speaker polyphasor \$350.00 • Martin Logan CLS \$1800.00 • Acoustat 3 Speakers \$600.00 pr. • Threshold S 150 Amp. \$1200.00 • Kyocera R661 Rcvr. \$500.00 • Stax Quatro I CD \$1800.00 • Levinson ML11 Amp. \$1200.00 • Tandberg 2080 Rcvr. \$650.00 • Magnepan Tympani IV \$2750.00 • Magnepan MG2c \$900.00 pr. • Magnepan Mg1c \$700.00 • Tandberg TR3080 Rcvr. \$1000.00 • Yamaha DSP1 \$400.00 • AUDIO CONSULTANTS 1014 DAVIS STREET EVANSTON IL. 312.864.9565.

HAFNER, TEXAS BIGGEST DEALER, TOBY CORPORATION. Also ROTEL, TOBY HI-TECH HOME, CAR SPEAKERS, SATELLITE, SUBWOOFER SYSTEMS. (817) 732-6301. 2060 Montgomery, Fort Worth 76107.

HI-FI CLASSICS - HIGH END AUDIO Components bought-sold-traded. Call: (718) 318-9618. FAX: (718) 318-9623.

DIMENSIONAL PURITY

VANDERSTEEN AUDIO



Vandersteen Audio was founded in 1977 with the commitment to offer always the finest in music reproduction for the dollar. Toward this goal there will always be a high degree of pride, love, and personal satisfaction involved in each piece before it leaves our facilities. Your Vandersteen dealer shares in this commitment, and has been carefully selected for his ability to deal with the complex task of assembling a musically satisfying system. Although sometimes hard to find, he is well worth seeking out.

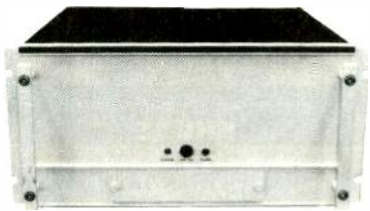
Write or call for a brochure and the name of your nearest dealer.

VANDERSTEEN AUDIO
 116 WEST FOURTH STREET
 HANFORD, CALIFORNIA 93230 USA
 (209) 582-0324

SAVE \$4000!

Crown 600W Mono Amps
\$799.00 each

Sound Values / SCC, Box 551, Dublin, OH 43017
 Why pay \$6,000-\$10,000 for high-end super power? Our ultra-clean USED Crown amps look great, perform as new & handle ANY speaker impedance load with ease. Test them with your toughest speaker load RISK FREE for 30-days -- 100% merchandise refund if not delighted! FULL 1-YEAR WARRANTY. Quality. Price. Service



614-889-2117, 10-4 • Ads since 1977



Everybody's Favorite Rogue Hi-Fi Store.

AUDIOVISION

1060 Massachusetts Avenue
 Arlington, MA 02174 617-648-4434

Levinson • ARC • Apogee • Adcom • Denon
 Celestion • Theta • SOTA • Thiel • Sumo • Spica
 NAD • SME • Proceed • Mirage • Audioquest

TECHNOLOGY UNLIMITED

For suggested applications, call 608-831-2990

17M-75 D-54 D-52 D-28 D-21 D-76 D-52 AF D-28 AF D-21 AF

177	145	145	110	110	145	145	110	110
75	54	54	28	21	75	54	28	21
< 0,2	< 0,3	< 0,4	< 0,3	< 0,3	< 0,3	< 0,4	< 0,6	< 0,2
180	250	200	300	600	180	200	300	600
1000	1000	1000	1000	1000	1000	1000	1000	1000
80-3500	800-7000	500-6000	1200-25000	2000-35000	300-5000	400-8000	1000-30000	1500-45000
74	350	350	700	1300	220	350	700	1300
89	96	92	93	92	88	91	91	91
8	8	8	8	8	8	8	8	8
800	1900	1200	600	650	820	1200	550	550

ESOTERIC SOUND

Invites You to Experience
MUSIC WITHOUT BOUNDARIES

Audition electronics by the



Model 1

On Display: Models 1, 3, 5
& 7 amplifiers and the
Coherence One preamp.

High End Components For The Audio Perfectionist

APOGEE • BARCLAY • BEDINI • COGAN-HALL
COUNTERPOINT • ESSENCE • HARTLEY • JANIS • KEF
LEXICON • MARANTZ 94 • PRECISE • PULSAR • ROTEL
JEFF ROWLAND • SHAHINIAN • WADIA • AND MORE

Esoteric
SOUND SYSTEMS LTD.

COVENTRY COMMONS Rte 347
STONY BROOK, N.Y. 11790
516/689-7444

ATTENTION DENON CUSTOMERS

Not everyone offering Denon products for sale is an authorized Denon dealer. This has great significance to you as a potential Denon customer.

Denon America's warranty applies to the original purchase only. Denon products sold by non-authorized dealers are not covered under this or any other warranty.

Additionally, some of this equipment may have been designed for foreign markets and therefore will not meet Denon America's specifications.

So look for the Authorized Denon Dealer Sticker before you buy.



To find your nearest
AUTHORIZED Denon Dealer call:
1-201-575-7810 (9:00am - 5:00pm EST)

audio-technica *Trick*

YOUR SEARCH IS OVER!

TIPTONES

We specialize in hard to find phono cartridges and original replacement styli only!!

(800) 221-0906

CALL TOLL-FREE FOR FREE PRICE QUOTES AND VISA/MC ORDERS N.Y. STATE (516) 599-1112

SEND SELF ADDRESSED STAMPED ENVELOPE FOR OUR FREE CATALOG.

LYLE CARTRIDGES
Dept. A, Box 158
Valley Stream, N.Y. 11582

Phones Open Mon - Sat 9 am - 8 pm

DYNACORP Bang & Olufsen PICKERING

ortofon **SHURE** STANTON

FOR SALE

IMPROVE YOUR IMAGE! Quality, hand-made acoustic absorption panels. 2 x 4, off-white or light-blue. \$39.00 each, UPS included. Brent Williams Applied Technologies, 570 Woodlawn Drive, Marietta, GA 30067, 404-565-8112.



Shown: The Audio Control Phase Coupled Activator™

Excite. Fulfill. Reclaim.

The Phase Coupled Activator™
digitally reconstructs lost music.

Lurking beneath the surface of every record — and most CD's — are ultra-low fundamental notes that have been lost from the moment they left an instrument. Lost to microphones, recording processes and mastering. Even the best cartridge, biggest wipers or most advanced CD player can't bring them back. "... The first bass-recovery device that we can unhesitatingly recommend to audiophiles."

— High Fidelity

Using patent pending intelligent circuits the Audio Control Phase Coupled Activator detects harmonic artifacts and digitally reconstructs the previously lost portion. Musically. Without introducing unrealistic by-products. "The Phase Coupled Activator added clarity and definition to the bass."

— Stereo Review

"Compared to other bass enhancers, the Phase Coupled Activator reigns as state of the art." — Chicago Tribune

That's because it isn't really an "enhancer" at all; it's a *restorer*. Designed and built in America by a company with a 10-year reputation for quality and value. Packed with extras like a separate video circuit that works wonders on bass-shy rental tapes, cable and regular broadcasts. And a built-in 18dB/oct. programmable electronic crossover. "My stereo now sounds (and feels) like I have always fantasized the 'ultimate sound' to be. Outstanding!"

— D.H., Torrance, CA

Discover why initially skeptical reviewers and audiophiles are raving about the Phase Coupled Activator. Enjoy live performance bass. Visit your nearest Audio Control dealer or write us for more information.

AudioControl™

22313 70th Ave. W., Mountlake Terrace, WA 98043 (206) 775-8461

FOR SALE

HIGH-END, LOW PRICES. ADS•BANG & OLUFSEN•CARVER•DBX•DENON•H/K•NAKAMICHI AND MANY MORE! FULL MANUFACTURERS WARRANTY. TECH ELECTRONICS SYSTEMS. SINCE 1981. GAINESVILLE, FL (904) 730-3885.

HOLIDAY ANALOG EXCELLENCE SPECIALS-Rega Planar3 table w/Ortofon MC200u/T20 moving-coil/transformer (\$1200) \$695, Dual CS431 table w/Ortofon X3MC (\$420) \$295. Also, new and demo clearance; Rotel RCD820BX2 CDplayer (\$750) \$495, B&W DM 1800 speakers (\$1200) \$695, Mission 763 speakers (\$600) \$375, Energy22 Reference Oak Designer speakers (\$1180) \$795. Call for other specials. The King's Stereo, 1275 Wabash, Springfield, IL 62704. (217)787-5656.

HOUSTON TEXAS

ALCHEMIST, AURAL, SYMPHONICS, CELESTION, EMINENT, TECHNOLOGY SPEAKERS, EUPHONIC TECHNOLOGY, FORTE, KISEKI, MIT, TALISMAN, TARGET, TARA LABS, THRESHOLD, VMPS, VAN DEN HUL, WELL TEMPERED, Audiophile LP's and CD's and more! Evenings and Weekends by appointment. FREE NEWSLETTER. 713-497-1114.

JAY'S AUDIO. NEW HAMPSHIRE'S AFFORDABLE AUDIO DEALER. AMPS, PREAMPS, SPEAKERS, TURNTABLES, CABLES AND CD PLAYERS. WILL BUY MINT USED HIGH-END EQUIPMENT. (603) 883-1982.

JBL 6810S VIDEO PROJECTOR, 100-inch ceiling/floor mountable, S-VHS, RGB, 178-Channel tuner, remote, outstanding picture, like new, boxed, cost \$5500, sell \$3600. Sumo Andromeda-II amplifier, factory sealed carton, warranty, cost \$1500, sell \$1000. John (213) 837-2731.

LINN LK275 - \$700; EXPOSURE AMPS LP12, 2 YR. WARRANTY OR BEST OFFER. (312) 779-8479.

LIVEWIRE CLOSEOUT SALE! 50% OFF ON AUDIOQUEST TYPE 12 SPEAKER CABLE! LIMITED SUPPLY! CALL FOR PRICES & ORDERING INFORMATION. HCM AUDIO, 1-800-222-3465, 1-916-345-1341 VISA/MC/AMEX.

MARANTZ MODELS 1-19. MCINTOSH TUNERS, AMPS, PREAMPS, OTHER TUBE ELECTRONICS, FISHER, SCOTT, FUTTERMAN, H.K.CIT.II, DYNACORP DV8250 AMP, BRUCE MOORE'S M80'S, U.T.C. OUTPUT TRANSFORMERS, KLH 9'S, BEVERIDGE SPEAKERS, DUNTECH PCL5, PLASMATRONICS. EVERYTHING EXCELLENT, REASONABLE. (718) 377-7282, AFTERNOONS.

MARTIN-LOGAN SEQUEL II SPEAKERS. TWO MONTHS OLD. \$1800. CALL MARK: (614) 635-2598.

MCINTOSH: BUY/SELL

WANTED: MCINTOSH, MARANTZ, AUDIO RESEARCH, DYNACO, LEVINSON, KRELL, ALTEC, JBL, TANNY, C.J. SEQUERRA, WESTERN ELECTRIC, TUBE & SOLID STATE, BUY-SELL-TRADE, MAURY CORB, (713) 728-4343, 12325 Ashcroft, Houston, TX 77035.

McINTOSH Bought-Sold-Traded-Repaired. FREE Catalogue. See our ad at the beginning of the classifieds. AUDIO CLASSICS, POB 176MM, Walton, NY 13856. 607-865-7200. 8AM-5PM EST Mon.-Fri.

—Audio Advertiser for over a Decade—

McINTOSH. JBL (ALNICO), Krell, M. Levinson, and other high end audio components. Let us find your hard to get items. Call John Wolff, 313-229-5191 (24hrs. machine)

McINTOSH...MARANTZ

WANTED: McIntosh, Marantz, Western Electric, Fairchild, other tube components from the 50's & 60's. ALSO SPEAKERS: W.E., Altec, Patricians, Hartsfields, Jensen, Richard, Box 521, Belmont, MA. 02178. 617-484-5784.

MIT cables, custom terminations, Camacs, XLR balanced, hi-flexibility tonearm sets, Shotgun CVT; MIT hookup for internal rewiring; Athena PolyPhasors; ATMA-SPHERE OTL amplifiers, CLEMENTS speakers, VENDETTA RESEARCH, VAN DEN HUL GRASSHOPPER, ASC Tube Traps; Wonder Caps-solder-wire; Resistas; Edison Price, Odyssey, Tiffany connectors; Simply Physics Tone Cones & Isodrive; many accessories-mod parts, \$1 catalog (\$3 overseas); Michael Percy, Box 526, Inverness, CA 94937; (415) 669-7181.

FOR SALE

MONSTER CABLE PRODUCTS AT LOW PRICES! CALL FOR PRICES & ORDERING INFORMATION. HCM AUDIO, 1-800-222-3465, 1-916-345-1341 VISA/MC/AMEX.

NAKAMICHI CD 7A2, MINT, \$825.; PA-7 (200 Watts/Ch), \$895.; ACOUSTAT 33, OFF WHITE, \$1550.; TANDBERG 3014A, \$600. PROFESSIONAL MODIFICATION, PERFECT, \$895.; SUMO ANDROMEDA, \$595. MAC 2300, THRESHOLD S300, CARVER C1/1.5T CALL. ALL 30-DAY GUARANTEE. "MUST A MAN BE BORN AGAIN?" JOHN 3:1-18. J.D. ROBINSON (313) 949-4567.

NITTY GRITTY RECORD CLEANING MACHINES & SUPPLIES. MOST ITEMS IN STOCK. AUTHORIZED DEALER. CALL FOR PRICES & ORDERING INFORMATION. HCM AUDIO, 1-800-222-3465, 1-916-345-1341, VISA/MC/AMEX.

NOW FOR MAGNEPANS

Improve bass and imaging at minimum cost! Stop speakers from rocking on thick carpet. Our GROUNDING SPIKE firmly couples your speaker to the floor. Call/write for free information. SOUND FUNDAMENTALS, 24002 Swallowtail, Laguna Niguel, CA 92677. (714) 831-9721, 8-5PST.

ORDER TOLL-FREE 1-800-222-3465, AUDIOQUEST * B&K * BOSE * CELESTION * GRADO SIGNATURE * HARMAN KARDON * JBL * MONSTER * NITTY GRITTY * PREMIER * SONY * SOTA * STAX * STRAIGHTWIRE * SUMIKO * SUPERPHON * PLUS MANY ACCESSORIES. CALL FOR FREE PRICE LIST! HCM AUDIO, 1015 MANGROVE, CHICO, CA 95926 (916) 345-1341 VISA/MC/AMEX

PAUL HEATH AUDIO

Audible Illusions, B&K, Classe Audio, Cardas, Theta, Iverson Eagle 400, Gryphon, Dynalab, Epos, PS Audio, Philips Audio-video, Melos, MFA, MIT, Mod Squad, Merlin, TD, Quicksilver, VPI, Well-tempered, Lineaum, Precise, Deltec, Kuzma, Menimore, Townsend Rock Reference. 217 Alexander, Rochester, NY 14607. (716) 262-4310.

PS AUDIO — SUPERB!

Fast, **FREE** shipping! Knowledgeable, friendly service! Audire, Chesky, CWD, Fried, Grado, Kinergetics, Mirage, Monster Cable (M-series), Quad, SME, Sota, Spica, Stax, Straightwire, Thorens, more. **READ BROTHERS STEREO**, 593 King Street, Charleston, South Carolina 29403. (803) 723-7276.

RANE, SENNHEISER, AKG, A-T, dbx, Fostex, SONY TAPE, LOFTECH, TRIPP-LITE, ELMO TeleCines, LOWEL, Chinon, BOGEN, Hi8, CARPENTER/GHP, BOX 1321, MEADVILLE, PA 16335-0821.

SAN FRANCISCO AREA—IRRESISTIBLY priced audiophile components. Shipped/delivered. New/used. World's best CD Players/speakers/electronics/cables/turntables. 1548 Center Rd, Novato, CA 94947 (415) 898-1464.

SAVE 40% ON HIGH-END home speakers, subwoofers, amplifiers. FREE CATALOG! CATALOG, 3021 Sangamon Ave., Springfield, IL 62702. 1-800-283-4644.

Savings to 40%. Nobody beats our prices. Midfi to highend. Over 150 product lines. Free Shipping. Full US Warranty. **Quality Audio** 902-582-3990 7-10pm Eastern Time.

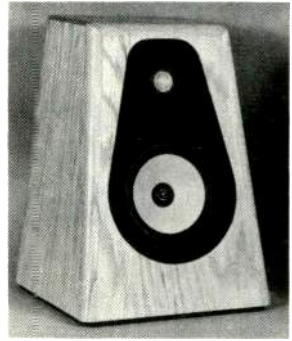
60 YEARS IN BUSINESS...WE MUST BE DOING SOMETHING RIGHT! If it's a much-in-demand audiophile product, we're likely to have it for immediate shipment. Consult with one of our quiet experts or just order U.S.—warranted components directly. **VISA/MC.** Ask for Steve K. or Dan W. **SQUARE DEAL**, 456 Waverly Ave., Patchogue, N.Y. 11772. (516) 475-1857.

SOTA Panorama: Small is Beautiful

To neutralize the loudspeaker enclosure—so drivers move only with the music—that is the first task of the SOTA design team. Minimize colorations at the source and you neutralize all sorts of room gremlins.

That is what SOTA does best. We neutralize gremlins. Using mass, rigidity and all the energy controls for damping resonances that made us America's pre-eminent turntable maker, we propose to transform the small monitor just as SOTA turntables redefined the high end turntable world eight years ago. Our goals:

- Resolution and coherence second to none, especially in bass extension.
- Compatibility with the widest range of electronics and rooms.
- A gorgeous form equal to the gorgeous performance.



The result of our research: the optimum "truncated pyramid" shape; all curved corners to minimize refraction; and heavily-braced, laminated 1/4" thick walls. Plus, the latest kevlar drivers and ultimate crossover components. The classic two-way speaker may never be the same.

SOTA
industries
P.O. BOX 7075, Berkeley, CA 94707

HIGHER FIDELITY

800-438-6040

FOUR PRIVATE LISTENING ROOMS
1620 South Blvd, Charlotte, NC 28203
704-376-0350

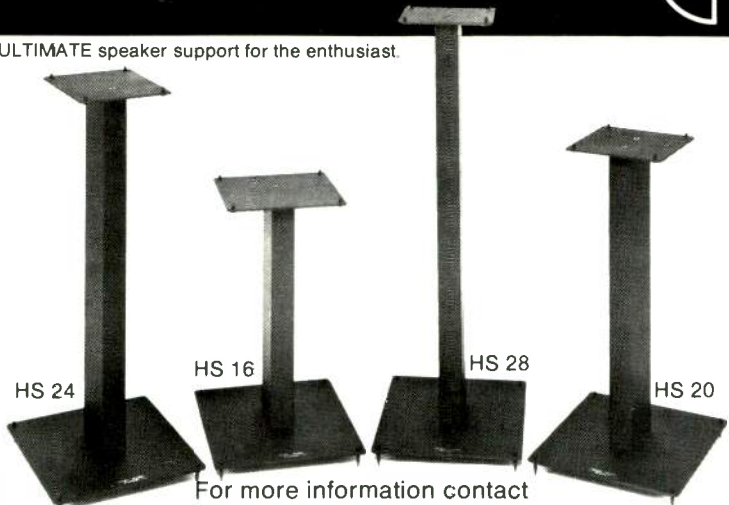
Authorized Dealer for:

AKG • AMERICAN AUDIO • ARAGON • ARISTON
AUDIOPRISM • AUDIOQUEST • AUDIOSOURCE • BEYER
B&W • CAMBRIDGE • CELESTION • CHICAGO
COUNTERPOINT • CRAMOLIN • DAHLQUIST • GRADO
KOSS • MAGNUM DYNALAB • MAY AUDIO • MEITNER
MOD SQUAD • NILES • RATA • ROTEL • SENNHEISER
SHURE • SONRISE • SUMIKO • SUMO • SUMO ARIA
SYSTEMDEK • TERK • TWEED • VAN DEN HUL
VAMPIRE • VPI • WBT • ZETA AND MORE. ALL MAJOR
AUDIOPHILE RECORDINGS AND COMPACT DISCS. ASK
ABOUT OUR PROFESSIONAL AUDIO DIVISION.

DAT—We have legal DAT with full warranty.

Supports **TARGET** THE "HS" RANGE OF SPEAKER STANDS

The ULTIMATE speaker support for the enthusiast.



HS 24

HS 16

HS 28

HS 20

For more information contact
MAY AUDIO MARKETING INC.

P.O. Box 1048, Champlain, N.Y. 12919 - Tel.: (518) 298-4434
in Canada: (514) 651-5707

NOW YOU DON'T NEED TO BUY NEW SPEAKERS FOR YOUR STEREO TV, AND...

YOU DON'T NEED TO RUN YOUR STEREO TV THROUGH YOUR STEREO SYSTEM!

ALL YOU NEED IS THE SI-2!

The SI-2 is a completely automatic speaker switch that allows you to connect your stereo TV and stereo system to your existing pair of hi-fi speakers. You don't need to buy a separate pair of speakers for your TV and you don't need to run your TV through your stereo's auxiliary input. The SI-2 will automatically detect which component is trying to run the speakers and lock the other out, thus preventing any damage to either stereo component or the speakers. The SI-2 is easily installed and its compact design allows it to be hidden behind the stereo system to provide years of reliable use. Call today to order or for the name of your local dealer.

SI-2 (120 watts max.) \$49.95
SI-3 (900 watts max.) \$69.95
R.F. Engineering, Inc.
 9215 Lowell Blvd.
 Westminster, CO 80030
 call collect (303) 430-8281

Gifted Listener Audio

Ariston • Audioquest • Celestion • ET • Euphonic Technology • Forte • Mirage • Nitzy Gritty • Onkyo • Phantom Acoustics • Premier • Sorisae • SOTA • Sumiko • SME • Talisman • Threshold • Koetsu • Dynavector • Livewire
 Books Recordings Accessories

5866 Old Centreville Road
 Centreville, Virginia 22020 **703-818-8000**

AUDIOPHILES * TRADERS * COLLECTORS

Join our nationwide network of buyers and sellers for used audio and video equipment. The **Audiophile Connection Network** is comprised of music and video enthusiasts from around the country. End the frustration and inconvenience of trying to sell equipment on your own, and take advantage of our dedicated staff who will do the searching for you. We will quickly match your needs to selected audiophiles and videophiles nationwide.

Call for membership information:
914-268-0240
 9:00 am-6:00 pm Monday-Friday

AUDIOPHILE CONNECTION NETWORK
 P.O. Box 592
 Palisades, NY 10964

Manufacturers of precision audio electronics since 1975. Made in USA. 5-year warranty, 1-day turn-around for service. Preamps, power amps, tone controls, electronic crossovers, head amp, and phase inverter. Also audio accessories and test CDs. Main Street, P.O. Box 460 Rindge Center, NH 03461. Phone (603) 899-5121. VISA/MasterCard.

DB SYSTEMS

FOR SALE

SELL—PIONEER ELITE M-90 200/200 AMP \$700; Adcom 555 Amp \$500; 535 Amp \$175; Nikko Electronic Crossovers, 2-Way Stereo, 3-Way Mono \$225; All like new & less than 1 year old. Manuals & Boxes. (206) 322-6846; (206) 325-6539.

Sound Technology Test Equipment Bought-Sold-Traded. See our ad at the beginning of the classifieds. **AUDIO CLASSICS**, POB 1765T, Walton, NY 13856 607-865-7200. 8AM-5PM EST Mon.,-Fri.
 —Audio Advertiser for over a Decade—

THE STEREO TRADING OUTLET
 New and Used Audio Components Bought-Sold-Traded.

AMPLIFIERS: B&K ST-140 \$410, ST-202 \$525, EX-442 \$739; Belles I \$395 Bryston 3-B \$625, Distech LS II \$519, Forte F1A \$675new, HK Citation 22 \$549, Nak PA-7 \$1049, Rotel RB870 \$249new, RB850 \$199new, Rowland Model 3 \$2,769, Superphon DM-220 \$495, Yamaha M-4 \$269, **PRE-AMPLIFIERS:** Adcom Sic-505 \$99new, Agi 511A \$249, B&K PRO-5 \$319new, Amber \$269, CJ PV2AR \$375, Forte F2 \$549new, Halfer Updated DH100 \$219, HK 825 \$269, McIntosh MX-110 \$395, Melos GK1 \$679, Perreux SA2 \$399, Perreux SM2 \$595, Quad 34 \$395, Rowland Coherence 1 \$2,295, Sumiko Alchemist \$595, True Image CM-1A \$1,200, **SPEAKERS:** AR TSW-210 \$279pr, AR TSW-710 \$795pr, AR STC-660 \$459, Bozak B401 \$199pr, Celestion DL-6 \$325pr, DL-8 \$330pr, DL-10 \$649pr, SL-600 \$995pr, KEF 104.2 \$1,250, Magnat Gammasphere \$995pr, Morduntshort 35ti \$279, Quad ESL-63 \$1,800, Rodgers LS-4A \$369, Velodyne ULD-15 \$1250, **CABLES:** Monster X-Terminators \$16.95pr, Monster Ref 1m \$67.00, M1000 2m \$149.00, **TUNERS:** Mission Cyrus \$259, Parasound DQ260 \$219new, Rotel RT-850 \$199, Rotel RTC-850 \$399 new, **MISC:** Adcom GFS-3 \$69, GFS-4 \$105, GFS-6 \$110, ACE-515 \$125, Monster Zapit \$14.95, McIntosh Mq-101 \$125, Mq-104 \$129. **THE STEREO TRADING OUTLET offers the largest selection of quality pre-owned audio components. HIGHEST \$PRICES PAID\$ FOR USED AUDIO COMPONENTS.** Visit our two upper level showrooms at 320 Old York Rd Jenkintown, PA. 19046. Call For Mail List. Layaway, Major Credit Cards Accepted.

215-886-1650
 —Buying All Types of Used Audio Components—

STRAIGHTWIRE CABLES IN STOCK! CALL FOR PRICES & ORDERING INFORMATION. AUTHORIZED DEALER. HCM AUDIO, 1-800-222-3465, 1-800-345-1341 VISA MC/AMEX

TRANSCENDENCE THREE—Finally musical reality! Announcing the stunning original new hybrid Fet-Valve designs from Audio by Van Alstine. The Fet-Valve Amplifiers, the Fet-Valve Preamplifiers, and the Fet-Valve CD Players. A perfect combination of tubes for voltage gain and power lets for current gain, each used ideally! The result is musical reality—the closest approach to live music in your home short of bringing in the musicians. One listen and you will be satisfied with nothing less. Now ultimate musical enjoyment is much less expensive. Write or call for our illustrated catalog. Audio by Van Alstine, 2202 River Hills Drive, Burnsville, MN 55337. (612) 890-3517.

TUBES FROM THE AUDIO DEN

6CA7/EL-34	\$17.00	12AU7	\$ 7.50
6CG7/6FQ7	8.95	12AX7	7.50
6DJ8	7.95	5751	7.50
6L6 GC	15.00	6550	25.00
12AT7	6.50	7199	15.00

Matched pairs available. Hundreds of types in stock
 Please add 10% for shipping and handling. **AUDIO DEN Ltd.**, 2021 Smith Haven Plaza, Lake Grove N.Y. 11755. 516-360-1990

USED AND DEMO EQUIPMENT: Aragon 2004, Audio Research SP-15, Counterpoint SA-20, Infinity IRS Gama, Lurné turntable, Vandersteen 4a; speaker wire and interconnects from MIT, Monster and Livewire. Call **Audition Audio** for pricing and details at (801) 467-5918. Visa, MC, Amex accepted.

Want A CD? But no amplifier input! Unique selectors give the input capability you need for any audio accessory. Write today for details. JEL, 409 Angus Blvd-5A, Warner Robins, GA. 31088.

Maestro **AUDIO CABLES**
 by Straight Wire

Maestro - The most revered title among music conductors. The elite conductors - Toscanini.. Reiner.. Munch... Performing in concert, **MAESTRO** Cables achieve such stature by conducting music signals with unprecedented refinement.

The **MAESTRO's** performance eclipses trendy interpretations to attain absolute fidelity to the composers' intentions. With **MAESTRO** Cables, music sounds enchantingly beautiful. **Suddenly you can hear everything.**

• For a thorough analysis of cable performance and interconnect speaker cable compatibility request **THE WHITE PAPER ON AUDIO CABLES**

1909 Harrison St., #208, Hollywood, Florida 33020 / (305) 925-2470

LOUDSPEAKERS

Can't afford the loudspeaker of your dreams?

We'll show you how to build it! From bookshelf to horns to electrostatics. Classic kits and new designs. A rich mix of how-to and theory. From the world's only magazine devoted to loudspeakers. Only \$35 for two years (12 issues). 1 year for \$20 (6). U.S. \$ only. Outside U.S., add \$4/year for postage.

SpeakerBuilder
THE LOUDSPEAKER JOURNAL

Box 494, Dept. A84, Peterborough, NH 03458

A&S SPEAKERS offers high-end speaker components, kits and systems in the Bay Area and mail order. We have all of the legends: Audax, Dynaudio, Scan-Speak, SEAS, Morel, Peerless, Focal, Eton, VMPS, others. Free literature. A&S Speakers, 3170 23rd Street, San Francisco, CA 94110. (415) 641-4573.

ADS., NAKAMICHI, CARVER, BANG OLUFSEN, REVOX, B&W, KEF, HARMON/KARDON, N.A.D., LUXMAN, HAF-LER, TANDBERG, ADCOM, DENON, KLIPSCH, YAMAHA, D.B.X., INFINITY, J.B.L. AND OTHER QUALITY COMPONENTS. BEST PRICES—LIVE PROFESSIONAL CONSULTATION WEEKDAYS—AUTOMATED PRICING AND INFORMATION AVAILABLE 24 HOURS. ALL PRODUCTS COVERED BY MANUFACTURER'S U.S.A. WARRANTY. AMERISOUND SALES INC., EAST: (904) 262-4000 WEST: (818) 243-1168.

...CIZEK'S BACK!..

BRAND NEW DESIGNER SERIES SPEAKER SYSTEMS. Features new innovations including patented crossover network. Repair, modify & upgrade old Cizek speaker systems. HTA INC., 1611 Crenshaw, Torrance, CA 90501, Suite 142. Dept. AM1089 Phone (213) 539-2469 Voice Box 300.

HEAVY DUTY SPEAKER CABLES from .47 per foot. Custom terminations available. PS-CABLE, Route 9 Box 7, Salisbury, MD 21801 (301) 546-1881 Visa/MC/DISC.

FIND OUT WHY AUDIO CONCEPTS INC., sells more high-end speaker kits and parts than anyone in the country. Catalog Toll Free: 1(800) 346-9183. Allow 4-6 weeks for delivery. First class mailing send \$2 to Audio Concepts, Box 212, LaCrosse, WI 54601.

AmEx VISA
MASTERCARD
10 AM - 7 PM DAILY

The **DA** Digital Audio Tape STORE
2624 Wilshire Blvd. Santa Monica, CA 90403
(213) 828-6487 • FAX: (213) 470-6176

DIGITAL AUDIO TAPE RECORDERS

PROFESSIONAL PORTABLE HOME

ALL BRANDS IN STOCK NOW!!!

FULL WARRANTY • ENGLISH MANUALS

TRANSFORMERS, TAPES and ACCESSORIES AVAILABLE

Shipping VIA UPS/FED-EX

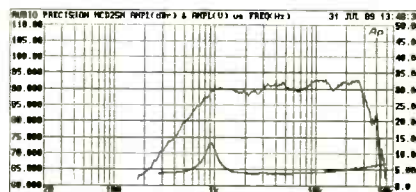
LOUDSPEAKERS

LOUDSPEAKER COMPONENTS-KITS. Dynaudio, Morel, Eclipse, Focal, Peerless, Eton, Vifa, more! Crossover parts—design books also. Catalog \$1. Meniscus, 2442 28th St. S.W., Wyoming, Michigan 49509. (616) 534-9121.

HI-FIDELITY IN THREE LANGUAGES

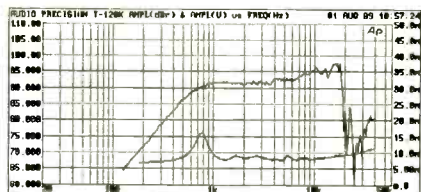
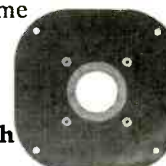
MB MCD25M

- Titanium Dome
- 990 Hz Fs
- 100 Wts Program
- 91 db 1W/1M
- 9.5 cm x 9.5 cm
- Price: **\$45.00 each**



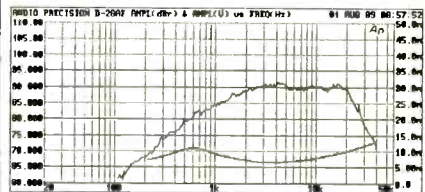
Focal T120K

- Kevlar Inverted Dome
- 600Hz Fs
- 100 Wts Program
- 93db 1W/1M
- 12cm x 12cm
- Price: **\$53.00 each**



Dynaudio D28AF

- Soft fabric dome
- 700 Hz Fs
- 150 Wts Program
- 91 db 1W/1M
- 11 cm diameter
- Price: **\$45.00 each**



Ordering Information: All speaker orders will be shipped promptly, if possible by UPS. COD requires a 25% prepayment, and personal checks must clear before shipment. Adding 10% for shipping charges facilitates shipping procedure (Residents of Alaska, Canada and Hawaii, and those who require Blue Label air service, please add 25%). There is no fee for packaging or handling, and we will refund to the exact shipping charge. We accept MasterCard or Visa on mail and phone orders.

Sonographe IS value

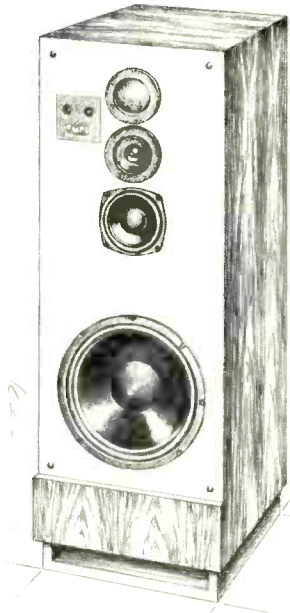
The SCI FET preamplifier and SA120 power amplifier redefine value in audio. Designed and manufactured in the US by Conrad-Johnson design, the SCI and SA120, at under \$1700 for the pair, make more affordable than ever the quality, value, and musicality for which Conrad-Johnson is internationally recognized. Add the "best-buy" SD1 cd player or the award-winning SG3 turntable and the remarkable SL21 loudspeakers for a complete, matched high end system for under \$3300.

the Conrad-Johnson group
2800 R Dorr Avenue
Fairfax, VA 22031 • 703-698-8581



MADISOUND SPEAKER COMPONENTS
8608 UNIVERSITY GREEN
BOX 4283
MADISON, WISCONSIN 53711
FAX: (608) 831-3771
VOICE: (608) 831-3433

LOWER LOUDSPEAKER DISTORTION



The VMPS MiniTower IIa, \$369ea kit, \$479ea assem. in oak or walnut. 39x12x15" (HxWxD). 65lbs

The VMPS MiniTower IIa is a dual 10", compact floor standing system with many of the features and much of the performance of our highly acclaimed large speakers, at a very attractive price. Sensitivity (92dB/1W/1m), power handling (200W rms/8 Ohms), maximum undistorted output levels (122dB SPL/1m) and bass extension (-3dB at 28Hz) are outstanding for a system this size. The MiniTower IIa shares the same mid and high frequency complement as the VMPS **Tower II** (a "Recommended Component" of **Stereophile** magazine, April 89).

Also available from VMPS are the **Super Tower/R** (\$699ea kit, \$969ea assem), reviewed in **Audio**, June 89 as having "no rival anywhere near its price" (Anthony Cordesman), the all-out high end assault **Super Tower III** (\$3895/pr kit, \$4795/pr assem), our three **Subwoofers** (\$229-\$439ea kit, \$299-\$549ea assem), the two **QSO Series** of bookshelf speakers (\$149-\$345ea) and John Curl's breakthrough **SCP2A** phono preamp (\$2250).

Hear VMPS at the dealers listed below, or write for brochures and test reports. Kits are supplied with fully assembled cabinets and all prices include free shipping in 48 US states.

VMPS AUDIO PRODUCTS
div. Itone Audio
3412 Eric Ct. El Sobrante Ca 94803
(415) 222-4276

Hear VMPS at: The Listening Studio, Boston. Par Troy Sound, Parsippany NJ. Dynamic Sound, Washington DC. American Audio, Greenville SC. Arthur Morgan, Lake Mary FL. Audio by Caruso, Miami FL. Stereoland, Natrona Hts. Pa. Audio Specialists, South Bend, In. Shadow Creek Ltd, Minneapolis Mn. Encore Audio, Lees Summit, Mo. Stereoworks, Houston Tx. Exclusively Entertainment, San Diego, Ca. Reference Sound, Eagle Rock, Ca. Sounds Unique, San Jose Ca. Ultimate Sound, San Francisco Ca. Custom Audio, Novato, Ca. Private Line Home Ent., Stockton Ca. Itone Audio, El Sobrante Ca. Sound Room, Vancouver BC Can.

DAT Digital Audio Tape

We have digital audio home, portable and professional cassette recorders and tapes (blank & prerecorded) IN STOCK NOW!

We were the first U.S. company to import both CD and DAT into the U.S. We carry various DAT decks and offer the latest models as soon as they become available. We also carry DAT Rax 60, solid oak cassette holder.

Audio Gallery
(213) 829-3429

2716 Wilshire Blvd., Santa Monica, CA 90403



MAGNAVOX CDB-582
179. CD PLAYER Brand New!
Our Lowest Sale Price Ever! Limited Quantities

Save Up To **40% OFF LIST** **Hafler Closeouts**
NEW! DH-500 • DH-120 • DH-330
DH-110 • DH-100

349* **SONY PHILIPS**
PIONEER*
*AND UP AV/LaserDisc Players

PLEASE VISIT US FOR NEW:

ACOUSTAT	CARVER	LEXICON	PIONEER LV
APATURE	CHICAGO	LUXMAN	PLC (Mel 71,
AR	DUAL	MAGNAVOX	PS AUDIO
ARCICJ	FRIED	MAY AUDIO	SONY ES
ASC	GRABO	MONSTER CABLE	SOTA
AUDIOQUEST	HAFLER	NILES	STAX
AUDIOPRISM	HARMAN KARDON	PARADIGM	SUMIKO
BOSE	JBL	PHILIPS	TARGET
CAMBER		THORENS	

Fair Dealings at Fair Prices

617-547-2727

Our Great Used Equipment Sale!

TUBE EQUIPMENT

Quicksilver Mono Blocks \$795
Conrad Johnson M17A-1 \$765
Conrad Johnson PV2A-1 \$325
Conrad Johnson PV2A \$295
Marantz 10B Mini \$1200
McIntosh MX110 Mini \$475
McIntosh MC225 \$500
Dynaco MK4 (3 Pcs) \$295
CST 31P \$250
Precision Fidelity C8 \$225
Heriman Citation 2 \$325

DIGITAL

Sony PCM-601ESD \$995
Sony PCM-501ES \$750
Sony CDP-605ESD \$425
Philips CD880 \$495
Philips CD980 \$595
Philips CDV488 \$895
Cal Audio Tempest \$795
PS Audio CD-1 \$395
Magnevox CDB-650 \$235

LOUDSPEAKERS

Carver Amazing Silver \$1295
Quasi ESL \$565
Thiel 03 \$375
Beveridge 25W \$1495
JBL 240T1 \$1395

ELECTRONICS

Revox B77 1/2 Trk \$795
Stax L-Sig/SHM-T1 \$1295
Sota Sapphire \$395
Hafler XL600 \$850

Hafler DH101 \$95
Crown SC2004-11 \$525
Crown DS207/70 \$150
Electrocompaniet PREZA \$625
McIntosh MAC4100 \$950
AudioResearch DS2B \$575
DBX 118 \$125
DBX 21 \$35
B & O Beogram TX \$285
Luxman E170A \$119
Linnemont E1-1 w/Pump \$295
Premier MM1 \$120
Crown DL2 \$750
Audio Pulse Model 2 \$50
Nitty Gritty PRO2 New \$495
Sony AV-5595S \$250
Sony STS-5555S \$200
Sony TAF-700ES \$395
Sony SDP-777ES \$500
Lexicon GP2 \$495
Revox B265 \$1195
Stax SR5/SR06 \$195
Crown FM2 \$250
Crown S12 \$275
McIntosh MC2100 \$395
Kosky Blue \$100
Quad 33 \$125
Teac A2340SX \$495
Sony TAE-77ESD \$750
VPI HW19/11/SLA3 Carnegie \$1550
Dynaco \$120 \$100
Hegeman Hap2 \$159
Quad AMQ SW Call
Lexicon M1-1 \$595
Meridian N3 Active \$495

- All Risk Free! 3 wk. Money Back Guarantee
- All with Limited Warranty up to 6 months
- Sale Prices: Phone order only. In-store higher.
- UPS Shipping/Handling at Low Rates

- We Buy-Sell-Trade
- New & Used HiFi
- Closeouts
- Discontinued Models
- \$4 Bi-monthly Flyer

95 Vassar St
Cambridge, MA 02139
Phone: 617-547-2727
Fax: 617-547-2140

LOUDSPEAKERS

FRIED SPEAKERS & KITS

State-of-the-art! Amazing performance/price! FREE shipping. Knowledgeable, friendly service! Audire, Chesky, CWD, Grado, Monster, PS, Quad, Sola, Spica, Stax, Thorens, more. READ BROTHERS STEREO, 593 King Street, Charleston, South Carolina 29403. (803) 723-7276.

HIGH-END SPEAKER KITS

DESIGN 7 MANUFACTURER OF HIGHER FIDELITY LOUDSPEAKERS, we believe superior sound quality promotes itself. To that end, we extend to you, the AKUSTIC-DYNAUDIO experience. ADVANCED AKUSTIC, 4555 Pershing, Suite 33184, Stockton, CA 95207. Catalog \$1 or Call 1-209-477-5045.

LEGACY-1 LOUDSPEAKERS BY REEL TO REAL

DESIGNS: Probably the most accurate speaker system you'll ever own. Samarium Cobalt leaf tweeter hands off to a 30mm European dome. Vocals are recreated by the most remarkable cone driver anywhere. A multi-chambered, slot-loaded dual woofer configuration extends bass response to 16 Hz. Biampable through Tiffany gold binding posts and high definition cable. Elegant 43" tower design. Ten year warranty. \$1648/pr shipped prepaid. Ten day home trial. RTRD, 3021 Sangamon Ave., Springfield, IL 62702. 1(800) 283-4644.

LRS DOES REPAIRS & UPGRADES FOR "GENESIS" & "EPI" SPEAKERS. KITS FOR QUALITY SPEAKERS WITH ALUMINUM TWEETER, EXCEPTIONAL 8" WOOFER. MC/VISA. (603) 749-1904.

SOUND ANCHORS

Specialty Audio Stands

SOUND ANCHORS stands come PREFILLED with special materials to dampen resonances and add mass, you don't have to fool with sand or shot. SOUND ANCHORS stands are engineered to interface with your specific components and speakers so they sound their best... period. Special stands are available for these speakers. VanderSteig 2-C, B&W 801 Matrix, Spica TC-50, Sona Panorama and now Magnepan models MG 2C/2.5 and MG 3A. For information and the name of your nearest dealer please call (407) 724-1237.

SPIKE YOUR SPEAKERS! Case hardened steel spikes mount to the bottom of your speakers. Penetrates carpeting and couples your speaker to the floor. IMPROVES DEFINITION AND IMAGING. Eight spikes with hardware and instructions, \$17.95. Send check or money order to: Speaker Spikes, P.O. BOX 14673, Milwaukee, WI 53214.

RESPONSE • 2



A New Level Of Performance By ProAc.

USA:
Modern Audio Consultants
112 Swanhill Court
Baltimore, Maryland 21208
301/486-5975

CANADA:
Artech Electronics Ltd.
699 Meloche Avenue
Dorval, Quebec H9P2S4
514/631-6448

PROAC

CD PLAYERS

CD PLAYER SUPERMOD

Dramatic Improvements in Sound—turn any low priced CD player into a High End Player. Clarity Audio Systems (415)-641-7130.

COMPACT DISC PLAYERS

Knowledgeable, friendly service! Finest brands. FREE shipping. READ BROTHERS STEREO, 593 King Street, Charleston, South Carolina 29403. (803) 723-7276.

PHILIPS REFERENCE STANDARD COMPACT DISC PLAYERS, CDV-CD VIDEO PLAYERS, DIGITAL TO ANALOG CONVERTERS, AUDIO VIDEO RECEIVERS, DIGITAL INTEGRATED AMPLIFIERS, DIGITAL TUNERS, CASSETTE DECKS, IDTV IMPROVED DEFINITION TELEVISION, COLOR MONITOR RECEIVERS, PROJECTION TELEVISIONS, DIGITAL SUPER VHS HI-FI VCR'S, CAMCORDERS, FOR INFORMATION CALL 301-890-3232 J S AUDIO ONE CHILDRESS COURT, BURTONSVILLE, MARYLAND 20866

COMPACT DISCS

ARCHITECTURALLY DESIGNED

Classical style CD cabinets, hand-made of solid oak. FREE brochure. ZEAL HARDWOOD DESIGN CO., Dept. A10, 4 Benjamin Road, Lexington, MA 02173. (617) 861-1705.

CATALOG YOUR CD'S AND VIDEOS WITH YOUR PC. PRINT LISTS BY CD ARTIST AND VIDEO TITLE. \$29.95 SEND ORDERS OR INFORMATION REQUESTS: E.L. KNAPP, 420 ATWOOD ST., LOUISVILLE, KY. 40217-1602.

CD-BINDER and other compact disc storage solutions. Call 1-800-992-8262 or write for FREE CATALOG. Univenture, Inc., Dept. AU, Box 570, Dublin, Ohio 43017.

COMPACT DISCS—AT LOW WAREHOUSE PRICES. Now in our 5th year. CATALOG: Send \$2.00. Oz Warehouse, 1575P Hwy 29, Lawrenceville, GA 30244.

COMPACT DISC PRICES STARTING AT \$5.99. SEND \$1 FOR CATALOG. REFUNDABLE WITH ORDER. HARRIS HOUSE OF MUSIC, BOX 388759, DEPT. AU, CHICAGO, IL 60638

DIRECT-TO-TAPE RECORDINGS—CD's and 70+ DAT tapes plus other tape formats. Primarily classical/jazz. Send 75 cents (3 stamps), for CATALOG/NEWSLETTER to: Direct-to-Tape Recording, 14-R Station Avenue, Haddon Heights, NJ 08035.

ORGANIZE AND ALPHABETIZE YOUR CD SELECTIONS with the new 26 card Compact Disc Index System. \$5.99 each plus \$2 S&H. Aaron Distribution, 3262 Superior Lane, Suite 101-1AJ Bowie, Maryland 20715.



AS-ONE™ INTERCONNECT
SYMPHONIC CONDUCTOR™
SPEAKER CABLES

MISSING-LINK™
AUDIOPHILE A.C. POWER CABLE

DIFFERENTIAL BALANCED INTERCONNECT

Aural Symphonics

2016 Flintbury Court San Jose, California 95148 408-270-6033 FAX 408-270-6039

IN CANADA: INTERLINEAR 105 RIVIERA DR. UNIT #3. MARKAM, ONTARIO L3R 5J7 416-479-1893

Low-Price Accessories

RECORD DOCTOR

Vacuum-powered record-cleaning machine




Only... 169.95

Your records will sound better and last longer!

Monster Sound Rings

IMPROVE CD SOUND!



12 Rings 14.95
25 Rings 24.95
50 Rings 49.95

Magnavox CD Players

CDB262 Player w/remote \$149.95
CDB582 w/new chip \$199.95
CDB586 Changer/new chip \$279.95



SONEX JR's

2'x2'x2" SHEETS
4 colors
Box of (4) \$49.95



RECORD CLEANING SOLUTIONS

Torumat Tm-7XH 16 oz 14.95
SuperCleaner 16 oz 12.95
..... 32 oz 16.95
..... 1 gal 24.95

Nitty Gritty "First" Record Cleaner
6 oz 14.95 16 oz 24.95
Nitty Gritty Purifier #2:
16 oz 11.95
1gal 39.95



ASC Tube Traps

Call for models and prices



Fluxbuster FB-1

Demagnetize your MC cartridge for best sound

FB-1 Fluxbuster 149.95
220/240v 209.95



STYLUS CLEANER


AQ Electronic Stylus Cleaner

Reg. 39.95
SALE... 19.95



LAST Record Care

#1 Power Cleaner 11.95 #4 Stylus Cleaner 7.95
#2 Preservative 14.95 #5 Stylus 16.95
#3 Reg. Cleaner 7.95 #8 VHS head cleaner 19.95



AQ CD FEET

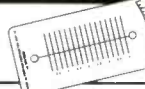
Energy-absorbing sorbothane

CD Feet (4) 22.00
Large Feet (4) 34.95



OB Protrac

Cartridge Alignment Gauge 24.95



GRADO Cartridges

ZTE-1 19.95
Signature Itrac MC2 Call
TLZ, XTZ Call
8mz stylus 89.95
MC2 stylus 135.00



SHURE GAUGE

Stylus Force Gauge

Only 14.95



FM Antennas

AudioPrism antenna HI-Q 49.95
APPA-1 249.95

Terk Pi Antenna 79.95



Sumiko Tweek



LPs/CDs

Minimum order 2 LPs or CDs please

Chester NEW Jazz CDs:
J01 Johnny Frigo (cd) 14.98
J02 Clark Terry (cd) 14.98
J03 Phil Woods (cd) 14.98
J02B Caran. Rio After Dark (lp) 14.98
J02B Bortla. Non-Top to Brazil (lp) 14.98

Reference Recordings LPs or CDs
East Wind Jazz CDs
LA Four Going Home (cd) 18.95
Pavane Pour L'ne (cd) 18.95
Mark Jones. Handy Panky (cd) 18.95

Hermosa World Recordings
HMC379 G. Panagou (lp) 12.95
HMC1050 La Folia Spagna (lp) 12.95
HMC7010 Handel. Water Music (lp) 12.95

Water Lily R. Delmoni W507
Paganiniana (lp/cd) 17.95
Sheffield. Kudo Drums (cd) 14.99
Moscow Sessions set (lp/cd) 39.95
Sheffield Track Record (lp/cd) 14.99

Wilson Auste. Center Stage
Grace Cathedral Choir (lp/cd) 15.98
Beethoven/Encour. Sonatas (lp/cd) 15.98
S. Wonderful Jazz (lp/cd) 15.98
Debussy & Brahms Sonatas (lp/cd) 15.98
Winds of War and Peace (lp/cd) 15.98

Proprius
Cantata/Domino (cd) 17.95
Jazz at Parnthop (lp) 34.95 (cd) 16.95
Three-Blind Mice Jazz (cd) 17.95
Anigphone/Blues Jazz (cd) 17.95
Opus 3 Test LPs 16.95 CDs 23.95

Amex / Visa / Mastercard / Discover
1-800-942-0220

audio advisor, inc.
225 Oakes SW, Grand Rapids, MI • 49503
FAX: 616-451-0709 Service 616-451-3868

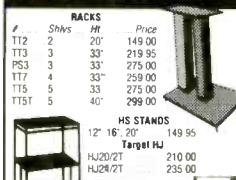
More Accessories

Target Racks & Stands

#	Shvs	Ht	Price
TT2	2	20"	149.00
TT3	3	33"	219.95
TT3	3	33"	275.00
TT7	4	33"	259.00
TT5	5	33"	275.00
TT5T	5	40"	299.00

HS STANDS
12" 16" 20" 149.95

Target HJ 210.00
HJ242T 235.00



Target Wall Shelves

TT-1L 109.95
TT-1L 149.95



Specialty Stands

ARCICI Stands
B&M801M 399.95
ESL53 175.00
DLS 175.00

Sound Anchors Stands
Vandersteen IIc 219.95
Magilla 299.95
B&W801M 399.95



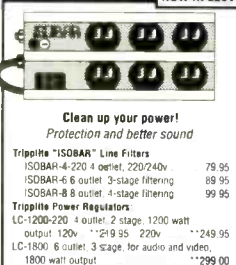
POWER STRIPS

NOW IN 220V!

Clean up your power!
Protection and better sound

TrippLite "ISDBAR" Line Filters
ISDBAR-4-220 4 outlet, 220/240v 79.95
ISDBAR-6 6 outlet, 3-stage filtering 89.95
ISDBAR-8 8 outlet, 4-stage filtering 99.95

TrippLite Power Regulators
LC-1200-220 4 outlet, 2 stage, 1200 watt output, 120v \$219.95 220v \$249.95
LC-1800 6 outlet, 3 stage, for audio and video, 1800 watt output \$299.00



TIP TOES & Counterfeet

1 1/2" Tip Toe without wood screw 6.50
1 1/2" Tip Toe w/ wood screw 8.95
C-10 For Drace Depth, Lead Ballroom, ARCIQ Quad Stand, Vandersteen stands 8.95



LEAD BALLOON Turn-Table Stand

249.95



WRT Wonder Solder

SILVER SOLDER
1 lb 9.99
1 lb 34.95



Monster X-Terminator

pair 24.95




Niles Audio Speaker Switching Boxes

Call



VPI Brick

Reduces Vibration, Improves Sound.
..... 39.95



INTERCONNECT CABLES

Aural, Cardas, Cestech, FMS, Livewire, MIT, Monster, VandenHul Custom length interconnects Call



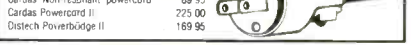
SPEAKER CABLES

As One, Cardas, Distech, Livewire, Monster, Tara Labs Spac- & Time Call



DELUXE POWERCORDS

Cardas 'Non-resonant' powercord 89.95
Cardas Powercord II 225.00
Distech Powerbridge II 169.95

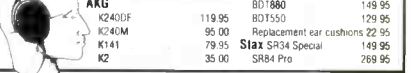


HEADPHONES

Beyer Dynamic
BDT990 189.95
BD1880 149.95

AKG
K240DF 119.95
K240M 95.00
K141 79.95
K2 35.00

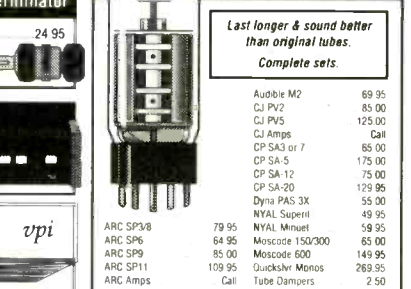
Replacement ear cushions 22.95
Star SR34 Special 149.95
SR84 Pro 269.95



RAM Vacuum Tubes

Last longer & sound better than original tubes. Complete sets

Audible M2 69.95
CJ PZ2 85.00
CJ PV5 125.00
CJ Amps Call
CP SA3 or 7 65.00
CP SA-5 175.00
CP SA-12 75.00
CP SA-20 129.95
Dynas PAS 3X 59.00
NYAL Super 49.95
NYAL MuNet 59.95
Moscode 150/300 65.00
Moscode 600 149.95
Quick&ie Monios 269.95
Tube Dampers 2.50



Shipping Charges
UPS, Insured, 48 States 4.95
Accessories: One Item 1.25
Each Extra Item 12.95
*Turntables, Stands 12.95
*Electronics 8.95

UPS International Air to the Far East, Europe, New Zealand and Australia.

1-800-942-0220
Amex / Visa / Mastercard / Discover

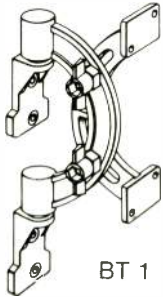
audio advisor, inc.
225 Oakes SW • Grand Rapids, MI • 49503
FAX: 616-451-0709 Service 616-451-3868

TARGET

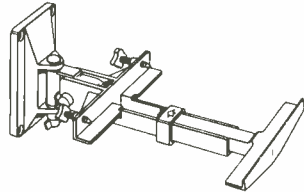


B-TECH

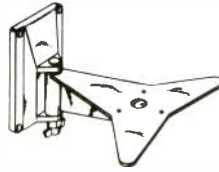
WALL BRACKETS FOR SPEAKERS



BT 1



BT 3



BT 4

For your free copy of our catalogue contact:
MAY AUDIO MARKETING INC.

P.O. Box 1048, Champlain, N.Y. 12919 - Tel.: (518) 298-4434
in Canada: (514) 651-5707

COMPACT DISCS

WE'RE MUSIC TO YOUR EARS

- Free Catalog of CD's.
- Same day shipping if you order before 12 noon EDT.
- \$1.00 DISCOUNT per disc on orders of 10 or more.
- \$2.50 for UPS Cont. U.S. shipments.

Call Toll-Free to order:
1-800-333-4422

P.O. Box 616, Clifton Park, NY 12065
518-383-4855



REFERENCE RECORDINGS

EILEEN FARRELL - the very name summons affection and respect - is without doubt one of the most celebrated and versatile singers of the century. Now we are proud beyond measure to have Miss Farrell's glorious singing available in Prof. Johnson's celebrated sonics. First up, songs by Harold Arlen, with whom Farrell worked closely, in cabaret style with a small combo. Inventive arrangements by Loonis McGlohon feature trumpet solos by jazz great Joe Wilder. "Eileen Farrell Sings Harold Arlen" (RR-30) is now available on Digital master CD (\$16.98). Pure Analogue JVC LP (\$16.98), or DAAD HX-Pro cassette (\$9.98) at your local dealer or postpaid from Reference Recordings, Box 77225X, San Francisco CA 94107 (Visa/MC/check) 415-355-1892. Free catalogue/reviews. Dealer inquiries invited.

TEST YOUR SYSTEM WITH CD'S from Pierre Verany, CBS Labs, etc. Catalog, details: DB SYSTEMS, P.O. BOX 460, RINDGE, NH 03461. (603) 899-5121.

AUDIOPHILE RECORDS

Analog classical LPs. ATR, BIS, Chesky, Hyperion, Klavier, Open Window, Opus 3, Proprius, RR, Titanic, Water Lily, Wilson, more. Member discount. Alternative Audio, 801 W. El Camino-183, Mountain View, CA 94040. FREE catalog 1-800-873-4434.

AUDIOPHILE LP'S AND CD'S

IN PRINT

Mobile Fidelity, Reference Recording, Sheffield Labs, Chesky, Wilson, M & K, American Gramophone, Proprius, OPUS 3, Gemini, Super Analogue, Concord, ATR Mastercut, Harmonia Mundi, Linn Re-cut, EMI, Waterlily, North Star, Odin, Japanese and British Imports (lps). Many TAS recommended LP's!

OUT OF PRINTS

Nautilus, Super Disks, Nimbus, UHQ, Lyrita, MFSL, Stones, Sinatra Boxes, Direct to Disc by Crystal Clear, Umbrella, EMI, RCA LSC, Mercury SR, Casino Royal, CBS Mastersounds, Etc.

AUDIOPHILE CD'S

MFSL Gold "Ultra Disk", Bainbridge "Colossus", Elite "Stereo play", Three Blind Mice, East Wind, plus the above labels.

ACCESSORIES BY:

Nitty Gritty, LAST, Audio Quest

ALSO: ONE STOP distributor pricing for Audio/Record store, offering all brands above The LARGEST inventory and FASTEST service!

Call for catalog

Acoustic Sounds
P.O. Box 2043
Salina, Kansas 67402
913-825-8609
FAX 913-825-0156

RCA LSC "Shaded Dogs", Mercury 90,000, London FFSS "Bluebacks", Factory-Sealed MFSL Beatles Boxes, Rare Collectible Monos. Call REDISCOVERIES (212) 496-1681.

East Coast's **LARGEST** Dealer of Quality



Buy • Sell • Trade

New & Used Audio Components!

AR, Arison, B & K, CJ, Adcom, Nak, Mac, Magnavox, Teac, Polk, Counterpoint, Etc.

CASH for Used Audio Equipment!

The Stereo Trading Outlet

(215) 886-1650

320 Old Yk. Rd., Jenkintown, PA 19046



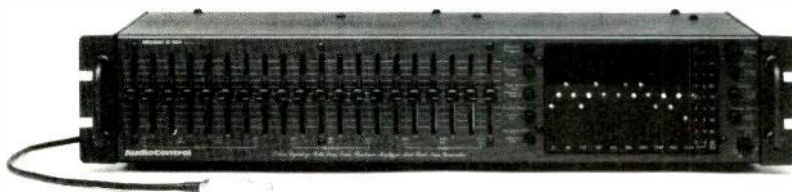
BRANDS AND MODELS ON DISPLAY

- KRELL DIGITAL MD-1 CD TURNTABLE & SBP-64X DIGITAL PROCESSOR
- NAKAMICHI 1000 DAT RECORDING SYSTEM
- MIRAGE M-1 BI-WIRED
- NEC 52 INCH ID₃ TV
- SONY CDP-X7ESD

HI-FI HEAVEN

1917 S. WEBSTER
GREEN BAY, WI 54301
(414) 437-8727

Shown: The Legendary Audio Control C-101



Undergo Analysis

There is no more impartial judge of frequency response, reverberant peaks and overall speaker listening room interaction than an accurate analyzer, test source and measurement microphone.

Only Audio Control offers four such complete analysis systems beginning at \$239, each coupled with a studio quality equalizer with paired or coupled sliders.

All Audio Control acoustic analyzers use a 4-micron diaphragm back-electret Measurement Microphone on a convenient 20-foot cable. It delivers an astonishing

± 1dB 20-20kHz to the analysis circuitry, besting some laboratory microphones costing over \$1000. The built-in test source generators are equally as accurate. Both warble tone and pink noise types are offered.

If you're tired of trying to integrate your system and room by ear, write or call us. We'll post you complete information on our products — including our remarkable half-octave bass analyzer / equalizer — as well as the name of your nearest Audio Control dealer.

AudioControl

22313 70th Ave. W., Mountlake Terrace, WA 98043
(206) 775-8461

AUDIOPHILE RECORDS

AUDIOPHILE ALBUMS FROM SOUND ADVICE! Mobile fidelity, Reference Recordings, Sheffield Lab, Chesky, Wilson Audio, U.H.Q.R.'s collection, etc... **SOUND ADVICE:** 8215 Grand, Kansas City, MO 64114. (816) 361-2713. Audiophile albums represent the final effort for the analog recording medium. Keep the faith.

AUDIOPHILE WAREHOUSE LIQUIDATION! Direct-to-Disc, Halfspeed, Quix II Recordings, 2000 available. Great Prices—example: Donald Fagen "Nightfly" (sealed) \$30, Now \$14.00! Elusive Disc, 4216 Beverly Blvd., Suite 230, Los Angeles, CA 90004, (213) 388-7176.

INVENTIONS WANTED

A NEW IDEA? Call NATIONAL IDEA CENTER of Washington D.C. FREE INFORMATION--1(800) 247-6600 EXT.155. Come see THE INVENTION STORE!!

INVENTIONS, IDEAS, TECHNOLOGY WANTED FOR PRESENTATION TO INDUSTRY AND EXHIBITION AT NATIONAL INNOVATION EXPOSITION. 1-800-288-IDEA.

INVENTIONS/NEW PRODUCTS/IDEAS WANTED: Call TLCI for free information 1-800-468-7200, 24 hours/day—USA/CANADA.

RECORDS

albumTRAK™

Provides the album enthusiast with the complete software package to track group; title; label; style; substyle; recording mode and date; purchase price, source and date; and comments. Handles 1 billion albums-disk space providing. Also tracks wanted albums. Runs on any IBM PC compatible. Send check/money order for \$39.99 to BLH Systems Group, 920 N. 4th Street, Second Floor, Philadelphia, PA 19123. Or call (215) 829-9213.

RECORD COLLECTORS SUPPLIES. REPLACEMENT JACKETS, INNER SLEEVES, 78 RPM SLEEVES, OPERA BOXES, LASER DISK BOXES, ETC. FREE CATALOG. CABCO PRODUCTS, BOX 8212, ROOM 662, COLUMBUS, OHIO 43201.

G&A

Rare Records Ltd.

We buy and sell

LP vinyl records

Over 100,000 titles in stock

Mail orders accepted

G&A Rare Records, Ltd.

139 West 72nd Street
New York, NY 10023

(Between Broadway and
Columbus Ave.)

212 877-5020

INTRODUCING THE SME MODEL 309



This exciting new addition to the SME range of tonearms exemplifies the design philosophy of SME. While the influence of the classic Series V will be clearly seen, the aim has been to meet the needs of a broader market in which an interchangeable headshell is required.

We believe SME's designers can be justly proud of this new model which, although not intended to challenge the Series IV or ultimate Series V, offers a performance and manufacturing excellence otherwise without equal.

For more information and the name of your nearest dealer call us at 415/843-4500 or write to P.O. Box 5046, Berkeley, CA 94705

sumiko

WANTED TO BUY

Challenging Prices For Last Call: Sequerra, McIntosh, Marantz, Quad, Audio Research, Western Electric, Westrex. Vintage speaker systems, units, from Tannoy, JBL, Altec, EV, Jensen RCA/LC-1A, W.E. Tel.: (818) 701-5633, David/Audio City, P.O. Box 786, Northridge, CA 91328-0786.

W. New England's Best!

Acoustal • Apogee • Aragon • Boston/Acoustics • B&W • Celestion • CWD • dbx • Dual • Energy • Fried • Haller • Infinity • JSE • JVC Video • Koetsu • Krell • Magnum • Melrose • Meridian • MIT • Mod Squad • Monster • NAD • Onkyo • Ortofon • Rotel • Shure • SME • Snell • Sony ES • SOTA • Stax • Sumiko • Velodyne • Well Tempered

Sound & Music

Sales & Service • 351 Pleasant St. • Northampton MA 01060 • (413) 584-9547

VTL Tube CD Player— Only \$995⁰⁰

If you follow CD player reviews in *Stereophile*, *TAS*, and elsewhere, you know that many reviewers tout tubed CD players for their smooth sound, true timbres, and natural soundstaging. The new VTL CDB582 combines the latest Philips technology (16-bit twin DACs, 4X oversampling) with a new tubed circuit by David Manley.

The result is MAGIC!

"The 582, made by Philips, gets data off the disc more accurately than any other machine we tested," says Manley. "To improve performance, we install my special tubed output stage."

The VTL CD582 starts with the Magnavox CD582. All convenience features are retained. 20 track memory. 3-speed music search. Shuffle play. 19-function



wireless remote. Don't look for the VTL CD582 in stores—we're buying all they can make. Phenomenal value at \$995.00. Add \$9.95 shipping in US. Satisfaction guaranteed.

Charge It!

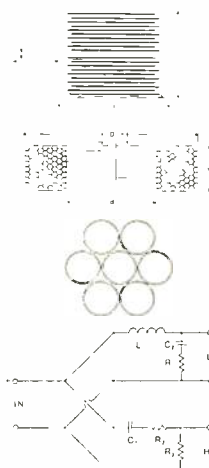
Amex / Discover / MC / Visa
1-800-942-0220

audio advisor, inc.

225 Oakes SW • Grand Rapids, MI 49503
616-451-3868 • FAX 616-451-0709

SPEAKER COMPONENTS

CROSSOVER COMPONENTS



FAST CAPACITORS

Metallized Polypropylene (Non-Polarized)
Values from 1.0 mfd to 200 mfd.
Voltage Rating: 250 VDC / 150 VAC

SOLENI INDUCTORS

Perfect Lay Hexagonal Winding Air Cored
Values from .10 mH to 30 mH,
Wire Sizes from #20 AWG to #10 AWG

HEPTA-LITZ INDUCTORS

Seven Strands Litz-Wire Constructions
Values from .10 mH to 30 mH
Wire sizes from #16 AWG to #12 AWG

SOLENI CROSSOVERS

Custom Computer Design
Passive Crossover for Professional, Hi-Fi and
Car Hi-Fi. Power up to 1000 Watt.

CROSSOVER, SPEAKER PARTS

Gold Speaker Terminals, Gold Banana Plugs
Gold Binding Posts, Crossover Terminals,
Power Resistors, Mylar Capacitors,
Plastic Grill Fasteners, Nylon Ty-Wraps
Grill Cloth, Car Speaker Grills, Misc. Parts

S SOLENI INC.
4470 Thibault Ave
St-Hubert, QC J3Y 7T9
Canada
Tel.: (514) 656-2759
Fax: (514) 443-4949

**COMPUTER AIDED DESIGN FOR
ENCLOSURE AND CROSSOVER
AVAILABLE TO CUSTOMER**

Product specifications and prices
available upon request

WANTED TO BUY

AAAAALWAYS PAYING TOP \$\$ for McIntosh, JBL parts and systems, M Levison, Krell, ARC, and similar high quality products. Call John Wolff- (313) 229-5191 eves. EST or anytime on machine.

AUDIO CLASSICS pays CASH! for your used high end stereo components. Call today for a quote. 8AM-5PM EST Mon.-Fri., POB 176WB, Walton, NY 13856 607-865-7200.
—Audio Advertiser for over a Decade—

Books—Catalogs—Literature—Magazines on Audio/Hi-Fi/Stereo. **AUDIO CLASSICS**, POB 176B, Walton, NY 13856 607-865-7200.

—Audio Advertiser for over a Decade—

DON'T CALL First- MARANTZ, McIntOSH, all tube components, vintage speakers, esoteric hi-end. Outbidding everyone on certain items. N.Y.S.I. (718) 377-7282 afternoons.

IT'S WORTH IT CALLING ME! McIntosh, Marantz Tube components, Western Electric, Altec, JBL, Jensen, Tannoy Lan-Gevin Trusonik Raw speaker. Tube etc., top cash. Henry Chang, 309 E. Garvey Ave., Monterey Park, CA 91754. (818) 571-6274 LAX.

I WILL PAY RETAIL for all tube **MARANTZ** or used **McIntOSH** tube or solid state. Need not work. (504) 885-6988 days.

JVC BOOMBOX MODEL PC-V1, DISCONTINUED EARLY 1989. NEW OR USED, WILL PAY CASH &/OR TRADE. RAMON (505) 479-2834.

Sony TC-164SD (TC-4550SD) Portable Cassette Recorder. Sony EL-D8 Elcaset Portable Recorder, Tapes, shells. MS/DS/JC, Box 1321, Meadville, PA 16335-0821.

TOP PAYING FOR MCINTOSH, MARANTZ TUBE AMP McIntosh Solid State, Western, JBL, Altec, Tannoy, EV, Jensen, Speakers & Horn, EMT Turntable, Ortofon, Arm. Temma—(516) 997-7633, (516) 496-2973.

WANT—JBL Hartsfield, EV Patrician, Brocier Transcendent, Singles OK, Larry Dupon, 2638 W. Albion, Chicago, IL 60645. (312) 338-1042 evenings.

WANTED: MARANTZ, McIntOSH, WESTERN, JBL, ALTEC OLD EQUIPMENT JOE (213) 320-7020 9am-5pm. TORRANCE, CA.

WANTED: Tube Marantz & McIntosh, Even bad condition because I have parts incl. Marantz #9 frontplates & logos. Also Krell, Mark Levinson & Audio Research. **Sell:** Ampex 440B, Sony CD 705 & Tannoy. (718) 387-7316.

Will Buy McIntosh, Marantz, JBL, Audio Research, Krell, Mark Levinson, Conrad Johnson, Counterpoint, and other High End Audiophile. TRADE WELCOME! Free Pick Up & Delivery. Call Kay (201) 935-4026 (NJ)

DAT

DAT REPAIRS Performed on all **SONY, TECHNICS, JVC** and **AIWA** models. **GUARANTEED WORK. FREE ESTIMATES.** FET Electronics, 17718 Vanowen Street, Reseda, CA 91335. (818) 345-8565.

SERVICES

AUDIO PULSE SERVICE. Factory trained technicians. We manufacture and repair digital time-delay (ambience) systems. White Labs, 10528 Lower Azusa Rd., Suite 192A, El Monte, CA 91731. (818) 446-5346.

Audio Repairs and Restorations by Cliff Ramsey, former Senior Service Technician at McIntosh with over 20 years experience. **AUDIO CLASSICS** POB 176AR, Walton, NY 13856, 607-865-7200, 8AM-5PM EST Mon.-Fri.
—Audio Advertiser for over a Decade—

CROWN PRO 700 AND 800 OWNERS: Parts, service and information update. Equalization with tape of your choice. Service by appointment. (John Haines) JEMAH SERVICES, 54226 Echo Lane, Bristol, IN 46507 (219) 848-4561.

MARANTZ 10B OWNERS! Does one channel slowly fade as your tuner warms up? Have sensitivity and clarity deteriorated over the years? Dozens of satisfied 10B customers prove that we fix these problems and restore your tuner to perfect working order—still the finest sounding tuner available. Lindsay Audiophile, 585 Manet Terrace, Sunnyvale, CA 94087 (408) 732-6150.

SPEAKER REPAIR. 4" to 18" speakers reconed. Orban Audio, 119 7th St., N.W., North Canton, OH 44720. (216) 497-9932. 6pm - 9pm EST.



offers Accessories for
the Discriminating Listener...

Featuring:

Maestro

INTERCONNECTS & SPEAKER CABLE

by

STRAIGHT WIRE

and much, much more!

ORDER 800-444-1428
INFORMATION 203-431-3660

AccuPower

LINE FILTERS by

EUPHONIC
technology

19 Danbury Road
Ridgefield, CT 06877

Here's a book about an upgrade that's so good and costs so little, high-end autosound installers don't want to hear it—or even about it!

Killer Car Stereo on a Budget.

Now you have got a simple choice when it comes to upgrading your car stereo. Instead of paying a few thousand to a good high-end dealer, you can pay only a few hundred. With a good in-dash unit in place, you need only follow author Dan Ferguson's instructions for buying and replacing your front speakers, main speakers and adding the killer—a subwoofer with enclosure, power amp and crossover.

We tell you where to buy all your high quality upgrades at low cost, including a five-function crossover kit (parts less than \$30) or completely assembled, tested and warranted for \$70. Your total cost for the upgrade? Can be less than \$500—about a third—or even less—than you'd expect to pay to have it done for you.

Order Today. Only \$19.95. Add \$1.75 shipping. Check/ money order MC/Visa # _____ exp. date _____
(Canada: add \$3.50 postage.) Remit in \$U.S. only.

Name _____

Signature _____

Address _____

City _____ State _____ Zip _____

(Please allow up to 6 weeks for delivery.)

Old Colony Sound Lab

PO Box 243, Dept. KA99, Peterborough, NH 03458-0243



Low-Cost Accessories

For Turntables:

Grado ZTE+1 \$20
Grado 8mz, MCZ, TLX Call

For Speakers:

Chicago RT-75 \$20
Chicago Hercules Call
Naiad LS-7000 \$49
Monster Cable, Audioquest,
Van den Hul, Vampire Call
T:upplite LC1200, 1800 Call
DBX 1 bx, 3 bx, 120 ds, 400 ds Call

Shipping: \$3 first item, \$1 each extra item

Call 1-800-233-8375 for specials list

AUDIO UNLIMITED

1203 Adams Ave./La Grande, Oregon 97850
(503) 963-5731 — 9-6 M-TH

BUSINESS OPPORTUNITIES

PRESTIGIOUS HIGH-END SOUTHERN CALIFORNIA AUDIO STORE offering partnership share. Exciting opportunity for music lover/audiophile to realize dream and benefits of ownership in solid, growing audio business. Write: 21 Harbour Hill Road, York, ME 03909.

DECALS/EMBLEMS

CUSTOM EMBROIDERED EMBLEMS, PINS, DECALS. Free catalog/quotes. Rush sketch. STADRI, 61 JANE STREET, NEW YORK, NY 10014. (212) 929-2293.

CAR STEREO

CAVEAT EMPTOR

Let the buyer beware!

When it comes to CAR STEREO there is something that you can do that is even better! Get the book, **How to Buy Car Stereo**. It covers everything you need to know: PRODUCT SELECTION, MARKUPS, SYSTEM LAYOUT AND DESIGN, BRAND RECOMMENDATIONS and EIGHT YEARS OF CAR STEREO KNOWLEDGE. It's you against them, and without this book you don't stand a chance. 318 PAGES \$19.95 SATISFACTION GUARANTEED or your money back! FIRST 100 RESPONSES GET AIR-MAIL SERVICE. (\$2.40 VALUE). FREE!

1(800)BE4-UBUY

"STEREO WORLD" is your discount mailorder source with super deals on your car stereo needs. Lines include: Technics, Panasonic, JVC, Sony, Pyle, Pioneer, Sherwood, Philips, Clarion, Hi-Fonics, Blaupunkt, Aiwa, and many others. Please call or write for free catalog. Free UPS in 48 states. 10AM-6PM Mon-Fri.; Wednesday till 7 PM. Visa/MC; COD extra. "Celebrating our 3rd year!" P.O. Box 596, Monroe, NY 10950 (914) 782-6004.



AmbianceTM by Henry Kloss

Ambiance is an ultra-compact speaker that proves high performance, small size and low cost need not be mutually exclusive. Factory direct from Cambridge SoundWorks for \$109-\$129 each (plus freight), depending on finish. 1-800-AKA-HIFI. In Canada 1-800-525-4434.

154 California Street, Newton, Massachusetts 02158



Shown: Audio Control Richter Scale Series III

The New Richter ScaleTM Series III

More Features Give You More Bass Control

When we introduced the world's first half-octave bass equalizer with warble-tone analyzer, laboratory-grade measurement microphone and built-in electronic crossover, it shook up the audiophile world. Finally, speaker performance and room anomalies below 250Hz could be effectively analyzed using warble tone, a high resolution dB meter and a 4-micron diaphragm back-electret measurement microphone on a convenient 20' cord.

Well, now there is even more performance. The new Richter Scale Series III has six half-octave EQ bands (at 22.5, 31.5, 45, 63, 90 and 125Hz). Its extremely sharp 24dB/octave programmable electronic crossover employs Linkwitz-Riley alignment, a hitherto esoteric and incredibly expensive design which provides flat amplitude response with zero phase differences (lobing error).

Plug-in modules allow easy adjustment from 20Hz on up. Specs are astonishing: 0.005% THD and -120dB S/N.

You get a built-in 18dB/octave subsonic filter, rumble reduction circuit, amplifier bridging and mono bass output. And our famous measurement microphone and warble tone generator. And gold plated jacks no less. All built in the USA and backed with a gutsy 5-year warranty for \$349. Write us for complete information. Technical Paper 102 on Linkwitz-Riley, and the location of your nearest dealer.

AudioControlTM

22313 70th Ave. W. Mountlake Terrace, WA 98043
Phone (206) 775-8461

In Canada call Evolution Audio 416-847-8888

PUBLICATIONS

THE AUDIO CRITIC

The only high-end journal seriously respected by the best minds in audio. Scientific, literate, accountable. Send \$22 (no Canadian dollars, \$32 overseas) for your 1-year, 4-issue subscription. THE AUDIO CRITIC, P.O. BOX 978, QUAKER-TOWN, PA 18951.

HOME-STUDY SERIES, AUDIO RECORDING COURSE, 3 Affordable levels of study, based on 2 college text books. SKE AUDIO PUBLISHING 1-(800) 284-1258.

MOVIESOUND NEWSLETTER. The state of film audio tracks in theaters and at home. Send \$2 for two sample issues. PO Box 7304, Suite 269A, No. Hollywood, CA. 91603

ACTIVE ELECTRONIC CROSSOVERS

MODEL 120 CABINET & NEW 120-R "RACK AND PANEL" DESIGNS

Made to order in Butterworth bi-amp, tri-amp, or quad-amp configurations with optional level controls, subsonic filters, or summers. Filters, regulated power supplies, equalizers, are also available.

New catalog and price sheet. Free!

DeCoursey Eng. Lab.

11828 Jefferson Bl. Culver City, CA 90230
PHONE (213) 397-9668

Your Records will sound better and last longer.

Audio Advisor's New "Record Doctor" vacuum cleans records... spotless! Only \$169.95

You don't have to spend \$300 or more to clean your records right—liquid application and vacuum suck-up. New "Record Doctor" exclusively from Audio Advisor cleans records right for only \$169.95.

Get serious

Serious audiophiles ALWAYS vacuum-clean their records—for less surface noise and fewer ticks and pops. Sound is clearer, cleaner... the music more natural. Your amplifier doesn't have to amplify noise!

Longer record life

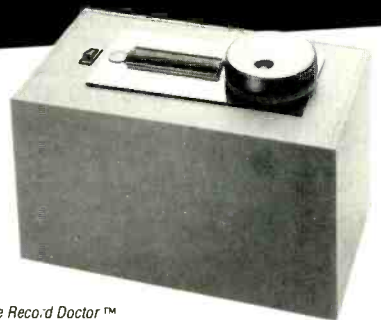
Records LAST LONGER because your stylus no longer pushes particles of dust into soft vinyl grooves. You protect irreplaceable, priceless LPs for years to come. The "Record Doctor" pays for itself!

Sucks up debris

Record Doctor's powerful vacuum sucks up fluid, safely removing dirt, dust, grease and fingerprints. Debris is sucked up, NOT picked up from one part of the record and left on another.

"I can't believe how good my records sound. Record Doctor gets rid of the grunge that was getting between me and the music," says D.P.G., Brooklyn, NY.

"You are right. Record Doctor does the job just as well as an expensive machine," writes D.K. from LA. "And I'd rather rotate the records myself anyway!" (Expensive machines have an extra motor to rotate records. Rotate them yourself and save!)



The Record DoctorTM

You get the complete package: vacuum machine, professional applicator brush, and cleaning fluid—all for only \$169.95 (220v version \$189.95) plus \$8.95 shipping & handling in US. Satisfaction guaranteed—no other machine near this price cleans records better.

Charge It! Amex / Discover / MC/ Visa

1-800-669-4434

audio advisor, inc.

225 Oakes SW • Grand Rapids, MI 49503
616-451-3868 • FAX 616-451-0709

Say "G'day" to Greencorp's new tape from Australia.

We call it our "Music-PLUS" grade, but you'll call it the best-sounding tape you ever heard, short of genuine chrome. Its custom formulation — at the high end of normal bias — produces a higher frequency response and lower noise level than the heavily advertised brands. The result is a noticeably smoother sound, the best in its class.

Of course, we're still stocking and shipping the same wonderful XDS tapes that American duplicators have grown to know and love. The same music-grade tape that the big recording companies (Phillips, EMI, & overseas divisions of RCA) purchase for their pre-recorded cassettes.

As for our famous genuine chrome tape ... that gets an ad of its own, right next to this one.

Order today on our 800 line!

		(price each)				
		QUANTITY	25	100	500	
<i>The Good Stuff!</i>	Music Grade	C12	.37	.26	.24	
	"	C32	.43	.32	.28	
	"	C47	.47	.35	.32	
	"	C62	.53	.40	.35	
<i>The Better Stuff!</i>	Music-PLUS	C12	.43	.32	.30	
	"	C32	.49	.38	.36	
	"	C47	.53	.41	.38	
	"	C62	.60	.47	.43	
			C92	.70	.57	.51

Norelco-type clear plastic boxes, sturdy commercial grade

		.18	.16	.14
A) Self-adhesive, white cassette labels		\$3.00	per hundred	
B) Blank inserts		\$3.00	per hundred	

TELEPHONE ORDERS:
TOLL FREE 1 (800) 972-0707
Local (305) 429-9225
FAX ORDERS: (305) 429-9214

*F.O.B. Deerfield Beach, FL. Taxes (if any) plus shipping extra. CALL FOR SHIPPING CHARGES & LARGER QUANTITY PRICES.

*Minimum quantities are 25 per size, and may be mixed to get the larger quantity discounts.

*Orders of 6,000 or more shipped road freight at cost.

*We accept company or personal checks, or charges to VISA, MASTERCARD, and AMERICAN EXPRESS.

*Prices subject to change without notice.

SATISFACTION GUARANTEED! If not satisfied for any reason, return the cassettes within 30 days for a full refund.

GREENCORP USA inc.



The Right Stuff from Down Under.

Suite 105, 1015 W. Newport Center Drive
Deerfield Beach, Florida 33442

BLANK TAPES

3.95 SHIPPING ANY SIZE ORDER, UPS 1-800-245-6000

TDK	OCTAVE	SONY	MAXELL
MAX 90 3.99	KE-II-30 99	SONY METAL ES-90 3.99	MX-90 2.99
MAX 90 3.49	KE-II-30 99	SONY METAL ES-90 3.99	ZLIS-90 2.39
MAX 90 2.99	KE-II-30 99	FUJI DR-90 2.99	ZLIS-90 1.99
SA-90 2.29	KE-II-30 99	MAXELL XLI-100 2.49	UCSII-90 1.79
AR-90 2.49	KE-II-30 99	MAXELL XLIIS-100 2.99	UR-90 8.99
SA-100 2.49	KE-II-30 99	MAXELL ML-100 3.49	ULIS-90B 8.99
SA-90 1.89	KE-LESS 10 XT W/O BICH	DAT 10 95 100 3.49	UDS-90 6.99
SA-90 1.79			
MA110 3.49			
AD90 1.59			
AR 90 1.89			
D 90 1.99			
D-90 99			
PRE190 1.79			
FUJI METAL 90 2.69			

TAPE WORLD

SPECIAL OFFER: FREE KE-II-30 WITH EVERY AUDIO ORDER
*Min. \$10.00 Retail Value. *Total Order Includes All Shipping & Handling Charges by 1st. 3.95 Shipping Any Size Order. C.O.D. Add 2.75.
*All Tapes Have U.S. Warranties. Parcel Post Ship Call

VISA MC NO EXTRA CHARGE

M-F 8:30-5:00
412/283-8621
800/245-6000

TAPE WORLD 220 SPRING ST. BUTLER PA 16001
THAT'S TRIAD. DAT CALL

AMPEX REELS—USED ONCE; 1800'.—10 Reels: \$25.00. Sample: \$2.50. Also: NEW MAXELL reels/cassettes. AUDIO TAPES, Box 9584E, Alexandria, VA 22304. (703) 370-5555, VISA/MC.

RETAIL MART

AUDIO BEST: NEW LOCATION WITH TWO SOUND ROOMS BETTER THAN EVER: LA, ORANGE, SAN BERNADINO, CALIFORNIA. HOT COMPONENTS: CELESTION SL-700, COUNTERPOINT SA3000, TARALAB, PS4.6 100C; MIT CVT; AUDIBLE ILLUSIONS AMPLIFIER; MODS-QUAD PRISM CD; ACOUSTAT SPECTRA 33+ WOOFER; SPICA ANGELA; WELL-TEMPERED; VELODYNE, MAGNUM; FOSGATE; B&K, SUPERPHON, MUSIC REFERENCE, PALANTIR, SPECTRUM, RAUNA, SOUNDLAB, VPI, MAPLENOLL, SYSTEMDEK, GRADO, ALPHASON, GARROTT, VDHUL, MONSTER, STRAIGHTWIRE, (714) 861-5413, APPOINTMENT.

HIGH-END AUDIO IN SALT LAKE CITY: Audition Audio features speaker systems by Magneplanar, Vandersteen, Celestion, Spica, Infinity IRS, Electronics by Audio Research (new Classic 30 & 60 in stock), Mark Levinson, Aragon, Counterpoint, NAD, Adcom, Luxman. Front ends by Versa Dynamics, VPI, Well-Tempered, SME AR, Accuphase CD players. Also Sumiko, MIT, Audioquest, etc. Three hard-wired sound rooms including a new room built for the Infinity IRS. 2144 Highland Dr., Suite 125, SLC, UT 84109. (801) 467-5918. Visa, MC, Amex accepted.

Now in all 5 lengths: Greencorp's genuine chrome tape!

This is the same outstanding tape that took the American market by storm. Manufactured in our Australian plant, this tape is coated with Dupont's chromium dioxide powder, which is formulated in the U.S. and then shipped to Greencorp in Sydney.

The end product is *genuine CD-grade chrome tape*, which performs far better than so-called "chrome-bias" ferric oxide tapes. The difference is instantly audible, especially if there are quiet moments (no sound) in the recordings you plan to make or duplicate.

Order your genuine chrome tape today; it's the real thing.

		(price each)			
		QUANTITY	25	100	500
<i>The Best Stuff!</i>	Genuine Chrome	C12	.52	.40	.38
	"	C32	.58	.47	.45
	"	C47	.62	.50	.47
	"	C62	.68	.55	.52
	"	C92	.92	.78	.74

For ordering information, terms & conditions, see adjacent ad. ←

GREENCORP USA inc.



The Right Stuff from Down Under.

Suite 105, 1015 W. Newport Center Drive
Deerfield Beach, Florida 33442

RETAIL MART

BEST BUYS IN HIGH-END! B&K, Benz Micro, Dynavec, Pro-Ac, VTL, Barclay, RAM Tubes, Wondercaps, Tara, Tiffany, McIntosh & ARC Tube Gear. **HI END AUDIO**, 4959 Penn Ave. S., Minneapolis, MN 55409 (612) 924-0657

HIGH-END AUDIO IN ST. LOUIS: Audio Research, Audio Dynamics, Audioquest, Avia, California Audio Labs, Forté, Grace, Kiseki, Onkyo, Precise, Premier, Rotel, SME, SOTA, Straight Wire, Sumiko, Talisman, Theil, THE GREAT ST. LOUIS SOUND COMPANY, 1341 S. Lindbergh Blvd., Suite 1, St. Louis, MO 63131 (314) 993-0002.

SHOCK VALUE CONSIGNMENT—DALLAS, TX. The place to buy quality used audio, video, and computer equipment. Also sell your excess equipment without the hassles. All price ranges. MC/VISA accepted. 9560 Skillman Dallas 75243 (214) 349-3003

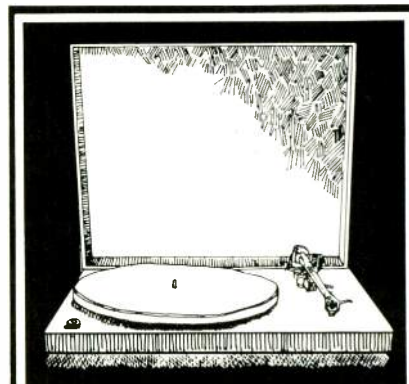
WE HAVE THE FINEST SHOWROOM in our area with the best selection of audio/video components available. We represent Adcom, Infinity, Thorens, Dual, Jamo, Yamaha, Canton, Luxman, Klipsch, SONY ES, and more. CONTINENTAL SOUND, 98-77 Queens Blvd., Forest Hills, NY 11375. (718) 459-7507.

MISCELLANEOUS

TERMPAPER assistance. 15,278 papers available! 306-page catalog—rush \$2.00. Research, 11322 Idaho #206AD, Los Angeles 90025. TOLL FREE HOTLINE: (800) 351-0222 (California: (213) 477-8226).

DAT

WE OFFER DIGITAL AUDIO TAPE RECORDERS with one year warranties. SONY, JVC, TECHNICS, and more! Home, studio and portable. State of the art sound for \$995 & up! **NEW: DATRAX-60** attractive, solid oak, DAT storage unit. **AUDIO GALLERY**, 2716 Wilshire Blvd., Santa Monica, CA 90403. (213) 829-3429.



regal

REGA products reflect a splendidly simple British design philosophy: use only what is necessary & make it of the highest quality. The result is a handsome source of beautiful music, at a proper price.

REGA dealers will encourage you to listen to your favorite recordings and judge for yourself. For Information:

import audio
3149 shenandoah, st. louis,
mo. 63104 • 314-773-1211

MAIL ORDER

CHADWICK MODIFICATIONS

Our speaker cables and interconnects bring the music back to you!

- Upgrades for Thorens turntables & Grado cartridges
- Corktone Platter Mat, F-1 Dustcover Weight and more...
- Complete catalog \$3.00, refundable with purchase.

1925 Massachusetts Avenue, Cambridge, MA (617)354-8933

ABARGAIN: STAX SIGN LAMBDA \$1,395, PRO/LAMBDA (#3) \$799, PRO/LAMBDA (#1) \$499, SIGN/SRM1MKII \$1,000, SIGN/SRD7 \$675; GRACE 747 \$129, F9E (SUPER) \$129, F9ERUBY \$195; DENON 103D; DYNAVECTOR 23RS/II \$295; FR1MK3F \$235; STG. PEPPER/UHQ \$169; ZEISS BINOCULARS; ALL UNUSED; (212) 966-1355.

ADS., NAKAMICHI, CARVER, BANG OLUFSEN, REVOX, B&W, KEF, HARMON/KARDON, N.A.D., LUXMAN, HAF-LER, TANDBERG, ADCOM, DENON, KLIPSCH, YAMAHA, D.B.X.; INFINITY, J.B.L. AND OTHER QUALITY COMPONENTS. BEST PRICES—LIVE PROFESSIONAL CONSULTATION WEEKDAYS—AUTOMATED PRICING AND INFORMATION AVAILABLE 24 HOURS. ALL PRODUCTS COVERED BY MANUFACTURER'S U.S.A. WARRANTY. AMERISOUND SALES INC., EAST: (904) 262-4000 WEST: (818) 243-1168.

ANALOG BREAKTHROUGH! Our ACOUSTICOVER turntable isolation system improves sound of all record players. Beautiful wood, glass, acrylic design. \$1.00 for photo, info. The WallWorks, RD #1, Box 503, Sanfords Ridge Road, Glen Falls, NY 12801. (518) 798-1844.

THE BEST RECORD RACK IN AMERICA. Stackable, portable, oak units hold LPs, CDs and tapes. Free Mailorder Brochure, (please mention Audio). Per Madsen Design: (415) 928-4509. P.O.Box 330101, San Francisco, CA 94133.

J.S.E. SPEAKERS, Kinergetics electronics, Aiwa decks, Tripplite power conditioners, Musical Concepts modifications. No better value for price, honest, reliable business. TONMEISTER, (301) 229-1664.

TIPS FOR MAIL ORDER PURCHASERS

It is impossible for us to verify all of the claims of advertisers, including product availability and existence of warranties. Therefore, the following information is provided for your protection:

1. **Confirm price and merchandise information** with the seller, including brand, model, color or finish, accessories and rebates included in the price.
2. **Understand the seller's return and refund-policy**, including the allowable return period and who pays the postage for returned merchandise.
3. **Understand the product's warranty.** Is there a manufacturer's warranty, and if so, is it from a U.S. or foreign manufacturer? Does the seller itself offer a warranty? In either case, what is covered by warranty, how long is the warranty period, where will the product be serviced, what do you have to do, and will the product be repaired or replaced? You may want to receive a copy of the written warranty before placing your order.
4. **Keep a copy of all transactions**, including cancelled checks, receipts and correspondence. For phone orders, make a note of the order including merchandise ordered, price, order date, expected delivery date and salesperson's name.
5. **If the merchandise is not shipped within the promised time** or if no time was promised, 30 days of receipt of the order, you generally have the right to cancel the order and get a refund.
6. **Merchandise substitution** without your express prior consent is not allowed.
7. **If you have a problem with your order or the merchandise**, write a letter to the seller with all the pertinent information and keep a copy.
8. **If you are unable to obtain satisfaction from the seller**, contact the consumer protection agency in the seller's state or your local U.S. Postal Service.

TRADE IN AND TRADE UP

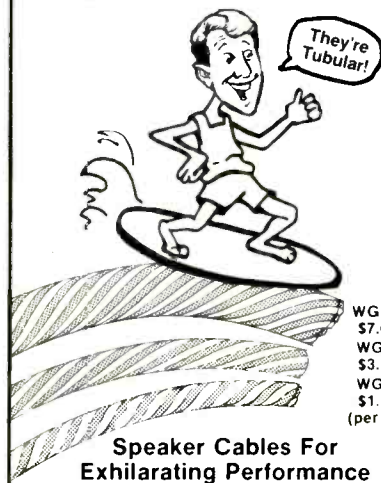


Convert your old AudioQuest cartridge to one of our current state-of-the-art models. Our very liberal trade in policy allows you from 35% to 125% of the value of your cartridge towards a new AQ cartridge. Any AudioQuest MC cartridge ever made qualifies!

P.O. Box 3660
San Clemente, CA 92672 USA
Tel: 714-498-2770 Fax: 714-498-5112



WAVEGUIDE



- WG-16 \$7.00
- WG-8 \$3.50
- WG-4 \$1.75 (per ft.)

Speaker Cables For Exhilarating Performance

STRAIGHT WIRE

1909 Harrison St. #208 / Hollywood, FL 33020
Telephone (305) 925-2470



SING WITH THE WORLD'S BEST BANDS!

An Unlimited supply of Backgrounds from standard stereo records! Record with your voice or perform live with the backgrounds. Used in Professional Performance yet connects easily to a home component stereo. This unique product is manufactured and sold Exclusively by LT Sound - Not sold through dealers. Call or write for a Free Brochure and Demo Record.

LT Sound, Dept. AU-3, 7980 LT Parkway
Lithonia, GA 30058 (404) 482-4724
Manufactured and Sold Exclusively by LT Sound
24 HOUR PHONE DEMO LINE: (404) 482-2485

Does your system sometimes sound different for no apparent reason?

The reason could be your power. A refrigerator or air conditioner, even in another part of the house, may cause voltage to vary whenever they kick on or off. Or you may be getting line noise—electrical interference that your preamplifier and amplifier amplify and send on to your speakers.

Solution? Tripplite LC-1800. It regulates voltage so it's constant—not too low, not too high. Full voltage—even in brownouts. LEDs show you what Tripplite is doing!

Tripplite's patented ISOBAR circuits provide three "banks" of isolation, two receptacles per bank. You can eliminate interference between critical components. It's like putting your CD player, preamp, and power amp all on separate lines. Sonic benefits may be subtle... but real.

Protection, too

And Tripplite prevents spikes and power from damaging your equipment. This protection is absolutely essential if you leave any of your gear on all of the time.

Take a Power Trippe—No Risk!

Try the Tripplite LC-1800 for 30 days. If not satisfied with the performance (and protection), return it for a full refund of your purchase price. Made in USA by Tripp Manufacturing Co., Est. 1922. Only \$299.00 plus \$9.95 shipping in the US. If you want a clean musical signal, start with clean, consistent power. Order now.



Charge It! Amex / Discover / MC/ Visa
1-800-942-0220



225 Oakes SW • Grand Rapids, MI 49503
616-451-3868 • FAX 616-451-0709

DUET DEBUTS

Featuring a host of firsts, beginning with the new MDT-33, Morel's high-efficiency double-magnet tweeter whose frequency response falls within an incredible $+/- 0.6\text{dB}$. Paired with the MW-164, Morel's long-throw double-magnet woofer, making its debut in a cabinet system. Followed by the cabinet itself, a radical rhombic design angled up for greater depth and imaging.

Duet is pure Morel, and pure performance, from its Hexatech voice coil to its drivers.

Call or write for more on Duet and Morel's full line of home and auto speaker systems.



Morel Acoustics USA
414 Harvard Street, Brookline, MA 02146
tel. (617) 277-6663 telex 650-2499475



ADVERTISING INDEX

Firm (Reader Service No.)	Page	Firm (Reader Service No.)	Page
3A Audio Design (131)	254	M & K Sound (57)	113-117
a/d/s	330 & 331	Madrigal	105
Accuphase	120	Magnepan (58)	451
Acoustat (6)	443	Martin-Logan	407
Acoustic Research (7)	245, 361	Mavrick	282
Acoustic Sciences (8)	47	Maxell (59)	301
Adcom (9, 10, 11)	187-190, 217, 255	May Audio/WBT (60)	76
Adcom (12, 13, 14)	261, 269-272, Cover IV	MB Quart Electronics (61)	409
Advent (15)	429	McIntosh (62)	313
AKG Acoustics	306	Mirage (63)	136 & 137
Altec Lansing (16)	348 & 349	Mission Electronics (121)	415
American Acoustics (17)	175-178	Mitsubishi (64)	362 & 363
American Wood	45	Mobile Fidelity (65)	163
Apogee Acoustics (19)	365	Mod Squad	351
Arcici	282	Mondial (66)	237
Audio Influx (20)	124	Monitor Audio (67)	411
Audio Research (1)	211-214, 247-250	Monster Cable (68, 69, 70)	46, 223, 437
AudioQuest	417	Music Interface Technology (71)	285
Audiostream (21)	439	NAD	228 & 229, 231, 233
B & K (22)	165, 167, 169	Nakamichi	Cover II & 1
B & W Loudspeakers (23)	441	NEC	391 & 392
BBE Sound, Inc. (24)	343	NRG Control (72)	162
BIC America (25)	405	OHM (73)	419
Blaupunkt (26)	316 & 317	Onkyo	58-67, 225
BMG	121 & 122	Orion (122)	242 & 243*
Bose (27)	378 & 379	Ortofon (98)	168
Boston Acoustics	449	Parliament	242 & 243*
Brytonvermont (28)	69-73	Phase Linear (74)	257
California Audio Labs	40-43	Philips	139-147
Cambridge Soundworks (29)	387, 389	Pioneer (75, 76, 77)	31-38, 194 & 195, 426 & 427
Canton (31)	412 & 413	Polk (78)	7-30
Carver	420 & 421, 431 & 432	Precise (79)	425
Carver	77-82, 252 & 253, 297, 319	Proton (80)	333
Case Logic (32)	347	Pyle	293
CBS Records	155	Reel to Real (81)	401 & 402
Cerwin-Vega (33)	377	SAE (82)	218 & 219
Chesky Records	205	Salem	227
Classé Audio (34)	241	Scosche Industries (83)	433
Columbia House	159	Sherwood (84)	263, 284, 299, 345
Component Guard (35)	311	Shure HTS (85)	335 & 336
Convergent Audio	281	SIMS Vibration Dynamics	192
Counterpoint (38)	125-132	Sonance (2)	355-358
Crutchfield	84	Sony	183 & 184, 303
Dahlquist (39)	48	Sound by Singer (123)	221
Denon (40)	235	Soundcraftsmen (30)	87-102
Design Acoustics (132)	385	Specialty Woodworks (86)	75
DIC Digital (42)	304	Spectral (99)	181
DMP Records (41)	156 & 157	Spica (87)	172
Energy (43)	394 & 395	SSI Products Inc. (88)	86
Epicure (44)	383	Stax Kogyo (124)	329
Esoteric Audio (45)	326 & 327	Stereo Exchange (89)	453
Ford/JBL (46)	291	Sumo (4)	106-111
Fosgate (47)	339	Tannoy (125)	279
GlenMonitor	423	Tara Labs (126)	85
Gold Sound (18)	381	TDK (90)	119
GRP (48)	171	Technics (91)	151, 321
Hafler (49)	234, 287	Terk (130)	259
Heath	168	The Absolute Sound (36)	135
Hill Products (50)	162	Theta (127)	238
Infinity Systems Inc. (51)	435	Thiel (92)	445
Intraclean (120)	174	Threshold	289
Island Records (52)	161	Triad (93)	48
J & R Music World (53)	134	U.S. Army	149
Jackson Loudspeaker (54)	45	Vandersteen (94)	352
Jeff Rowland Design Group	207 & 208	Vecteur (95)	275
JVC	49-56	Wadia Digital (128)	341
Kenwood (5)	367-374	Well Tempered Labs (96)	277
Kinergetics Research	309	Wharfedale (129)	447
Klipsch (55)	455	Windham Hill	173
KN1 Loudspeakers	397 & 398	Wisconsin Discount Stereo	295
Koss (56)	323 & 324	Yamaha	193, 266 & 267
Levinson	3, Cover III		
Luxman (3)	197-202		
Lyle Cartridges (97)	288		

*Regional Ad

1989 COMPANY ADDRESSES

<p>A</p> <p>Accuphase See Madrigal</p> <p>Ace Audio 532 Fifth St East Northport, N.Y. 11731</p> <p>Acoustat 613 South Rockford Dr. Tempe, Ariz. 85281</p> <p>Acoustic Interface P.O. Box 6632 Santa Barbara, Cal. 93160</p> <p>Acoustic Research See AR</p> <p>ADC See Audio Dynamics</p> <p>Adcom 11 Elkins Rd. East Brunswick, N.J. 08816</p> <p>a/d/s/ One Progress Way Wilmington, Mass. 01887</p> <p>Advanced Akustic 4555 North Pershing Suite #33-184 Stockton, Cal. 95207</p> <p>Advanced Electrodynamic Systems 860 North Cypress St. Orange, Cal. 92667</p> <p>Advanced Sound 711 East Magnolia Ave. Knoxville, Tenn. 37917</p> <p>Advent 4138 North United Pkwy. Schiller Park, Ill. 60176</p> <p>Air Tangent See Krell</p> <p>Aiwa 35 Oxford Dr. Moonachie, N.J. 07074</p> <p>AKG Acoustics 77 Selleck St. Stamford, Conn. 06902</p> <p>Allison Acoustics 1590 Concord Ave. Framingham, Mass. 01701</p>	<p>Alphason See May Audio Marketing</p> <p>Alta Ltd. P.O. Box 4511 Santa Barbara, Cal. 93140</p> <p>Altec Lansing Milford, Pa. 18337</p> <p>Ambico 50 Maple St. Norwood, N.J. 07648</p> <p>Ambie Loudspeakers 200 Butler St. Milpitas, Cal. 95035</p> <p>AMBRIA See Parasound</p> <p>American Acoustics See Mitek</p> <p>Analogic Design Group P.O. Box 6227 High Point, N.C. 27262</p> <p>Analog One P.O. Box 7202 St. Paul, Minn. 55107</p> <p>Analog Research 2805 Holy Cross Garland, Tex. 75044</p> <p>Anteca 5816 Corporate Ave. Suite 170 Cypress, Cal. 90630</p> <p>Apax Marketing P.O. Box 8 Pleasanton, Cal. 94566</p> <p>Aphex Systems 13340 Satcoy St. No. Hollywood, Cal. 91605</p> <p>API Audio Products International 3641 McNicoll Ave. Scarborough, Ont. Canada M1X 1G5</p> <p>Apogee Acoustics 35 York Industrial Park Randolph, Mass. 02368</p> <p>AR 330 Turnpike St. Canton, Mass. 02021</p>	<p>Aragon See Mondial</p> <p>Arant International See Cambridge Physics</p> <p>Arcam See Audio Influx</p> <p>Archer See Radio Shack</p> <p>Argent See Direct Sound</p> <p>Ariston Acoustics 12 Route 17 North Suite 309 Paramus, N.J. 07652</p> <p>Artech Electronics 699 Meloche Ave. Dorval, Que. Canada H9P 2S4</p> <p>ASB Ltd. 11605 Basswood Dr. Laurel, Md. 20708</p> <p>A & S Speakers 3170 23rd St. San Francisco, Cal. 94110</p> <p>ATC See Audio Ecstasy</p> <p>A + T Electroacoustic See Hemisphere Enterprises</p> <p>Athena Audio P.O. Box 210465 San Francisco, Cal. 94121</p> <p>Atma-Sphere Music Systems 160 South Wheeler St. St. Paul, Minn. 55105</p> <p>Audible Illusions See Apax Marketing</p> <p>Audioaccess 363A Vintage Park Dr. Foster City, Cal. 94404</p> <p>Audio Advancements P.O. Box 15 Verona, N.J. 07044</p>	<p>Audio Concepts 901 South 4th St. LaCrosse, Wisc. 54601</p> <p>Audio Control P.O. Box 3199 Lynnwood, Wash. 98036</p> <p>Audiodata See German Acoustics</p> <p>Audio Design Associates 610 Mamaroneck Ave. White Plains, N.Y. 10605</p> <p>Audio Dynamics 707 East Evelyn Ave. Sunnyvale, Cal. 94086</p> <p>Audio Ecstasy 231 Elwood Dr. Rochester, N.Y. 14616</p> <p>Audio Exklusiv See German Acoustics</p> <p>Audio Influx P.O. Box 381 Highland Lakes, N.J. 07422</p> <p>Audiolab See Artech</p> <p>Audionics See Fosgate-Audionics</p> <p>Audiophile Systems 8709 Castle Park Dr. Indianapolis, Ind. 46256</p> <p>Audiophore 1711 North Crilly Court. #1E Chicago, Ill. 60614</p> <p>Audio Pro See Sonic Research</p> <p>Audio Products, Inc. 3 Cleveland St. Headland, Ala. 36345</p> <p>AudioQuest P.O. Box 3060 San Clemente, Cal. 92672</p> <p>Audio Research 6801 Shingle Creek Pkwy. Minneapolis, Minn. 55430</p> <p>AudioSource 1327 North Carolan Ave. Burlingame, Cal. 94010</p>	<p>AudioStream Box 2410 Niagara Falls, N.Y. 14302</p> <p>Audio-Technica 1221 Commerce Dr. Stow, Ohio 44224</p> <p>Audio Techniques 1619 Broadway Fourth Floor New York, N.Y. 10019</p> <p>Audire 9576 El Tambor Ave. Fountain Valley, Cal. 92708</p> <p>Audix 5635 West Los Positas Unit 405 Pleasanton, Cal. 94566</p> <p>A.V.A. Audio by Van Alstine 2202 River Hills Dr. Burnsville, Minn. 55337</p> <p>Avalon Acoustics P.O. Box 704 Boulder, Colo. 80306</p> <p>Axiom Audio Box 82, Hwy. #60 Dwight, Ont. Canada P0A 1H0</p> <p>Azden 147 New Hyde Park Rd. Franklin Square, N.Y. 11010</p> <p>B</p> <p>Bang & Olufsen 1150 Feehanville Dr. Mt. Prospect, Ill. 60056</p> <p>BASF Crosby Dr. Bedford, Mass. 01730</p> <p>Basis Audio Mfg. 47 Green Heron La. Nashua, N.H. 03062</p> <p>BBE Sound 5500 Bolsa Ave. Huntington Beach, Cal. 92649</p> <p>BEAR Labs P.O. Box 144 Hannacroix, N.Y. 12087</p>
--	---	--	--	---

COMPANY ADDRESSES

<p>Bedini Amplifiers 13410 Sayre St. Sylmar, Cal. 91342</p> <p>Belles Research 1237 East Main St. Rochester, N.Y. 14609</p> <p>Benz-Micro See Panther Enterprises</p> <p>David Berning Co. 11007 Candlelight La. Potomac, Md. 20854</p> <p>Beyerdynamic 5-05 Burns Ave. Hicksville, N.Y. 11801</p> <p>BGW Systems 13130 South Yukon Ave. Hawthorne, Cal. 90251</p> <p>Biamp Systems P.O. Box 2160 Portland, Ore. 97208</p> <p>Bib Audio/Video Products 10497 Centennial Rd. Littleton, Colo. 80127</p> <p>BIC America 895E Hampshire Rd. Stow, Ohio 44224</p> <p>B & K Components 1971 Abbott Rd. Lackawanna, N.Y. 14218</p> <p>Black Watch/3M Suite 1031 One Appleton Square Bloomington, Minn. 55425</p> <p>Bondwell Industrial Co. 47485 Seabridge Dr. Fremont, Cal. 94538</p> <p>Bose The Mountain Framingham, Mass. 01701</p> <p>Boston Acoustics 70 Broadway Lynnfield, Mass. 01940</p> <p>Boulder Amplifiers 4850 Sterling Dr. Boulder, Colo. 80301</p> <p>British Fidelity (In U.K., Musical Fidelity) See Music & Sound</p> <p>Broadcast Electronics 4100 North 24th St. Quincy, Ill. 62305</p> <p>Brüel & Kjaer 185 Forest St. Marlborough, Mass. 01752</p> <p>Bryston Ltd. 57 Westmore Dr. Rexdale, Ont. Canada M9V 3Y6</p> <p>Brystonvermont R.F.D. 4, Berlin Box 2255 Montpelier, Vt. 05602</p>	<p>BSM See Laser Audio</p> <p>B & W Loudspeakers P.O. Box 653 Buffalo, N.Y. 14240</p> <p>C</p> <p>Cadawas Acoustics 92 Oneida Ave. Staten Island, N.Y. 10301</p> <p>CAE Curcio Audio Engineering P.O. Box 8003 State College, Pa. 16803</p> <p>California Audio Labs 7231 Garden Grove Blvd. Suite F Garden Grove, Cal. 92641</p> <p>Camber Acoustics 4946 Bourg Montreal, Que. Canada H4T 1J2</p> <p>Cambridge Physics Fisk Mill Complex Box 192 Marlboro, N.H. 03455</p> <p>Cambridge SoundWorks 154 California St. Newton, Mass. 02158</p> <p>Canon One Canon Plaza Lake Success, N.Y. 11042</p> <p>Canton 915 Washington Ave. South Minneapolis, Minn. 55415</p> <p>Carrera See Vector Research</p> <p>Carver Corp. P.O. Box 1237 Lynnwood, Wash. 98046</p> <p>Carvin Corp. 1155 Industrial Ave. Escondido, Cal. 92025</p> <p>Cary Audio Design 101J Woodwinds Industrial Ct. Cary, N.C. 27511</p> <p>Cascade Audio Systems P.O. Box 747 Rocklin, Cal. 95677</p> <p>Castle Acoustics See May Audio Marketing</p> <p>CDE Classical Design & Engineering 7700 Old Branch Ave. Suite C-102 Clinton, Md. 20735</p> <p>Celestion 89 Doug Brown Way Holliston, Mass. 01746</p> <p>Cello Ltd. 315 Peck St. Bldg. 23 New Haven, Conn. 06513</p>	<p>Cerca Speakers See Anteca</p> <p>Certron 1651 S. State College Blvd Anaheim, Cal. 92806</p> <p>Cerwin-Vega 555 East Easy St. Simi Valley, Cal. 93065</p> <p>Chadwick Modifications 1925 Massachusetts Ave. Cambridge, Mass. 02140</p> <p>Chapman Sound P.O. Box 18123 Seattle, Wash. 98118</p> <p>Chairo 616 North Flores, #308 Los Angeles, Cal. 90048</p> <p>Citizen 2020 Santa Monica Blvd. Suite 410 Santa Monica, Cal. 90404</p> <p>Classé Audio 9414 Cote de Liesse Rd. Lachine, Que. Canada H8T 1A1</p> <p>Classic Audio Ltd. 238 Liberty Ave. New Rochelle, N.Y. 10805</p> <p>Classic Audio Reproductions 5115 Red Fox Brighton, Mich. 48116</p> <p>Clearaudio P.O. Box 7028 Westlake Village, Cal. 91359</p> <p>Clements Audio Systems 76 St. Clair Ave. West Fourth Floor Toronto, Ont. Canada M4V 1N2</p> <p>Don J. Cochran Inc. 1900 Embarcadero Rd. Suite 109 Palo Alto, Cal. 94303</p> <p>Community Light & Sound 333 East Fifth St. Chester, Pa. 19013</p> <p>conrad-johnson design 2800R Dorr Ave. Fairfax, Va. 22031</p> <p>Convergent Audio Technology 24 Falcon Dr. West Henrietta, N.Y. 14586</p> <p>Counterpoint 2610 Commerce Dr. Vista, Cal. 92083</p> <p>Creek Audio Systems See Music Hall</p> <p>Crest Audio 150 Florence Ave. Hawthorne, N.J. 07506</p>	<p>Crown International 1718 West Mishawaka Rd. Elkhart, Ind. 46517</p> <p>CSI Calibration Standard Instruments P.O. Box 2727 Oakland, Cal. 94602</p> <p>Cyrus See Mission Electronics</p> <p>D</p> <p>Dahlquist 601 Old Willets Path Hauppauge, N.Y. 11788</p> <p>Dana Audio P.O. Box 1 Austin, Tex. 78767</p> <p>Danholt See German Acoustics</p> <p>D'Ascanio Audio 11450 Overseas Hwy. Marathon, Fla. 33050</p> <p>Day Sequerra Davidson Roth P.O. Box 95707 Hoffman Estates, Ill. 60195</p> <p>dB Plus See API</p> <p>dBritton Audio Systems 3 West 22nd Ave. Vancouver, B.C. Canada V5Y 2E9</p> <p>DB Systems Main St., Box 460 Rindge Center, N.H. 03461</p> <p>dbx 707 East Evelyn Ave. Sunnyvale, Cal. 94086</p> <p>DCM 670 Airport Blvd. Ann Arbor, Mich. 48108</p> <p>Decca See Townshend Audio</p> <p>DeCoursey Engineering Laboratory 11828 West Jefferson Blvd. Culver City, Cal. 90230</p> <p>DELAC Delaware Acoustics P.O. Box 54 Newark, Del. 19711</p> <p>Dennesen Electrostatics P.O. Box 51 Beverly, Mass. 01915</p> <p>Denon 222 New Rd. Parsippany, N.J. 07054</p> <p>Design Acoustics See Audio-Technica</p> <p>Desktop Loudspeakers P.O. Box 14526 William Chick Station Kansas City, Mo. 64124</p>	<p>DIC Digital 2 University Plaza Hackensack, N.J. 07601</p> <p>Digital Designs See Audix</p> <p>Dimensia See Thomson</p> <p>Direct Sound 150 Fifth Ave. Suite 845 New York, N.Y. 10011</p> <p>Discrete Technology Labs 3254 Fifth St. Oceanside, N.Y. 11572</p> <p>Discwasher 4309 Transworld Rd. Schiller Park, Ill. 60176</p> <p>Distech See Discrete Technology</p> <p>DLW Audio Consultants Main St. Stevens, Pa. 17578</p> <p>Dolan See Fanfare Int'l.</p> <p>DoReTech Audio Services P.O. Box 6054 South Hackensack, N.J. 07606</p> <p>Dual 122 Dupont St. Plainview, N.Y. 11803</p> <p>Duntech Speakers See W & W Audio</p> <p>Dynamic Electro Acoustics P.O. Box 110 Dunkirk, N.Y. 14048</p> <p>Dynaudio See Madisound</p> <p>E</p> <p>Ebony Acoustics See Mavrick</p> <p>Eidolon Research P.O. Box 1384 Davidson, N.C. 28036</p> <p>Electrocompaniet See Music & Sound</p> <p>Electronic Visionary Systems 2531 Regent St., #17 Berkeley, Cal. 94704</p> <p>Electron Kinetics 1770 South Palo Verde Blvd. Lake Havasu City, Ariz. 86403</p> <p>Electro-Voice 600 Cecil St. Buchanan, Mich. 49107</p> <p>Eminent Technology 225 East Palmer St. Tallahassee, Fla. 32301</p>
--	---	--	---	--

COMPANY ADDRESSES

<p>EMT See Gotham Audio</p> <p>Encore Electronics 7105 East 132nd St. Grandview, Mo. 64030</p> <p>Energy See API</p> <p>Entec 41934 Christy St. Fremont, Cal. 94538</p> <p>Epicure Products 25 Hale St. Newburyport, Mass. 01950</p> <p>Epik Monitor Systems 1720 Lilac Dr. Walnut Creek, Cal. 94595</p> <p>Epoch See Stanton</p> <p>Epos See Music Hall</p> <p>Esoteric See TEAC</p> <p>Esoteric Sound 4813 Wallbank Ave. Downers Grove, Ill. 60515</p> <p>Essence 805 'M' St. Lincoln, Nebr. 68508</p> <p>ESS Laboratory 2575 El Presidio St. Long Beach, Cal. 90810</p> <p>Eton P.O. Box 9274 Grand Rapids, Mich. 49509</p> <p>Euphonic Technology 19 Danbury Rd. Ridgefield, Conn. 06877</p> <p>Eurostat 1132 East Ave. Rochester, N.Y. 14607</p> <p>Exposure See Audiophile</p> <p>Expressive Technologies P.O. Box 46161 Bedford, Ohio 44146</p> <p>F</p> <p>Fanfare International 500 East 77th St. New York, N.Y. 10021</p> <p>Fenton Audio P.O. Box 212 Yellow Springs, Ohio 45387</p> <p>Fidelus See Apax Marketing</p> <p>Fisher 21350 Lassen St. Chatsworth, Cal. 91311</p> <p>FM Acoustics Tienhofstrasse 17 CH-8820 Wädenswil Switzerland</p>	<p>FMS Favorite Music Systems 319 A St. (Rear) Boston, Mass. 02210</p> <p>Focus Speaker Systems 1101 East Second St. Dayton, Ohio 45403</p> <p>Forté Audio 12919 Earhart Ave. Auburn, Cal. 95603</p> <p>Fosgate-Audionics P.O. Box 70 Heber City, Utah 84032</p> <p>Fostex 15431 Blackburn Ave. Norwalk, Cal. 90650</p> <p>Fried Products 7616 City Line Ave. Philadelphia, Pa. 19151</p> <p>Fuji 555 Taxter Rd. Elmsford, N.Y. 10523</p> <p>Fuselier Loudspeakers See Audio Products, Inc.</p> <p>G</p> <p>Garrott Brothers See TARA Labs</p> <p>GC-Thorsen P.O. Box 1209 Rockford, Ill. 61105</p> <p>German Acoustics 3558 Ridgeway Ave. Madison, Wisc. 53704</p> <p>GlenMonitor Speaker Systems Bldg. 804, Prestige Pkwy. Corporations Park Scotia, N.Y. 12302</p> <p>GNP 1254 East Colorado Blvd. Pasadena, Cal. 91106</p> <p>Gold Aero 2129 Venice Blvd. Los Angeles, Cal. 90006</p> <p>Goldmund See International Audio Technologies</p> <p>Goldring <i>United States:</i> See Import Audio <i>Canada:</i> See May Audio Marketing</p> <p>Gold Sound P.O. Box 141 Englewood, Colo. 80151</p> <p>Goldstar Electronics 1050 Wall St. West Lyndhurst, N.J. 07071</p> <p>Goodmans 1225 17th St. Denver, Colo. 80202</p> <p>Gordon Instruments P.O. Box 794 Blacksburg, Va. 24060</p>	<p>Gotham Audio 1790 Broadway New York, N.Y. 10019</p> <p>Gott Labs 424 Clay Pitts Rd. East Northport, N.Y. 11731</p> <p>Grace See Sumiko</p> <p>Grado Laboratories 4614 Seventh Ave. Brooklyn, N.Y. 11220</p> <p>Joseph Grado Signature 921 Tice Pl. Westfield, N.J. 07090</p> <p>Graham Engineering 1 Baron Park, #33½ Burlington, Mass. 01803</p> <p>Grundig Lextronix, Inc. 3520 Haven Ave., Unit L Redwood City, Cal. 94063</p> <p>Reuben Guss Enterprises 215 West 92nd St. New York, N.Y. 10025</p> <p>H</p> <p>Hafler 613 South Rockford Dr. Tempe, Ariz. 85281</p> <p>Hales Audio 43272 Christy St. Fremont, Cal. 94538</p> <p>Harman Kardon Harman Kardon Citation 240 Crossways Park West Woodbury, N.Y. 11797</p> <p>Harms Labs 2016 Laporte Ave. Fort Collins, Colo. 80521</p> <p>Hartley Products 1200 North 23rd St. Wilmington, N.C. 28405</p> <p>Helius Designs See Terpsichore Imports</p> <p>Hemisphere Enterprises 12821 Julington Forest Dr. West Jacksonville, Fla. 32258</p> <p>Heybrook See D'Ascanio Audio</p> <p>High Biscuit Audio Systems P.O. Box 6476 Bethlehem, Pa. 18001</p> <p>Hitachi 401 West Artesia Blvd. Compton, Cal. 90220</p> <p>HM Electronics 6675 Mesa Ridge Rd. San Diego, Cal. 92121</p> <p>I</p> <p>Icon Acoustics 13 Fortune Dr. Billerica, Mass. 01821</p>	<p>Image See API</p> <p>Import Audio 3149 Shenandoah St. St. Louis, Mo. 63104</p> <p>Impulse Route 2, Box 477 Dover, Ark. 72837</p> <p>Incon See May Audio Marketing</p> <p>Infinity Systems 9409 Owensmouth Ave. Chatsworth, Cal. 91311</p> <p>Integra Audio See dBritton Audio Systems</p> <p>Integral Audio 1165 East Catlin St. Simi Valley, Cal. 93065</p> <p>International Audio Technologies 13897 Willard Rd., Suite J Chantilly, Va. 22021</p> <p>Island Audio 49 Cedar Swamp Rd. Glen Cove, N.Y. 11542</p> <p>Itone Audio 3412 Eric Court El Sobrante, Cal. 94803</p> <p>J</p> <p>Jackson Loudspeaker Co. 1326 North 32nd St. Phoenix, Ariz. 85008</p> <p>Jadis See Fanfare Int'l.</p> <p>Jamo Hi-Fi 425 Huehl Rd., 3A Northbrook, Ill. 60062</p> <p>Janis See John Marovskis</p> <p>JBL 240 Crossways Park West Woodbury, N.Y. 11797</p> <p>Jecklin See May Audio Marketing</p> <p>Jensen 4136 North United Pkwy. Schiller Park, Ill. 60176</p> <p>JPW Loudspeakers See Power Audio</p> <p>JRM 3716 Broadway N.E. Knoxville, Tenn. 37917</p> <p>JS Audio 643 Speedwell Ave. Morris Plains, N.J. 07950</p> <p>JS Engineering 519 East Middle Turnpike Manchester, Conn. 06040</p> <p>JVC 41 Slater Dr. Elmwood Park, N.J. 07407</p>	<p>K</p> <p>Kebschull See German Acoustics</p> <p>KEF 14120-K Sullyfield Circle Chantilly, Va. 22021</p> <p>Kenwood 2201 East Dominguez St. Long Beach, Cal. 90810</p> <p>Kevek Loudspeaker Technology 565 Westlake St., #200E Encinitas, Cal. 92024</p> <p>Kindel Audio 32992 Calle Perfecto San Juan Capistrano, Cal. 92675</p> <p>Kinergetics Research 6029 Reseda Blvd. Tarzana, Cal. 91356</p> <p>Kinetic Audio P.O. Box 31075 Chicago, Ill. 60631</p> <p>Kirksaeter Niederrheinstr. 193 4000 Dusseldorf West Germany</p> <p>Kiseki See Sumiko</p> <p>Klark-Teknik 30B Banfi Plaza North Farmingdale, N.Y. 11735</p> <p>Klein & Hummel See Gotham Audio</p> <p>KLH 11131 Dora St. Sun Valley, Cal. 91352</p> <p>Klimo See Audio Advancements</p> <p>Klipsch P.O. Box 688 Hope, Ark. 71801</p> <p>Klyne Audio Arts Ltd. 828 7th Ave. S.E. Olympia, Wash. 98501</p> <p>kni Loudspeakers 588 McKnight Westfork, Ark. 72774</p> <p>Koetsu 712 South Military Trail Deerfield Beach, Fla. 33442</p> <p>Kort Audio 1530 South 6th St., C608 Minneapolis, Minn. 55454</p> <p>Koss 4129 North Port Washington Milwaukee, Wisc. 53212</p> <p>Krell 20 Higgins Dr. Milford, Conn. 06460</p> <p>Krell Digital 20 North Plains Industrial Rd. Wallingford, Conn. 06492</p>
--	---	--	--	---

COMPANY ADDRESSES

<p>L Lakeshore Imports 1009 North Jackson, #802 Milwaukee, Wisc. 53202</p> <p>Lancer Electronics 12340 McCann Dr. Santa Fe Springs, Cal. 90670</p> <p>Lantana Ltd. P.O. Box 1958 Garden Grove, Cal. 92642</p> <p>Laser Audio 1140 Eighth Line Oakville, Ont. Canada L6H 2R4</p> <p>Lazarus Electronics 8130 Coldwater Canyon North Hollywood, Cal. 91605</p> <p>Lectron See Audio Advancements</p> <p>Legacy See Reel to Real Designs</p> <p>Mark Levinson See Madrigal</p> <p>Lexicon 100 Beaver St. Waltham, Mass. 02154</p> <p>Linaeum 1238 N.W. Glisan Suite 404 Portland, Ore. 97209</p> <p>Linn Hi-Fi See Audiophile Systems</p> <p>Lirpa Labs Main & Elm Sts. New York, N.Y. 10101</p> <p>Loran 10-48 Clark St. Warren, Pa. 16365</p> <p>Luxman Div., Alpine Electronics 19145 Gramercy Pl. Torrance, Cal. 90501</p> <p>Lydkraft See Audio Techniques</p> <p>M 3M Consumer Video and Audio Building 223-5N St. Paul, Minn. 55144</p> <p>Madison Fielding 200 William St. Port Chester, N.Y. 10573</p> <p>Madisound P.O. Box 4283 Madison, Wisc. 53711</p> <p>Madrigal Audio Laboratories P.O. Box 781 Middletown, Conn. 06457</p> <p>Magnavox See Philips Consumer Products</p>	<p>Magnepan 1645 Ninth St. White Bear Lake, Minn. 55110</p> <p>Magnum Dynalab 255 Great Arrow Ave. Buffalo, N.Y. 14207</p> <p>Manticore See Panther Enterprises</p> <p>Maplenoll Electronic Co. 1095 Bellbrook Ave. Xenia, Ohio 45385</p> <p>Marantz 20525 Nordhoff St. Chatsworth, Cal. 91311</p> <p>Marchand Electronics 1334 Robin Hood La. Webster, N.Y. 14580</p> <p>Mariah Acoustics 93½ Chestnut St. Oneonta, N.Y. 13820</p> <p>John Marovskis Audio Systems 2889 Roebling Ave. Bronx, N.Y. 10461</p> <p>Martin-Logan P.O. Box 741 Lawrence, Kans. 66044</p> <p>Mastercraft Audio Box 2661 Huntington Station, N.Y. 11746</p> <p>Master Symphonic Co. 28878 Walnut Grove Southfield, Mich. 48034</p> <p>Mavrick 629 South Rancho Sante Fe Rancho Santa Fe, Cal. 92069</p> <p>Maxell 22-08 Route 208 Fairlawn, N.J. 07410</p> <p>May Audio Marketing P.O. Box 1048 Champlain, N.Y. 12919</p> <p>Mayware P.O. Box 58 Edgware, Middlesex England HA8 7NJ</p> <p>MB Quart Electronics 25 Walpole Park South Walpole, Mass. 02081</p> <p>McIntosh Laboratory 2 Chambers St. Binghamton, N.Y. 13903</p> <p>Meitner Audio See Museatex Audio</p> <p>Melos Audio 723 Bound Brook Rd. Dunellen, N.J. 08812</p> <p>Memorex Memtek Products P.O. Box 901021 Ft. Worth, Tex. 76101</p>	<p>Meridian 14120-K Sullyfield Circle Chantilly, Va. 22021</p> <p>Merrill Audio 2125 Central Ave. Memphis, Tenn. 38104</p> <p>MFA Systems 3178 Fowler Rd. San Jose, Cal. 95135</p> <p>J. A. Michell Engineering See Artech</p> <p>Milab See Klark-Teknik</p> <p>Mirage See API</p> <p>Mirror Image Audio 4016 Stonewall Ave. Fairfax, Va. 22032</p> <p>Mission Electronics 440 Discovery Park 3700 Gilmore Way Burnaby, B.C. Canada V5G 4M1</p> <p>Mitek One Mitek Plaza Winslow, Ill. 61089</p> <p>Mitsubishi 5757 Plaza Dr. Cypress, Cal. 90630</p> <p>MJS 2280A Stevens Creek Blvd. San Jose, Cal. 95128</p> <p>M & K Miller & Kreisel 10391 Jefferson Blvd. Culver City, Cal. 90232</p> <p>Modern Audio Consultants 112 Swanhill Court Baltimore, Md. 21208</p> <p>The Mod Squad 542 North Hwy. 101 Leucadia, Cal. 92024</p> <p>Mondial 2 Elm St. Ardsey, N.Y. 10502</p> <p>Monitor Audio Loudspeakers P.O. Box 1355 Buffalo, N.Y. 14205</p> <p>Monolith Acoustics c/o Lenz 17763 Lake Carlton Dr. Lutz, Fla. 33549</p> <p>Monster Cable 101 Townsend St. San Francisco, Cal. 94107</p> <p>Mørch See Audio Advancements</p> <p>Mordaunt-Short 1225 17th St. Suite 1430 Denver, Colo. 80202</p>	<p>Morel Acoustics 414 Harvard St. Brookline, Mass. 02146</p> <p>Motif See conrad-johnson</p> <p>MTX See Mitek</p> <p>Museatex Audio 6605 Thimens Blvd. St. Laurent, Que. Canada H4S 1W2</p> <p>Muse Electronics P.O. Box 2198 Garcoen Grove, Cal. 92642</p> <p>Musical Concepts Musical Design No. 1 Patterson Plaza Florissant, Mo. 63031</p> <p>Music Hall 108 Station Rd. Great Neck, N.Y. 11023</p> <p>Music Reference P.O. Box 40807 Santa Barbara, Cal. 93140</p> <p>Music & Sound Imports 30 Snowflake Rd. Huntingdon Valley, Pa. 19006</p> <p>N NAD 575 University Ave. Norwood, Mass. 02062</p> <p>Nady Systems 1145 65th St. Oakland, Cal. 94608</p> <p>Nagra Magnetic Recorders 19 West 44th St. New York, N.Y. 10036</p> <p>NAIM Audio 1748 North Sedgwick St. Chicago, Ill. 60614</p> <p>Nakamichi 19701 South Vermont Ave. Torrance, Cal. 90502</p> <p>NEAR New England Audio Resource 1450 Hanover Ave. Meriden, Conn. 06450</p> <p>NEC Home Electronics 1255 Michael Dr. Wood Dale, Ill. 60191</p> <p>Nelson-Reed 15810 Blossom Hill Rd. Los Gatos, Cal. 95032</p> <p>Nestorovic Labs 8307 N.E. 110th Pl. Kirkland, Wash. 98034</p> <p>Neumann See Gotham Audio</p> <p>Nikko Audio 5816 Corporate Ave. Cypress, Cal. 90630</p>	<p>Niles Audio P.O. Box 160818 Miami, Fla. 33116</p> <p>Nitty Gritty 4650 Arrow Highway #F4 Montclair, Cal. 91763</p> <p>NOVA Electro-Acoustics P.O. Box 25488 Los Angeles, Cal. 90025</p> <p>Novak Loudspeaker Merrits Island Rd. Pine Island, N.Y. 10969</p> <p>Now Hear This 537 Stone Rd. Benicia, Cal. 94510</p> <p>NRG Control P.O. Box 389 Walled Lake, Mich. 48088</p> <p>O Octave Research 183-08 Camden St. St. Albans, N.Y. 11412</p> <p>Ohm Acoustics 241 Taaffe Pl. Brooklyn, N.Y. 11205</p> <p>Olson Loudspeakers 920 Grayson St. Berkeley, Cal. 94710</p> <p>Omni Sound 4833 Keller Springs Rd. Dallas, Tex. 75248</p> <p>Onix Audio See Music Hall</p> <p>Onkyo 200 Williams Dr. Ramsey, N.J. 07446</p> <p>Option Audio P.O. Box 1411 Wall, N.J. 07719</p> <p>Optonica See Sharp</p> <p>Opus 3 See May Audio Marketing</p> <p>Oracle 505 Boul. Industriel Sherbrooke, Que. Canada J1L 1X7</p> <p>Oracle U.S.A. 1237 Nielsen Dr. Clarkston, Ga. 30021</p> <p>ORA Electronics 9410 Owensmouth Ave. Chatsworth, Cal. 91311</p> <p>Ortofon 122 Dupont St. Plainview, N.Y. 11803</p> <p>Otari 378 Vintage Park Dr. Foster City, Cal. 94404</p> <p>OWI 1160 Mahalo Pl. Compton, Cal. 90220</p>
--	---	--	--	--

COMPANY ADDRESSES

<p>P</p> <p>PAC Perfectionist Audio Components 172 Ocean Ave. Lynnbrook, N.Y. 11563</p> <p>Packburn Electronics P.O. Box 335 DeWitt, N.Y. 13214</p> <p>Panasonic One Panasonic Way Secaucus, N.J. 07094</p> <p>Panther Enterprises 8825 Urbana Ave. Arleta, Cal. 91331</p> <p>Paradigm See AudioStream</p> <p>Paradox Speakers 136 Oregon George A.F.B., Cal. 92394</p> <p>Parasound 950 Battery San Francisco, Cal. 94111</p> <p>Paso Sound Products 14 First St. Pelham, N.Y. 10803</p> <p>Pegasus Audio See Rayco Sound</p> <p>Phase Technology 6400 Youngerman Circle Jacksonville, Fla. 32244</p> <p>Philips Consumer Products Interstate 40 & Straw Plains Pike P.O. Box 14810 Knoxville, Tenn. 37914</p> <p>Pickering Sunnyside Blvd. Plainview, N.Y. 11803</p> <p>Pinnacle Loudspeakers 517 Route 111 Hauppauge, N.Y. 11788</p> <p>Pioneer Electronics P.O. Box 1540 Long Beach, Cal. 90801</p> <p>Plasmatronics 2460 Alamo, S.E. Albuquerque, N.M. 87106</p> <p>PLC Audio 13-16 133rd Pl. College Point, N.Y. 11356</p> <p>Plexus Audio Systems P.O. Box 684 New Brunswick, N.J. 08901</p> <p>Polk Audio 5601 Metro Dr. Baltimore, Md. 21215</p> <p>Posthorn Recordings 142 West 26th St. New York, N.Y. 10001</p> <p>Power Audio Distributors 3450 East Lake Rd. Palm Harbor, Fla. 34685</p>	<p>Precise Acoustic Laboratories 200 Williams Dr. Ramsey, N.J. 07446</p> <p>Precision Audio 223-47 65th Ave. Bayside, N.Y. 11364</p> <p>Premier See Sumiko</p> <p>Pres Speakers 183 Main St. Northampton, Mass. 01060</p> <p>Primare Systems See Panther Enterprises</p> <p>Proac See Modern Audio Consultants</p> <p>Prodigy Audio Labs 4345 Lindberg Addison, Tex. 75001</p> <p>Proton 5630 Cerritos Ave. Cypress, Cal. 90630</p> <p>PS Audio 4145 Santa Fe Rd. San Luis Obispo, Cal. 93401</p> <p>PSB Speakers 575 University Ave. Norwood, Mass. 02062</p> <p>PSE Professional Systems Eng. 7401 Lyndale Ave. South Minneapolis, Minn. 55423</p> <p>Q</p> <p>QED See May Audio Marketing</p> <p>QSC 1926 Placentia Ave. Costa Mesa, Cal. 92627</p> <p>Quad Electroacoustics 14120-K Sullyfield Circle Chantilly, Va. 22021</p> <p>Quanta Technologies See Rayco Sound</p> <p>Quasar 1325 Pratt Blvd. Elk Grove Village, Ill. 60007</p> <p>Questor Loudspeakers See MJS</p> <p>Quicksilver Audio 3707 North Merrimac Circle Stockton, Cal. 95209</p> <p>R</p> <p>Radford See Tercel</p> <p>Radio Shack 1700 One Tandy Center Fort Worth, Tex. 76102</p> <p>Rane 10802 47th Ave. West Everett, Wash. 98204</p>	<p>RATA See May Audio Marketing</p> <p>Rauna See Scandinavian Sounds</p> <p>Rayco Sound 9141/9145 Ar buckle Dr. Gaithersburg, Md. 20877</p> <p>RCS Audio International 1055 T. Jefferson St. N.W. Washington, D.C. 20007</p> <p>Realistic See Radio Shack</p> <p>Recoton 46-23 Crane St. Long Island City, N.Y. 11101</p> <p>Reel to Real Designs 3021 Sangamon Ave. Springfield, Ill. 62702</p> <p>Rega Research See Import Audio</p> <p>Renaissance Acoustics 4044 S.W. 13th St. Suite 102 Gainesville, Fla. 32608</p> <p>Revolver See Music Hall</p> <p>Revox 1425 Elm Hill Pike Nashville, Tenn. 37210</p> <p>RH Labs 6844 S.W. 60th Ave. Portland, Ore. 92719</p> <p>Rockford Fosgate 613 South Rockford Dr. Tempe, Ariz. 85281</p> <p>Rogers See Audio Influx</p> <p>Rogersound Labs 8381 Canoga Ave. Canoga Park, Cal. 91304</p> <p>Rohrer Acoustic Design P.O. Box 884411 San Francisco, Cal. 94188</p> <p>Roksan See Brystonvermont</p> <p>Rossman Audio 597 West Hillside Ave. State College, Pa. 16803</p> <p>Rotel P.O. Box 653 Buffalo, N.Y. 14240</p> <p>Jeff Rowland Design Group 2911 North Prospect St. Colorado Springs, Colo. 80907</p> <p>Royd Loudspeaker See Import Audio</p> <p>RSL See Rogersound Labs</p>	<p>S</p> <p>SAE Scientific Audio Electronics P.O. Box 60271 Terminal Annex Los Angeles, Cal. 90060</p> <p>Sansui 1250 Valley Brook Ave. Lyndhurst, N.J. 07071</p> <p>Sanyo 21350 Lassen St. Chatsworth, Cal. 91311</p> <p>SASS Star Audio Sound Systems 47-07 30th Pl. Long Island City, N.Y. 11101</p> <p>Savard Speaker Systems 477 Live Oak Blvd. Baton Rouge, La. 70806</p> <p>Scandinavian Sounds 5237 Mt. Alifan Dr. San Diego, Cal. 92111</p> <p>S.C.D. Something Completely Different 3016 N.E. Oregon St. Portland, Ore. 97232</p> <p>Schoeps See Posthorn Recordings</p> <p>Scotch/3M Consumer Video and Audio Bldg. 223-5N St. Paul, Minn. 55144</p> <p>Scott 5601 Westside Ave. North Bergen, N.J. 07047</p> <p>Seattle Sound Technology P.O. Box 30028 Seattle, Wash. 98103</p> <p>Sennheiser 6 Vista Dr. Old Lyme, Conn. 06371</p> <p>Sescom 2100 Ward Dr. Henderson, Nev. 89015</p> <p>Shadow Products P.O. Box 431 Floral Park, N.Y. 11004</p> <p>Shahinian Acoustics 33A & B Cedarhurst Ave. Medford, N.Y. 11763</p> <p>Shannonbrooke Audio P.O. Box 8262 Woodridge, Ill. 60517</p> <p>Sharp Electronics Sharp Plaza Mahwah, N.J. 07430</p> <p>Sherwood 14830 Alondra Blvd. La Mirada, Cal. 90638</p> <p>Shinon 400 Eastern Ave. Unit #290 Toronto, Ont. Canada M4M 1B9</p>	<p>Shure</p> <p>Shure HTS 222 Hartrey Ave. Evanston, Ill. 60204</p> <p>Sidereal Akustic 9974 Scripps Ranch Blvd., #120 San Diego, Cal. 92131</p> <p>Siefert Research 31212 Bailard Rd. Malibu, Cal. 90265</p> <p>Signal 4701 Hudson Dr. Stow, Ohio 44224</p> <p>Silbersand 211 East Ohio St., #911 Chicago, Ill. 60611</p> <p>Sima Simaudio LTEE 2335 Howard St. St. Hubert, Que Canada J3Y 4Z3</p> <p>SimplyPhysics 4230 Glenchase La. Houston, Tex. 77014</p> <p>E.S. Sinfonic See Master Symphonic</p> <p>SKC Audio 17106 South Avalon Blvd. Carson, Cal. 90746</p> <p>SME See Sumiko</p> <p>Snell Acoustics 143 Essex St. Haverhill, Mass. 01830</p> <p>Sonace 32992 Calle Perfecto San Juan Capistrano, Cal. 92675</p> <p>Sonic Research 180 Sunny Valley Rd. New Milford, Conn. 06776</p> <p>Sonographe See conrad-johnson</p> <p>Sonotrim See Posthorn Recordings</p> <p>Sontec Electronics Audio Dr. Goldbond, Va. 24094</p> <p>Sonus See Sonic Research</p> <p>Sony</p> <p>Sony ES Sony Dr. Park Ridge, N.J. 07656</p> <p>SOTA Industries P.O. Box 7075 Berkeley, Cal. 94707</p> <p>Sound Concepts P.O. Box 135 Brookline, Mass. 02146</p>
---	---	--	--	---

THE END OF THE RECEIVER.



The GTP-500 is the most innovative and logical audio component in years. A superb tuner and preamplifier together on one chassis, completely separate from the power amplifier. This eliminates all the technical limitations of the receiver, assuring uncompromised sonic performance as well as an unrestricted choice of power. And a wireless remote controls the entire system—from your favorite chair or from several rooms in your home. The GTP-500 tuner/preamplifier is shown here with our 60 watt-per-channel* power amplifier. Up to 600 watts per channel are also available. In short, you're witnessing the dawn of a new era. To get the full story, write for our literature and reviews.

ADCOM®

11 Elkins Road, East Brunswick, NJ 08816 201-390-1130

Distributed in Canada by PRO ACOUSTICS, INC., Pointe Claire, Quebec H9R 4X5

*Continuous (not instantaneous or peak) power, both channels driven into 8 ohms, 20Hz-20kHz, <0.09% THD. Adcom specifications meet all FTC measurement requirements.

Enter No. 14 on Reader Service Card