

Stereo Review

JULY 1989 ● \$2.50

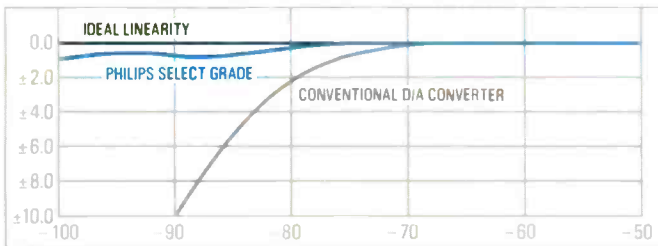
MADE IN JAPAN • THE NEW CD CHANGERS

TESTED: MITSUBISHI A/V RECEIVER, TECHNICS CD PLAYER,
JAMO SPEAKERS, AUDIO-TECHNICA CARTRIDGE, MORE...





Philips superiority is clear, from this graph showing deviation from ideal linearity (dB) vs. recorded level (dB).



THE PHILIPS CD960. CLOSE TOLERANCE COMPONENTS FOR PEOPLE WITH NO TOLERANCE FOR IMPERFECTION.

The CD960 compact disc player incorporates only the most uncompromising components because it has been designed by the world's most uncompromising audiophiles: Philips engineers. The same engineering experts who invented compact disc technology.

- Superior digital-to-analogue conversion. It comes as no surprise that the heart of the CD960 is the Philips dual 16-bit D/A converter chip. The TD-1541 select version. A chip so refined it substantially improves low-level linearity, flawlessly reproducing even the quietest passages with a clarity never before achieved.

This exceptional D/A converter is mated to a Philips 4X oversampling digital filter for superior performance. Philips pioneered 4X oversampling and our experience with digital filtering is unequalled.

- Broadcast standard "Radialinear" transport. Philips commitment to exacting specifications is also evident in the CD960's mechanical construction. It features a high-grade cast alloy chassis. A linear-design motor was chosen to drive the radial pivoting arm for fast track access and exceptional resistance to external vibrations.

- Multiple power supplies. To eliminate cross talk, the CD960 incorporates no less than four separate power supply sections. And the 100-watt main transformer is partitioned to further shield against magnetic and power line interference.

From the company that created the compact disc, Philips proudly offers the CD960 for those who won't tolerate anything less than perfection. To audition the CD960, call 1-800-223-7772 for your nearest Philips audio specialist.

WORLD-CLASS TECHNOLOGY. EUROPEAN EXCELLENCE.



PHILIPS

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.*

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details you can hear

Stereo Review

LETTERS.....	10	SYSTEMS.....	56
NEW PRODUCTS.....	12	POPULAR MUSIC.....	73
RODRIGUES CONTEST.....	18	CLASSICAL MUSIC.....	88
TECHNICAL TALK.....	20	THE HIGH END.....	104

EQUIPMENT

HIRSCH-HOUCK LABS EQUIPMENT TEST REPORTS	23
Technics SL-P1300 Compact Disc Player, page 23	
Jamo Concert II Speaker System, page 28	
Audio-Technica AT-ML170 Phono Cartridge, page 29	
Mitsubishi M-AV1 Audio/Video Receiver, page 32	
Paradigm Export Monitor Speaker System, page 38	

EASTERN STANDARDS	42
World-class audio equipment from across the Pacific increases choices for U.S. consumers	by Michael Smolen

MADE IN JAPAN	49
Sophisticated engineering and methodical construction go into a Yamaha receiver	by Bryan Harrell

CD CHANGERS	58
Let the music play, and play . . .	by Ian G. Masters

MUSIC

ANNE-SOPHIE MUTTER	63
"You have to develop your musical personality, even if it means playing music you don't understand immediately"	by Herbert Kupferberg

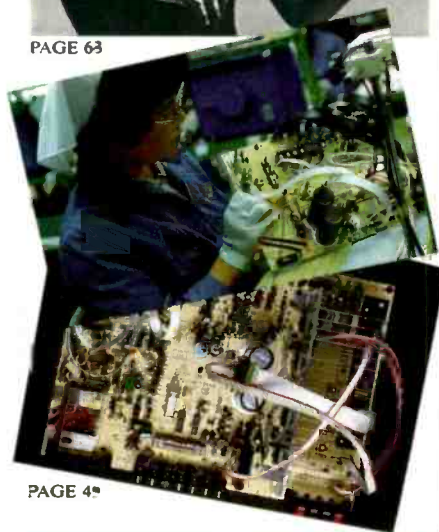
BEST RECORDINGS OF THE MONTH	67
Madonna, Berlioz's <i>Symphonie fantastique</i> , Marcus Roberts, and Debussy's <i>Preludes, Book II</i>	

Cover: The Technics SL-PC20 carousel compact disc changer will be in U.S. stores this summer (see page 42).
Design by Sue Llewellyn, photo by Roberto Brosan.

STEREO REVIEW BUYER POLL, SEE PAGE 77
Please fill in if you bought equipment in the past thirty days.
READER SERVICE INFORMATION CARD, FACING PAGE 77
Circle the items you want to know about.



PAGE 63



PAGE 42



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ES

The Sony CDP-R1.

Its very existence tells
you why our other CD players
have an unfair advantage.



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



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).



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COMPROMISING WITH YOUR TAPE IS LIKE COMPROMISING WITH ANY OTHER COMPONENT IN YOUR SYSTEM.

Even the most advanced system is only as good as the tape you put into it. That's why Maxell has created XLII-S.

Its unique Epitaxial formula combines gammaferric oxide and cobalt ferrite for superior response at all frequency levels. The resulting superfine particles offer unprecedented clarity and brilliance. And make XLII-S the perfect tape for recording your most demanding sources.

So match your tape to the other components in your system and use only XLII-S from Maxell. Anything less is just kid stuff.



maxell
The Tape That Delivers
Higher Performance.

The RTA Series



RTA 11t

"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.

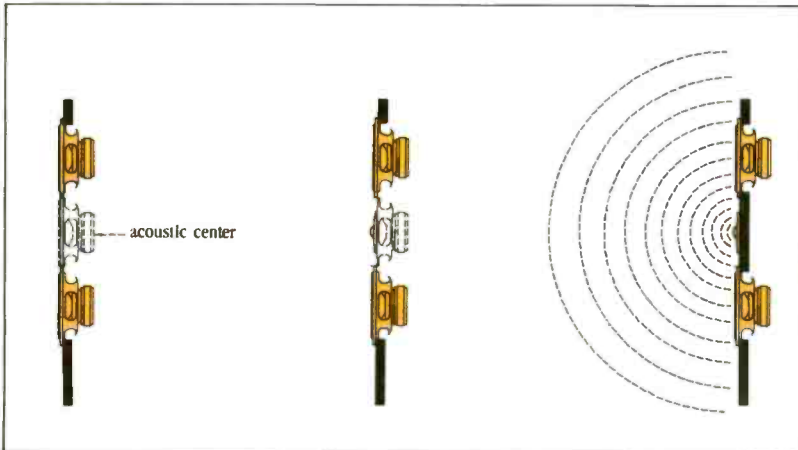
Both Polk RTA series loudspeakers achieve the extremely rare combination of good looks and state-of-the-art performance. The tall, elegantly slender, and deep “tower” design cabinets allow for substantial internal volume for high efficiency and powerful bass, while requiring less than one square foot 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.

The benefit of coincident waveform propagation resulting in precise imaging, uniform vertical dispersion and startling midrange accuracy.

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



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Where to buy Polk Speakers? For your nearest dealer, see page 98 .

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LETTERS

Home Theater Sound

In his April article on Shure's Home Theater Sound system, "The Best Seat in the House," William Livingstone mentions that he asked Robert Schulein, the general manager of Shure's HTS division, why the system was so expensive. Mr. Schulein explained that when you consider there are six speakers and three amplifiers, you are actually paying for the equivalent of three stereo systems.

It seems a little steep to me to pay \$9,600 for nine pieces of equipment. When you throw in the surround-sound decoder, that's still almost \$1,000 per piece. Now, I don't doubt the superior quality of Shure's surround-sound system, but at \$9,600, in my opinion, it is *not* a bargain!

RAYMOND BUCHANAN
Phoenix, AZ

William Livingstone's "The Best Seat in the House" in April was very interesting but left me wanting to know more about the nice record-storage system and the turntable in the photograph

on pages 62-63. I think it is a Technics, but I don't know the model.

HERIBERTO PEREZ
Passaic, NJ

The record shelves, called the Omni System, were purchased from the Shelf Shop at 1295 First Ave., New York, NY 10021. (212) 988-7246. The turntable is a Technics SL-1500, now discontinued.

Akai Service

I was surprised to find that products from Akai were not listed in the "Tape Deck Buying Guide" in May. Is Akai out of business? I purchased an Akai cassette deck recently. If it needs servicing, what can I do?

DAVE VANDER ARB
Hanford, CA

As we reported in the March "Bulletin," Akai products have been pulled off the U.S. market by Akai's parent company, Mitsubishi, but Mitsubishi will nevertheless honor Akai warranties and supply replacement parts for the next seven years through its U.S. service centers.

FMX Test

If M.I.T.'s radio station still broadcasts from Cambridge, Julian Hirsch's criticism of the FMX system (and that of Dr. Bose and Dr. Short) in the April "Technical Talk" is a bit unfair. There are few broadcast locations oriented so perfectly for creating transmission havoc as the amphitheater created by Boston's skyscrapers combined with the reflecting pool that is the Charles River.

BILL LARSEN
Hellertown, PA

Julian Hirsch replies: First of all, I was merely reporting criticism by Dr. Amar Bose and his colleague, since I have no personal experience of FMX performance in the field. Although Boston probably has plenty of multipath problems, the same can be said of almost every urban area. As I understand it, Dr. Bose's analysis of FM showed that the FMX system will exacerbate the effects of multipath reception, not create them. The field tests with the M.I.T. station apparently confirmed this analysis.

"They...Play Music And Make It Sound Like Music... Unobtrusively...At A Bargain Price."

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.



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.



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.

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

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!"

LETTERS

Bruckner's Wagner Tubas

In his April review of Giuseppe Sinopoli's Deutsche Grammophon recording of Bruckner's *Romantic Symphony* (No. 4), David Hall states that the conductor "exploits the resplendent Dresden horns and Wagner tubas to produce a sure-fire scherzo." In fact, only Bruckner's last three symphonies, Nos. 7-9, call for Wagner tubas as well as the usual horns.

ROBERT BERGER
Levittown, NY

You're right. Bruckner did add a bass tuba to the brass section for his Symphony No. 4 (and that is what Mr. Hall was referring to), but he did not call for the Wagner tuba, a special kind of tuba created by Wagner for use in the Ring cycle, until he came to write No. 7. And then he called for four of them, retaining them in Nos. 8 and 9 as well.

A/D Conversion

Is the impending phase-out of LP's really necessary? The simple fact is, 80

million people own record players; 11 million own CD players. Though people are buying CD's at a phenomenal rate, LP's are still selling well. I don't want to be forced to buy a technology that is arguing over format size (5 or 3 inches, or perhaps they'll be 1½ inches soon), and really isn't perfect. We'll all have to go out and spend hundreds of dollars on new systems when LP's are totally adequate for all but the perfectionist.

ANN M. M. PLICQUE
New Orleans, LA

I am writing in response to what I thought was a rather curious letter from Mr. Thomas O. Eliason in the May issue in response to the CD listening tests in December. Among other things, he stated that "... the new [McIntosh] Model 7007 is the most analog-sounding player" he'd ever heard. Apparently this was a rave review from him.

Analog sound? I've always been under the impression that the reason one bought a CD player and compact discs was digital sound. If you want analog sound, you could easily, and more inexpensively, stick to your trusty turntable

and LP's. From the moment I heard the first notes from my very first CD, the difference in sound quality between it and my vinyl records was discernible, and I have been hooked on digital sound ever since. Investing in a CD player for its analog sound just doesn't make sense.

LINDA ANDREWS
Canterbury, CT

Color Choices

I would like to challenge the audio equipment manufacturers to offer silver or some other light color for the front panels and the backs of their components. Light-colored panels are much more legible than black ones, especially in dim light, and they look better too.

G. LOBDELL
Waterloo, IA

Correction

Infinity has informed us that the price for the Infinity IRS Beta speaker system, shown on page 70 in the June issue, is now \$11,950. □

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

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.



Ensemble is a Trademark of Cambridge SoundWorks, Inc.

maximum power handling, individual crossovers that allow several wiring options and cabinets 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 \$439—complete with all hardware

and 100' of speaker cable—Ensemble is the value on today's speaker market.

Call 1-800-AKA-HIFI*
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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.

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CIRCLE NO. 157 ON READER SERVICE CARD

NEW PRODUCTS

PANASONIC

The tuner/tape section of Panasonic's CQ-G27 cassette receiver is removable to deter theft, leaving only the amplifier mounted in the dashboard. A front-panel jack allows connection of a portable CD player. Maximum output power is rated as 25 watts into four channels. The Hypertuner FM tuning system is said to reduce noise and interference.



The auto-blend circuitry gradually switches between stereo and mono without any audible click. There are eighteen FM and six AM presets. The autoreverse tape section plays all tape types and has Dolby B noise reduction. Price: \$400. Panasonic, Dept. SR, One Panasonic Way, Secaucus, NJ 07094.

Circle 120 on reader service card



SME

SME's Model 309 tonearm has a pressure die-cast magnesium headshell that can be detached and replaced without disturbing the cartridge or wiring. The underslung counterweight housing is said to correct the center of gravity and provide nonreflective tonearm termination. The swiveling, damped output socket is intended to reduce vibration transmission to the subchassis. Price: \$995. Distributed by Sumiko, Dept. SR, P.O. Box 5046, Berkeley, CA 94705.

Circle 121 on reader service card

PIONEER

Pioneer's flagship CD player is the Elite PD-71, which uses a "multifloating" suspension system to isolate the pickup mechanism and all electronics from the chassis in order to eliminate vibrations that can degrade sound quality. It uses dual "true" 18-bit converters with eight-times oversampling and direct wire connections that are said to reduce the chance of interference. Oper-

ating features include twenty-four-track programming and random play. Like other Elite Series components, the PD-71 is finished in black lacquer with rosewood side panels and comes with a Pioneer SR remote control. Price: \$850. Pioneer Electronics, Dept. SR, 2265 E. 220th St., P.O. Box 1720, Long Beach, CA 90801-1720.

Circle 122 on reader service card



JENSEN

The Jensen JSM401 is a surface-mount car speaker system with two 4-inch woofers, a 2-inch midrange, and a 1-inch piezoelectric tweeter. Its peak power-handling capacity is rated as 120 watts. Frequency response is rated as 80 to 20,000 Hz, sensitivity as 90 dB with a 1-watt input. Nominal impedance is 4 ohms. Price: \$179.95. International Jensen, Dept. SR, 4136 N. United Pkwy., Schiller Park, IL 60176.

Circle 123 on reader service card

CONRAD-JOHNSON

The Conrad-Johnson PV10 preamplifier, the least expensive in the company's line, features zero-feedback circuits in both the line and phono stages plus passive RIAA equalization in the phono stage. The PV10 has five vacuum tubes and a low-impedance, discrete, regulated power supply using only polypropylene and polystyrene capacitors. Inputs and outputs are gold-plated. A phono input and five line-level inputs, including one tape loop, are standard. Price: \$995. Conrad-Johnson Design, Inc., Dept. SR, 2800R Dorr Ave., Fairfax, VA 22031.

Circle 124 on reader service card



New. More amazing than ever.

Introducing the new Silver Edition Amazing Loudspeaker with Sonic Holography® Generator and Electronic Control System.



By looks alone you know this is no ordinary speaker. The Silver Edition trades a bulky, boxy cabinet for unfettered musical freedom. Its full-range ribbon transducer is open to the room, projecting seamless 25 Hz to 40,000 Hz sound both forward and back, creating near-photographic imaging and realistic spatial ambience. Its three enclosureless, twelve-inch subwoofers deliver bass that's tactilely tight and deep.

And each fifty-four-inch, piano-lacquered panel looks as good as it sounds. While occupying less than two square feet of floor space.

Up to this point we've described a brilliant, unconventional and yet proven dipole speaker design. One which offers openness, detail and sonic impact far in excess of its modest price. And which solves inherent problems plaguing far more expensive ribbon transducer designs.

But in order to fully earn the title "Amazing Loudspeaker," Bob Carver has endowed the new Silver Edition with even more technology.

At its heart is an Electronic Control System. Not an "equalizer" to compensate for shortcomings, but three dramatic sound enhancement circuits, plus bass "Q" and high frequency trim adjustments in a single compact component.

Select *Sonic Holography®* for the spectacular, 3-dimensional imaging *High Fidelity* described as seeming to "open a curtain and reveal ... musical forces extending behind, between and beyond the speakers." With any CD, record, tape or video sound source.

Add ultra-low fundamentals below 20 Hz with a *Sub Bass* generator that detects and enhances existing low level information. On bass-shy recordings, it takes advantage of the Silver Edition's long-throw free-air subwoofer system to restore bone-shaking musical reality.

There's even a unique circuit

that psychoacoustically "zooms" you back from the speakers. Called the *Gundry Perspective*, this effect creates the illusion of concert hall depth ahead of you without disturbing overall frequency balance. Combine it with *Sonic Holography®* Sub Bass generation and the Silver Edition's own innate ability to create a vast, open listening space, and you have a truly amazing aural phenomenon.

More than just a reproducer of music, the Amazing Loudspeaker Silver Edition becomes a restorer of sonic reality. In its most minute, organic detail.

Finally, there is one more very realistic thing about this new Amazing Loudspeaker model. Its price. Far less than you might pay for conventional loudspeaker designs which can't begin to match the Silver Edition's warmth, vitality and spaciousness.

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NEW PRODUCTS

FOSGATE-AUDIONICS

The DSM-3610 Pro-Plus surround-sound processor from Fosgate-Audionics has Pro-Plus logic steering, which uses variable, digitally generated time constants instead of the fixed- or narrow-range attack and release times of other logic steering circuits. This design approach is said to maintain a wide stereo sound stage while providing pre-

cisely located dialogue from a center-front speaker. The DSM-3610 also has remote control, A/V switching, and high-separation operating modes for Dolby Surround, stereo, and mono program sources. Price: \$1,429. Fosgate, Inc., Dept. SR, P.O. Box 70, Heber City, UT 84032.

Circle 125 on reader service card



DENON

Denon's DT-400 is a two-piece tabletop hi-fi system designed for secondary listening environments. An AM/FM stereo tuner, a preamplifier, a power amplifier, and a two-way speaker are in one module, a second two-way speaker in the other. Total width is under 2 feet. The 25-watt-per-channel system has auxiliary stereo inputs for connecting a

tape deck or CD player and a mini-jack for connecting a pocket CD or tape player. The tuner has five AM and five FM station presets and a rated capture ratio of 1.5 dB. The system includes a digital alarm clock. Price: \$399. Denon America, Dept. SR, 222 New Rd., Parsippany, NJ 07054.

Circle 126 on reader service card



KMD LABS

KMD Pro-Wipes CD cleaners, made of a combination of paper and polyester, are lint-free and will not scratch discs, the company says. Designed to remove fingerprints and other oily deposits, the round Pro-Wipes are sold in packages of twelve. Price: \$5. KMD Labs, Dept. SR, 1212 N. San Fernando Blvd., Suite 226, Burbank, CA 91504.

Circle 128 on reader service card



INFINITY

The Infinity RS 6001 is the top model in the company's new RS line of speakers, all of which feature proprietary injection-molded graphite woofer cones and composite graphite-and-polypropylene dome drivers. The three-way RS 6001 has two 8-inch woofers mounted in separate, tuned enclosures. The mid-range driver is a 2-inch Polyspherite dome, and the EMIT k tweeter has a fast-acting protection circuit. Frequency response is rated as 42 to 45,000 Hz \pm 3 dB, sensitivity as 89 dB. The speaker is available finished in natural or black oak-grain vinyl. Dimensions are 31 x 11 1/2 x 9 1/2 inches. Price: \$529 each. Infinity Systems, Dept. SR, 9409 Owensmouth Ave., Chatsworth, CA 91311.

Circle 127 on reader service card

All the information in the "New Products" section was provided by the manufacturers and does not represent the results of tests by STEREO REVIEW. Prices given are suggested retail ("list") prices as of press time. For more information, write the manufacturers or circle the corresponding numbers on the reader service card facing page 77.



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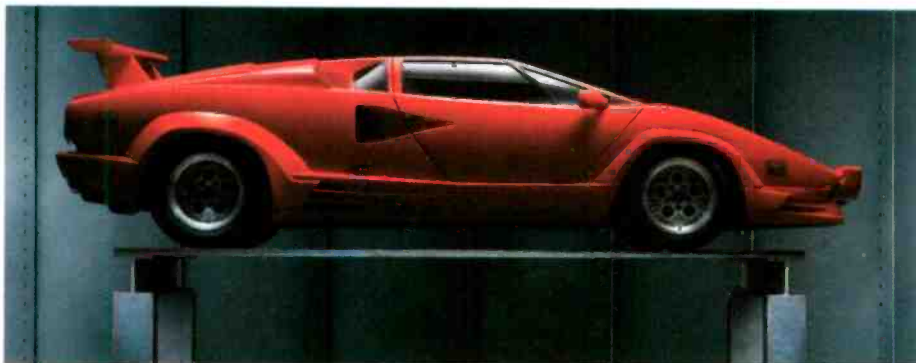
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DISCS, DISCS, DISCS,



R.E.M.—Green (Warner Bros.) 375162

The Traveling Wilburys—Volume One (Wilbury) 375089

Elvis Costello—Spike (Warner Bros.) 378190
Enya—Watermark (Geffen) 379925

Debbie Gibson—Electric Youth (Atlantic) 377275

Tone-Loc—Locoed After Dark (Delicious Vinyl) 379875
Paula Abdul—Forever Your Girl (Virgin) 374637

TAKE YOUR PICK OF ANY 8

- Skid Row** (Atlantic) 379602
- Dave Grusin Collection** (GRP) 378398
- Joe Sample**—Spellbound (Warner Bros.) 378224
- Oingo Boingo**—Skeletons In The Closet (A&M) 378125
- Bob Dylan & Grateful Dead** (Columbia) 378117
- Jessye Norman Sings Wagner**—Tristan Und Isolde; Tannhauser, etc. (Angel) 378075
- The Pursuit Of Happiness**—Love Junk (Chrysalis) 377994
- Tesla**—The Great Radio Controversy (Geffen) 377986
- The Fantasy Strings**—The Greatest Love Of All Conducted By Ettore Stratta (Realim) 377978
- Charlie Sexton** (MCA) 379230
- Tequila Sunrise**—Original Sound Track (Capitol) 379180
- Paul Dean**—Hard Core (Columbia) 379164
- Simply Red**—A New Flame (Elektra) 378943
- Lyle Lovett**—Lyle Lovett and His Large Band (MCA) 378935
- The Replacements**—Don't Tell A Soul (Sire/Reprise) 378927
- The Go-Beats**—16 Lovers Lane (Capitol) 378810
- Midge Ure**—Answers To Nothing (Chrysalis) 378786
- They Might Be Giants**—Lincoln (West) 378778
- New Order**—Technique (Owest) 378760
- Poison**—Open Up And Say... Ahh! (Capitol/Enigma) 368688
- Fine Young Cannibals**—The Raw & The Cooked (I.R.S.) 379214
- The Mantovani Orchestra**—A Night In Vienna (Bainbridge) 378737
- Jean-Pierre Rampal**—Portrait Of Rampal (CBS Master) 372383
- Portrait Of Vladimir Horowitz**—Music Of Beethoven, Chopin, etc. (CBS Masterworks) 378604
- Duran Duran**—Big Thing (Capitol) 378521
- Lou Reed**—New York (Sire) 378216
- Vladimir Feltsman**—Prokofiev: Piano Concerto 1 & 2 (CBS Masterworks) 377390
- Tom Scott**—Flashpoint (GRP) 377044
- Eighth Wonder**—Fearless (WTG) 376988
- Boys Club** (MCA) 376970
- Murray Perahia**—Mozart: Piano Concertos Nos. 9 & 21 (CBS Masterworks) 376822
- Michael Tilson Thomas**—Revel: Bolero (CBS Masterworks) 376772
- When In Rome** (Virgin) 376749
- Neil Diamond**—The Best Years Of Our Lives (Columbia) 376541
- Crosby, Stills, Nash And Young**—American Dream (Atlantic) 376533
- Will To Power** (Epic) 376483
- Julian Cope**—My Nation Underground (Island) 376475
- The Boys**—Messages From The Boys (Molown) 376368
- Lee Ritenour**—Festival (GRP) 376301
- Fatburger**—Living In Paradise (Intuma) 376277
- Madonna**—Like A Prayer (Sire) 379594
- Tiffany**—Hold An Old Friend's Hand (MCA) 376236
- Dokken**—Beast From The East (Elektra) 376228
- The Best Of Earth, Wind & Fire**—Vol. 2 (Columbia) 376160
- Best Of Berlin**—1979-1988 (Geffen) 376145
- Sheena Easton**—The Lover In Me (MCA) 376095
- Andre Watts At Carnegie Hall** (Angel) 376053
- Nadja Salerno Sonnenberg / Cecile Licad**—Franck, Sonata In A, Brahms, Sonata No. 2 In A, Sonatensatz In C Minor (Angel) 376038
- Gipsy Kings** (Elektra/Musican) 377812
- Andres Segovia**—The Baroque Guitar Segovia Collection, Vol. 4 (MCA Classics) 375998
- Fishbone**—Truth And Soul (Columbia) 375865
- Was (Not Was)**—What's Up Dog? (Chrysalis) 375857
- Kim Wilde**—Close (MCA) 375816
- Fleetwood Mac's Greatest Hits** (Warner Bros.) 375782
- Chaka Khan**—C.K. (Warner Bros.) 375774
- Jane's Addiction**—Nothing's Shocking (Warner Bros.) 375741
- Samantha Fox**—I Wanna Have Some Fun (Jive/RCA) 375725
- John Hiatt**—Slow Turning (A&M) 375717
- The Human League's Greatest Hits** (A&M) 375709
- Weird Al Yankovic**—Greatest Hits (Rock N' Roll) 375642
- Pet Shop Boys**—Introspective (EMI) 375592
- Karyn White** (Warner Bros.) 375394
- John Adams**—"Nixon In China" (Nonesuch) 375345
- Beaches**—Original Soundtrack (Atlantic) 379669
- .38 Special**—Rock & Roll Strategy (A&M) 375139
- Lever**—Just Coolin' (Atlantic) 375105
- Ratt**—Reach For The Sky (Atlantic) 375071
- Barbra Streisand**—Till I Loved You (Columbia) 374884
- R.E.M.**—Eponymous (I.R.S.) 374777
- Michael Brecker**—Don't Try This At Home (MCA/Impulse) 374769
- Blues For Coltrane**—Various Artists (MCA/Impulse) 374744
- Bulletboys** (Warner Bros.) 374702
- Winger** (Atlantic) 374652
- Al Jarreau**—Heart's Horizon (Reprise) 376186
- The Smiths**—Rank (Sire) 374397
- Robbie Nevil**—A Place Like This (EMI) 374348
- Diane Schuur**—Talkin' 'Bout You (GRP) 374298
- Eddie Money**—Nothing To Lose (Columbia) 374223
- Ready For The World**—Ruff 'N' Ready (MCA) 374124
- Vixen** (EMI) 374108
- Johnny Clegg & Savuka**—Shadow Man (Capitol) 374025
- Kronos Quartet**—Winter Was Hard (Nonesuch) 373993
- London Classical Players**—Roger Norrington, Beethoven Symphony (Angel) 373985
- Stanley Jordan**—Flying Home (EMI) 373860
- Joan Armatrading**—The Shouting Stage (A&M) 373837
- Escape Club**—Wild Wild West (Atlantic) 373787
- Cocktail**—Original Sound Track. (Elektra) 373779
- Little Feat**—Let It Roll (Warner Bros.) 373720
- Yes**—Big Generator (ATCO) 361170
- Richard Marx**—Repeat Offender (EMI) 380915
- Guy** (MCA) 373415
- Luther Vandross**—Any Love (Epic) 373399
- Bird**—Original Motion Picture Soundtrack (Columbia) 373332
- Ozzy Osbourne**—No Rest For The Wicked (Epic) 373308
- A Tribute To Woody Guthrie And Leadbelly**—Various Artists (Columbia) 372995
- Metallica**—And Justice For All (Elektra) 372805
- Canadian Brass**—The Mozart Album (CBS Master) 374561
- Najee**—Day By Day (EMI-Manhattan) 371856
- Melissa Etheridge** 371468
- Journey**—Greatest Hits (Columbia) 375279
- Ramones**—Ramones Mania (Sire) 371450
- Breathe**—All That Jazz (A&M) 371427
- Huey Lewis And The News**—Small World (Chrysalis) 371419
- Toni Childs**—Union (A&M) 371351
- Bruce Cockburn**—Waiting For A Miracle (Gold Castle) 371278
- Steve Winwood**—Roll With It (Virgin) 371211
- The Bernstein Songbook**—selections from West Side Story, On The Town, etc. Bernstein cond. (CBS) 371088
- New Edition**—Heart Break (MCA) 370882
- Spyro Gyra**—Rites of Summer (MCA) 370767
- Randy Travis**—Old 8 x 10 (Warner Bros.) 370643
- Elton John**—Reg Strikes Back (MCA) 370536
- Patti Smith Group**—Dream Of Life (Arista) 370478
- Robert Palmer**—Heavy Nova (EMI) 370395
- David Sanborn**—Close Up (Warner Bros.) 370304
- Wynton Marsalis Quartet**—Live At Blues Alley (Columbia) 370080-390088
- Anita Baker**—Giving You The Best That I Got (Elektra) 374058
- The Clash**—The Story Of The Clash Vol. 1 (Epic) 368597-398594
- Michael Feinstein**—Isn't It Romantic (Elektra) 368399
- Basia**—Time And Tide (Epic) 368043
- Sade**—Stronger Than Pride (Epic) 368027
- Orchestral Manoeuvres In The Dark**—Best Of O.M.D. (A&M) 367755
- REO Speedwagon**—Greatest Hits (Epic) 367672
- Sinead O'Connor**—The Lion and The Cobra (Chrysalis) 367086
- Tina Turner**—Live In Europe (Capitol) 366898-396895
- Robert Plant**—Now and Zen (Es Paranza) 366716
- Carly Simon**—Greatest Hits Live (Arista) 365874
- The Manhattan Transfer**—Brasil (Atlantic) 363648
- Linda Ronstadt**—Canciones De Mi Padre (Arista) 362640
- Pretenders**—The Singles (Sire) 362541
- Steve Winwood**—Chronicles (Island) 362525
- Robbie Robertson** (Geffen) 362152
- Michael Jackson**—Bad (Epic) 362079
- Sting**—... Nothing Like The Sun (A&M) 361675
- Introducing The Hardline According To Terence Trent D'Arby** (Columbia) 361618
- Guns N' Roses**—GN'R Lies (Geffen) 376087
- Tracy Chapman** (Elektra) 369892
- Al B. Sure**—In Effect Mode (Warner Bros.) 369637
- Ziggy Marley & The Melody Makers**—Conscious Party (Virgin) 369512
- Joe Jackson**—Live 1980/1986 (A&M) 369504-399501
- Van Halen**—OU812 (Warner Bros.) 369371
- Bobby McFerrin**—Simple Pleasures (EMI) 369306
- DJ Jazzy Jeff & Fresh Prince**—He's The D.J., I'm The Rapper (Jive/RCA) 369264
- Edie Brickell & New Bohemians**—Shooting Rubberbands At The Stars (Geffen) 374835
- Guns N' Roses**—Appetite For Destruction (Geffen) 359984
- Bruce Springsteen**—Tunnel Of Love (Columbia) 360115
- Billy Idol**—Vital Idol (Chrysalis) 360107
- Jethro Tull**—Crest Of A Knave (Chrysalis) 360040

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Living Colour—Vivid (Epic) 370833

Bobby Brown—Don't Be Cruel (MCA) 372045

The Movies Go To The Opera—Various Artists (Angel) 372342

Kenny G—Silhouette (Arista) 371559

Roy Orbison—Mystery Girl (Virgin) 377101

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Luciano Pavarotti—In Concert (CBS Master) 373548

New Kids On The Block—Hangin' Tough (Columbia) 368423

White Lion—Pride (Atlantic) 359471

Aerosmith—Permanent Vacation (Geffen) 359075

Duke Ellington Orch.—Digital Duke (GRP) 357350

Best Of The Kinks—1977-1986 (Arista) 345314

The Cars—Greatest Hits (Elektra) 339903

U2—The Unforgettable Fire (Island) 337659

Squeeze—Singles—45 s And Under (A&M) 317974

Bruce Springsteen—Born In The U.S.A. (Columbia) 326629

The Police—Every Breath You Take... The Singles (A&M) 348318

Kiri Te Kanawa—Verdi & Puccini Arias (CBS Master) 343269

Best Of J. Geils Band—Flashback (EMI) 339424

Dire Straits—Brothers In Arms (Warner Bros.) 336222

Barry Manilow—Greatest Hits (Arista) 288670

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Grateful Dead—Skeletons From The Closet (Warner Bros.) 378406

Jimi Hendrix—Are You Experienced? (Reprise) 353102

Roy Orbison—The All-Time Hits, Vols. 1 & 2 (Columbia Special Product) 377945

The Beach Boys—Made In The U.S.A. (Capitol) 346445

Motown's 25 #1 Hits—Various Artists (Motown) 319996-399998

Harry Chapin—Greatest Stories: Live (Elektra) 296939

Rockpile—Seconds Of Pleasure (Columbia) 377846

Yes—Fragile (Atlantic) 351957

Traffic—The Low Spark Of High Heeled Boys (Island) 351924

Buddy Holly—From The Orig. Master Tapes (MCA) 348110

Creedence Clearwater Revival—20 Greatest Hits (Fantasy) 308049

Joe Jackson—Look Sharp (A&M) 294421

Jerry Lee Lewis—18 Original Sun Greatest Hits (Rhino) 369108

Joni Mitchell—Court and Spark (Asylum) 367102

Rolling Stones—Sticky Fingers (Rolling Stones Rec.) 350645

Chuck Berry—The Great Twenty-Eight (Chess) 343657



James Taylor—Greatest Hits (Warner Bros.) 291302

The Who—Greatest Hits (MCA) 365361

Little Feat—Feats Don't Fail Me Now (Warner Bros.) 363523

Eagles—Greatest Hits Vol. 2 (Asylum) 317768

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The Winner of THE RODRIGUES CAPTION CONTEST

CONGRATULATIONS to Marc C. Welenteychik, of Richmond, Virginia, the winner of the fifth annual Rodrigues Cartoon Caption Contest! His winning entry is now printed under the cartoon.

As we did in previous years, in our issue of January 1989 we published a drawing by our cartoonist Charles Rodrigues and invited readers to submit proposed captions for it. The prize for the one the judges considered to be the funniest is \$100 and the original Rodrigues drawing.

The editors of STEREO REVIEW thank the thousands of contestants for their entries, which came from all over North America and from such faraway places as Pietermaritzburg, South Africa. We also thank the previous winners—Thomas Briggie, of Wadsworth, Ohio, Mi-

chael Binyon, of San Luis Obispo, California, Bruce Barstow, of Philadelphia, Pennsylvania, and Matthew Mirapaul, of Chicago, Illinois—who served on the panel of judges.

A very large number of this year's entries were about the interaction of pigeons with statues. Other favorite subjects were long-throw woofers and the Father of Audio. Julian Hirsch was the person who figured most prominently in the captions, and the list of famous people includes Amar Bose, Bob Carver, Grover Cleveland, Thomas Edison, Avery Fisher, Horace Greeley, Patrick Henry, and Crazy Eddie.

Popular musicians referred to ranged from Helen Reddy to Boy George, from Barry Manilow to the Sex Pistols. Classical music was represented by references to such composers as Beethoven, Mozart, and

Wagner. As usual, the most frequently mentioned classical composition was Tchaikovsky's *1812 Overture*, with Pachelbel's Canon close behind.

Unlike the previous winners of this contest, Mr. Welenteychik is not professionally involved with computers. Since graduating from Virginia Tech in 1985, he has been employed in sales of heating, ventilating, and air-conditioning equipment. His tastes in music are sufficiently comprehensive to include rock, jazz, and opera.

The runners-up are printed below, in no particular order. If you are a typical reader, you will find one of them funnier than the winner. You now have six months to hone your sense of humor before entering next year's contest, which we expect to announce in January.

William Livingstone



"It depicts an early stage in the development of high-fidelity portable stereos. The amplifier shoe was especially cumbersome."

RUNNERS-UP

"After that, kidney stones were a thing of the past."—Craig M. Miller, Las Vegas, NV

"Thanks to that man we have the oldest boom-box laws in the tri-state area."—Tom Roch, Philadelphia, PA

"Someday statues like this will point the way to fine audio suppliers everywhere."—David Tymn, San Jose, CA

"Him? Well, he discovered the last audible distortion: Transient Mammalian Epidural Follicular Deterioration Distortion... cat fur on the speaker cone."—Lynn Gahagan, San Jose, CA

"Let this be a lesson to you, young man—always keep your equipment's original shipping cartons."—Jay Kenik, Bellevue, NE

"It's getting near noon. I suggest we move before it goes off."—Bob Drake, Annandale, NY

"This is only the right channel. On the other side of the park, there's a mermaid with a CD player and a subwoofer."—Joseph F. Stafford, Manchester, NH

"Found him just like that at Hirsch-Houck Labs replacing a fuse with a penny."—Richard J. Greene, New York, NY

"Of course, others later miniaturized the hearing aid he invented."—Layman J. Potter, Jr., Kettering, OH

When we play the numbers game, we play for keeps.



Frankly, a lot of stereo specs are more confusing than informative. But the benefits of increased digital oversampling rates are tangible and audible.

Introducing the TL-3300 18-Bit/8X Oversampling CD Player with Digital Time Lens and 22-function Remote Control.

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.

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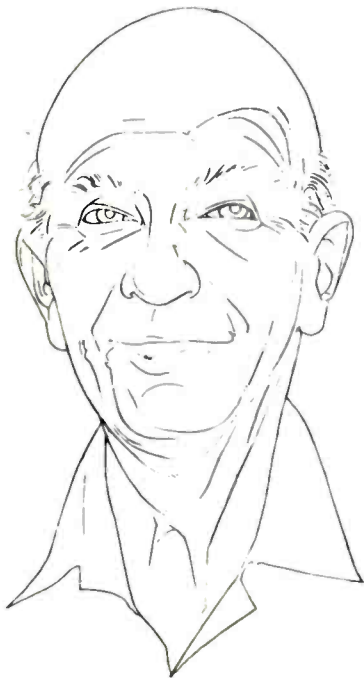
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by Julian Hirsch



HI-FI AM RADIO

SINCE 1980, the National Radio Systems Committee (NRSC), a joint venture of the Electronic Industries Association's Consumer Electronics Group (EIA/CEG) and the National Association of Broadcasters (NAB), has been studying methods of improving the technical quality of AM radio. The NRSC eventually endorsed two groups of technical improvements, which were proposed to the FCC as standards.

The first standard, NRSC-1, was issued by the FCC in January 1987. Its aim was, for the first time, to define the audio-modulation frequency response of AM transmitters and the probable audio response of AM receivers. Frequency-response standards have been a feature of FM broadcasting and reception since its inception, but AM radio has experienced only enough regulation to minimize interference between stations. Overall AM sound quality, especially as affected by receiver performance, was not a major issue.

The FCC initially made compliance with the new standard vol-

untary on the part of the AM broadcasters, and 20 to 25 percent of AM stations have already adopted it. Essentially, NRSC-1 (now issued as EIA-549) calls for AM transmitters to use a 75-microsecond high-frequency pre-emphasis characteristic, similar to FM broadcast practice, but only effective up to 10,000 Hz (the effective upper limit for FM audio response is 15,000 Hz). Ideally, a "wide-band" AM receiver would have a complementary de-emphasis characteristic (including the effects of its IF and RF selectivity), resulting in an overall transmit/receive frequency response that is essentially flat up to 10,000 Hz.

The development of compatible wide-band AM receivers was recommended to manufacturers, but apparently none have reached the market yet. Fortunately, a pre-emphasized AM transmission is perfectly satisfactory when heard through a conventional "narrow" receiver. Receivers in general have a very limited AM high-frequency response, and there is little chance of the received audio sounding too "bright" through any presently available receiver.

The bandwidth and modulation characteristics of radio transmissions must be restricted to prevent interference between adjacent channels. The minimal 10-kHz spacing of AM stations now used in North America allows the possibility of interference from adjacent-channel modulation sidebands more than 5 kHz removed from the carrier frequency, corresponding to audio frequencies of 5 kHz or higher. Al-

though channel assignments have generally provided a sufficient geographical spacing between adjacent-channel stations to avoid serious daytime interference problems, nighttime changes in AM propagation characteristics can seriously alter the situation. FCC regulations have limited the amplitude of AM high-frequency sidebands to minimize adjacent-channel interference, and the other new FCC standard (NRSC-2), which becomes effective on June 30, 1990, further seeks to limit the transmitted RF bandwidth to conform to the audio bandwidth—that is, to cut off signals more than 10 kHz from the carrier frequency—by RF filtering of the transmitter output.

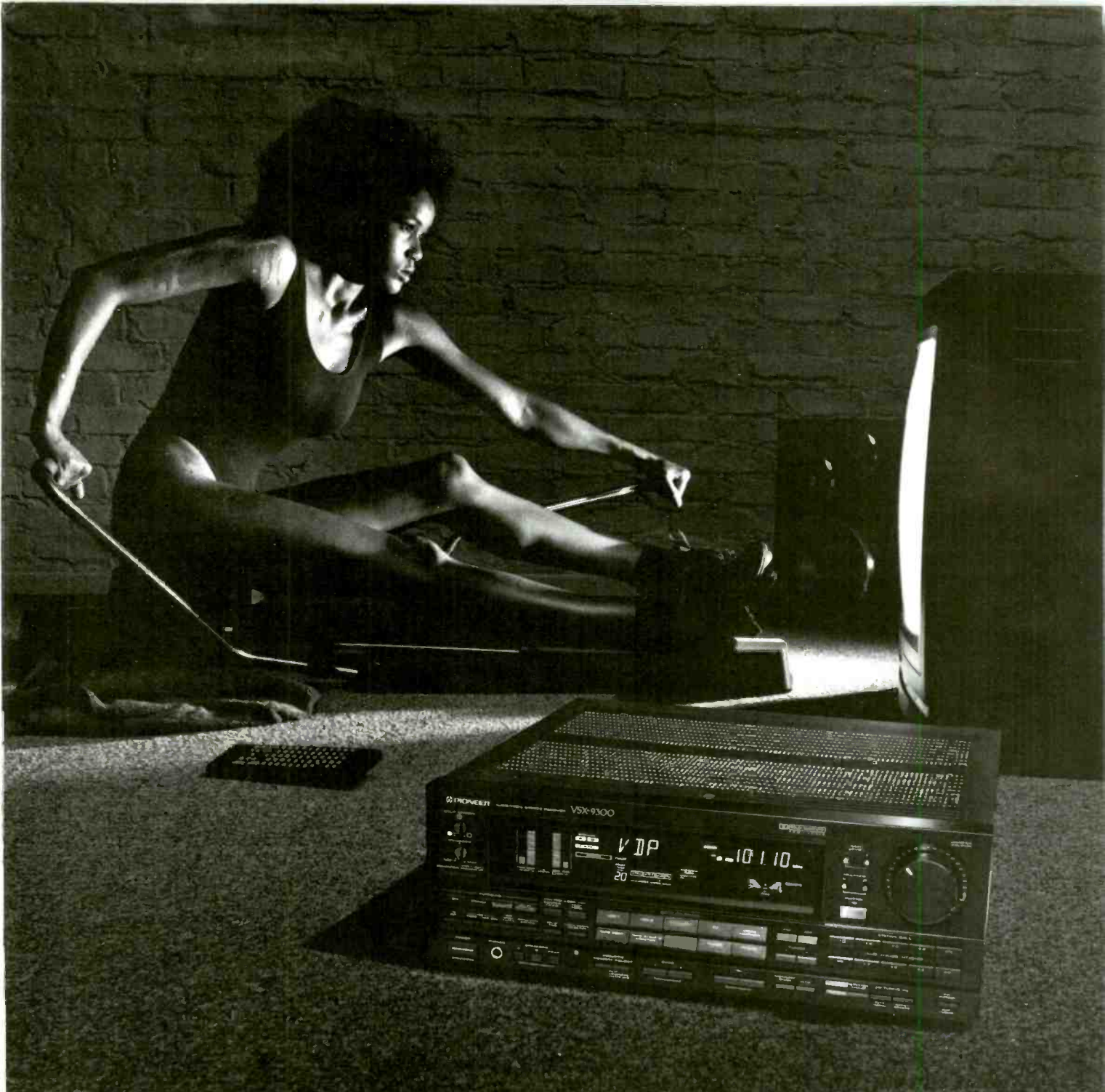
The NRSC has also developed a prototype table-model "Super Radio" to illustrate the potential of the new AM broadcast standards. It includes such features as continuous AM/FM tuning with automatic band switching and coverage of the proposed enlarged AM spectrum, from 530 to 1,710 kHz instead of the previous 530 to 1,600 kHz. The radio has an AM noise blanker, an AM stereo decoder, and a rotatable shielded-loop AM antenna system. The FM tuner section has a stereo decoder and an FMX decoder.

While this radio merely shows what is feasible, the pertinent technical information is available to manufacturers, and we can expect future component hi-fi tuners and receivers to include wide-band AM. The NRSC is developing a certification mark like the "HQ" mark used to identify a VCR incorporating specific hi-fi features, and the EIA/CEG is recommending that its members use this mark wherever applicable once it is developed.

I have not heard a demonstration of improved-quality AM, but I imagine that it will make a considerable difference in the public enjoyment of AM broadcasting. The new 10-kHz audio bandwidth, though not quite the equal of FM's 15-kHz bandwidth, should come very close to matching FM sound, especially in a table radio or a car radio. Wide-band AM is not likely to do as well in terms of noise level, but it should nevertheless help to narrow the quality gap between AM and FM. □

Tested This Month

*Technics SL-P1300
Compact Disc Player*
*Jamo Concert II
Speaker System*
*Audio-Technica
AT-ML170 Cartridge*
*Mitsubishi M-AV1
Audio/Video Receiver*
*Paradigm Export
Monitor Speaker*



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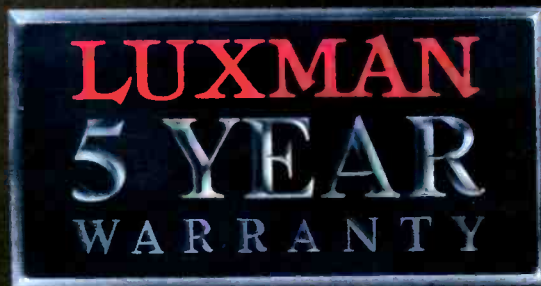
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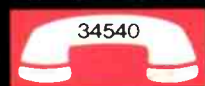
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TECHNICS SL-P1300 COMPACT DISC PLAYER

Julian Hirsch, Hirsch-Houck Laboratories

THE Technics SL-P1300, one of the few top-loading CD players manufactured today (except for portables), looks almost identical to the SL-P1200, its predecessor, which was originally designed for use by disc jockeys and other professionals who need very accurate cueing and mixing control. The SL-P1300 carries over most of the special operating features and the rugged mechanical construction of the SL-P1200 while adding several advanced circuit features.

For a CD player, the SL-P1300 is rather large and heavy, measuring 17 inches wide, 15 inches deep, and 6 $\frac{3}{8}$ inches high and weighing a solid

35 $\frac{1}{4}$ pounds. All of its operating controls are on the slightly sloping top panel, and the display panel at the rear is tilted back a bit for improved visibility. The front edge of the cabinet contains a headphone jack and its horizontal-slider volume control. On the rear apron are the conventional phono-jack line outputs, a pair of XLR connectors carrying balanced line outputs, for minimum noise pickup in professional applications, and coaxial and optical digital outputs for connection to an external D/A converter.

Perhaps the most distinctive external feature of the SL-P1300 is its 2 $\frac{1}{4}$ -inch-diameter search knob,

which turns with a feather touch and will spin for several revolutions after a flick of the finger. When the SEARCH button on the panel is engaged, this knob shifts the position of the laser pickup forward or backward across the disc, providing exceptionally easy and precise cueing. A fast or slow search rate can be selected by a button on the panel. Slow search changes the cueing position in increments of 0.1 second of playing time; in fast search the increments are roughly 1 second.

Another useful feature is Auto-Cue. When this button is engaged, the player automatically goes into pause at the end of each track and positions the laser at the *actual* starting point of the following track. Since CD tracks are often separated by a silent interval, this feature makes it easy to begin play precisely on the first note of a track when the start button is pressed.

Most of the other control buttons

TEST REPORTS

on the panel will be familiar to users of conventional CD players. A numerical keypad provides direct access to any track or, with the index button, any indexed point within a selected track. It can also be used to program up to twenty tracks for playback in any sequence. The keypad also permits access to any portion of a disc by its elapsed-time position, and a time cue can be stored during play by pressing a single button. Later, pressing TIME RECALL begins playback from that point.

The entire disc, a programmed sequence, or any selected portion of a track can be repeated, and there are the usual forward and reverse track-skip and track-search buttons. The search buttons are designed to shift the laser by one track width (approximately 0.1 second of playing time) with each momentary touch, so that a user can synchronize two CD players for smooth in/out fades. Although the SL-P1300 is not unusual in having a music-scan

feature that plays a few seconds of each track before proceeding to the next one, its version of the feature is unique in that the duration of the sample, normally 10 seconds, can be varied between 1 and 59 seconds with the keypad on the supplied remote control.

Finally, another unique feature of the SL-P1300 is its pitch control. When activated by a button, this slider control varies the speed of the playback (and thereby the pitch of the music) over a nominal ± 8 -percent range. This feature is useful to home taptists or broadcasters who may need to adjust the length of a selection to fit an available time slot or to match the pitch or tempo of one recording to that of another.

The display window is conventional, with large numerals showing the track and index numbers and elapsed or remaining time in minutes, seconds, and tenths of a second. A "music calendar" grid shows the numbers of all unplayed tracks up to a maximum of twenty. Dis-

played symbols and words indicate the status of the various operating controls of the player.

Like the earlier SL-P1200, the SL-P1300 makes extensive use of multilayer damping materials within its zinc die-cast case. The entire player is supported on four large, rubber-damped spring feet, and the optical assembly and power transformers (separate for analog and digital circuits) inside the case are individually isolated from the base to minimize vibration effects. The wireless remote control operates all main-panel functions except power on/off, disc compartment open/close, Time Recall, dial search, Auto-Cue, and pitch control. The music-scan and index-skipping functions can be performed only from the remote control.

Advanced circuit features of the SL-P1300 include an eight-times-oversampling (352.8-kHz) digital filter and an 18-bit, high-resolution D/A converter system using dual converters for each channel (one for the positive half and the other for the negative half of the analog waveform). A comparison of technical specifications indicates that the SL-P1300's ratings are about 6 dB better than the SL-P1200's in respect to noise and channel separation. The new player is also designed to accept 3-inch as well as standard CD's. Price: \$1,599. Technics, Dept. SR, One Panasonic Way, Secaucus, NJ 07094.

Lab Tests

Meaningful performance measurements on the Technics SL-P1300 would be impossible (or at least impractical) without the very latest in test equipment, which we have in the Audio Precision System One. For example, the player's frequency response varied only ± 0.04 dB from 15 to 20,000 Hz. The equalization of the de-emphasis circuit was accurate within 0.02 dB from 125 to 1,000 Hz in one channel and within about 0.003 dB in the other. Its noise-spectrum level when playing the "signal-zero" portion of a test disc was -120 dB at 20,000 Hz and fell to -145 dB at 30 Hz (except for 60- and 180-Hz hum components in one channel at -116 dB).

Low-level spectrum analysis of

FEATURES

- Eight-times-oversampling digital filter (352.8 kHz)
- Four 18-bit D/A converters (two per channel)
- Programmable to play up to twenty tracks in any order
- Cueing knob with two search speeds, rocker control for precise mixing and editing
- Direct keypad access by track number, index number, or elapsed-time position
- Pitch adjustable over $\pm 8\%$ range
- Auto-Cue for exact start of each track
- Memory for instant recall of any cued point
- Accepts CD-3's without an adaptor
- Separate power supplies for analog and digital circuits
- Optical and coaxial digital outputs
- Balanced XLR audio outputs as well as standard line outputs
- Headphone jack with volume control
- Vibration-isolated, antiresonant cabinet with double isolation of optical mechanism
- Wireless remote control of most panel functions as well as music scan (with adjustable sample duration) and index skipping

LABORATORY MEASUREMENTS

Maximum output level: 2.49 volts

Total harmonic distortion at 1,000 Hz: less than 0.0016% from 0 to -80 dB except for 0.005% maximum at -20 dB

Signal-to-noise ratio (A-weighted): 114 dB

Channel separation: 130 dB at 100 Hz, 122 dB at 1,000 Hz, 97 dB at 20,000 Hz

Maximum phase shift (from 5,000 to 20,000 Hz): -1.2 degrees at 20,000 Hz

Frequency response: ± 0.04 dB from 15 to 20,000 Hz

Speed-adjustment range: $+9.49\%$, -7.41%

Low-level linearity error: less than 0.5 dB down to -100 dB

Cueing time: 1.5 seconds

Cueing accuracy: A

Impact resistance: top and sides, A+

Defect tracking: tracked 1,500-micrometer defects on Pierre Verany #2 test disc

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R.E.M.: Green • Orange Crush, Pop Song 89, Get Up, Stand, etc. Warner Bros. 100715

Def Leppard: Hysteria • Women, Love Bites, more. Mercury. 100927

The Best Of Dire Straits: Money For Nothing • Sultans Of Swing, etc. Warner Bros. 100713

Dirty Dancing/Original Soundtrack (I've Had) The Time Of My Life etc. RCA 182522

James Galway: Greatest Hits • Memory, The Pink Panther, 18 more. RCA 173233

The Judds: Greatest Hits • Give A Little Love, Love Is Alive, etc. RCA 144578

Guns N' Roses: Appetite For Destruction Welcome To The Jungle, etc. Geffen 170348

Solti, Chicago Symphony: Tchaikovsky, 1812 Overture & More London 125179

Robert Palmer: Heavy Nova • Simply Irresistible, etc. EMI 100035

Elton John: Reg Strikes Back • I Don't Wanna Go On With You Like That. MCA 100602

D.J. Jazzy Jeff & The Fresh Prince: He's The D.J., I'm The Rapper • Jive 264134

Pet Shop Boys: Introspective • Domino Dancing, etc. EMI 100681

Tracy Chapman: Fast Car, Talkin' 'Bout A Revolution, etc. Elektra 153582

Bobby McFerrin: Simple Pleasures Don't Worry Be Happy, etc. EMI 164165

Simon & Garfunkel: The Concert In Central Park • Mrs. Robinson, etc. Warner Bros. 244006

Steve Earle: Copperhead Road • Snake Oil, title song, more. UNI 100679

Cocktail (Original Soundtrack) Elektra 100459

Canadian Brass: More Greatest Hits Sabre Dance, more. RCA 164348

45's On CD, Vol. 1 • Big Bopper, Rick Nelson, Sheb Wooley, etc. Polydor 150044

Randy Travis: Old 8x10 • Honky Tonk Moon, more. Warner Bros. 100008

By Request...The Best Of John Williams & The Boston Pops Philips 125360

The Police: Every Breath You Take—The Singles A&M 173924

Benny Goodman: Sing, Sing, Sing Title song, more. RCA 104857

Richard Marx: Repeat Offender Satisfied, Angelia, etc. EMI 101118

Beethoven, Symphony No. 9 (Choral) R. Norrington, conductor. Angel 100467

Diana Ross & The Supremes: 20 Greatest Hits • Motown 163867

Dokken: Beast From The East • "Live" hits Walk Away, etc. Elektra 200717



James Taylor: Greatest Hits • Fire & Rain, more. Warner Bros. 123790

Horowitz Plays Mozart 115436

Madonna: Like A Prayer • Love Song, Cherish, Spanish Eyes, etc. Sire 101029

Najee: Day By Day • Personality, title song, Gina, etc. EMI 100001

Taylor Dayne: Tell It To My Heart • Prove Your Love, etc. Arista 124759

k.d. lang: Shadowland • I'm Down To My Last Cigarette, etc. Sire 134567

Roy Orbison: Mystery Girl • You Got It, title song, etc. Virgin 100842

Solti, Chicago Symphony: Dvořák, Symphony No. 9 (New World) London 115168

Steve Winwood: Chronicles • His biggest hits! Island 134501

Debbie Gibson: Out Of The Blue • Only In My Dreams, more. Atlantic 154066

Billy Idol: Vital Idol • Mony Mony, White Wedding (Parts I & II), Chrysalis 154038



The Travelling Wilburys: Volume One 100711

Dirty Dancing: Live In Concert Hungry Eyes, Yes, etc. RCA 201026

Count Basie: April In Paris • Title song, Shiny Stockings, etc. Verve 164004

Itzhak Perlman: French Violin Showpieces • DG 115457

Gordon Lightfoot: Gord's Gold • Folk classical! Reprise 224008

Ella Fitzgerald & Louis Armstrong: Ella & Louis • April In Paris, etc. Verve 133381

XTC: Oranges And Lemons • The Mayor Of Simpleton, others. Geffen 201086

Milli Vanilli: Girl You Know It's True Title song, others. Arista 101048

Charlie Parker & Dizzy Gillespie: Bird And Diz • Leap Frog, etc. Verve 173413

Patsy Cline: 12 Greatest Hits • I Fall To Pieces, Crazy, more. MCA 153849

Van Halen: OU812 • When It's Love, Black And Blue, etc. Warner Bros. 150913

Winger • Seventeen. Atlantic 100830

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Skid Row: Youth Gone Wild, Big Guns, others. Atlantic 101038
Genesis: Invisible Touch • Tonight Tonight Tonight, more. Atlantic 153740

Steve Winwood: Roll With It • Title song, Holding On, etc. Virgin 154633
Metallica: And Justice For All • One, Blackened, etc. Elektra 200478
The Beach Boys: Endless Summer Help Me Rhonda, etc. Capitol 223559
Diane Schuur: Talkin' 'Bout You • For Your Love, etc. GRP 100532
The Cult: Sonic Temple • Fire Woman, Sun King, Soul Asylum, etc. Sire 101015
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Fine Young Cannibals: The Raw And The Cooked • I.R.S. Digital 101068
Mike + The Mechanics: The Living Years • Nobody's Perfect, etc. Atlantic 100710
Van Morrison & The Chieftans: Irish Heartbeat • Mercury 100489
Mike Oldfield: Tubular Bells • Music from 'The Exorcist.' Virgin 170345
Guns N' Roses: GN'R Lies • Patience, Used To Love Her, etc. Geffen 100805
Horowitz in Moscow: Classical music's #1 album, a Grammy winner! DG 125264
The Complete Lester Young: Just You And Me, etc. Mercury 164183
The Sun Story: Songs from Elvis Presley, Johnny Cash, etc. Rhino 244534
Dave Grusin: Claemagic • Movie themes. GRP 133316
Powagqatsi: Haunting film soundtrack, music by Philip Glass. Nonesuch 172268
Chicago: 19 • J Don't Wanna Live Without Your Love, more. Reprise 154404
Peter Cetera: One More Story Warner Bros. 100463
Pavarotti At Carnegie Hall: The world-famous tenor in concert! London 115311
Classic Old & Gold, Vol. 1: Music Explosion, more. Laurie 134627
Eric Clapton: Time Pieces (The Best Of) • Layla, etc. Polydor 123385
K.T. Oslin: This Woman • Hold Me, Money, title song, etc. RCA 100579
Vangelis: Direct • The Motion Of Stars, First Approach, etc. Arista 100470
Charlie Parker: Compact Jazz Bird lives! Verve 153983



Crosby, Stills, Nash & Young: American Dream 100714
Karyn White: Love Saw It, Superwoman, more. Warner Bros. 100832
The Best Of Steely Dan: Decade • 14 hits. MCA 154135
Supertramp: Classics (14 Greatest Hits) • A&M 104871
Alabama: Greatest Hits • Why Lady Why, Feels So Right, etc. RCA 120247
Jethro Tull: Aqualung • Locomotive Breath, title song, etc. Chrysalis 124705
Cinderella: Long Cold Winter • Gypsy Road, more. Mercury 114780
John Williams & The Boston Pops: Digital Jukebox • More, more. Philips 125059
An Evening With Louie Armstrong: GNP Crescendo 270106
Bobby Brown: Don't Be Cruel • My Perogative, Roni, etc. MCA 100621
Huey Lewis: Small World • Perfect World, etc. Chrysalis 134347
R.E.M.: Eponymous • Fall On Me, The One I Love, etc. IRS 100701
Dwight Yoakam: Buenas Noches From A Lonely Room • Reprise 100009
Jimmy Page: Outrider • Led Zeppelin guitarist solo! Geffen 123271
Robert Plant: Now And Zen • Heaven Knows, etc. Es Paranza 134392
Led Zeppelin: Houses Of The Holy D'yer Maker, etc. Atlantic 134321
20 Great Love Songs Of The 50s & 60s Vol. 1: Only You, more. Laurie 120768
Viennese Bonbons: Vienna Phil. Orch./Lorin Maazel. DG 115287
INXS: Kick • Need You Tonight, Devil Inside, title song, etc. Atlantic 115306
David Sanborn: Close-Up • Slam, You Are Everything, J.T., etc. Reprise 134408
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the output from test tones between -70 and -100 dB showed a striking absence of resolvable harmonics, which are usually present at levels of -15 to -30 dB in other CD players. This result was a first in our experience testing CD players with the Audio Precision instrument. The level of the 1,000-Hz test tone was within a fraction of a decibel of the correct value even at -100 dB, another indication of the low-level linearity of the D/A converter. The linearity of the playback from the sweeping tone (with dither) of the CBS CD-1 disc was excellent from -60 dB until it disappeared in the noise level at about -116 dB.

The Technics SL-P1300's defect-tracking ability was excellent, and its impact resistance was the best we have seen in a home CD player.

The channel separation, almost identical on both channels, was about 130 dB at 100 Hz and about 100 dB at 20,000 Hz. The total harmonic distortion (THD) plus noise at 1,000 Hz was -96 dB (0.0016 percent) at 0 dB and -98 dB (0.0013 percent) from -40 to -80 dB. For reasons that are not clear, the distortion rose abruptly to -86 dB (0.005 percent) at -20 dB, but from a listening standpoint, of course, that level is as insignificant as the other distortion measurements. Inter-channel phase shift varied smoothly from -0.2 degree at 5,000 Hz to -1.2 degrees at 20,000 Hz.

The A-weighted wide-band noise was -114 dB, and quantization noise (with the D/A converters operating) was -95 dB. The dynamic range (EIAJ) was 97.5 dB. The frequency error was +0.0018 percent, and the pitch control had a range of +9.49 percent to -7.41 percent. The 0-dB output level into an EIA load was 2.49 volts, with a channel imbalance of 0.05 dB.

The defect-tracking ability of the SL-P1300 was excellent, reaching beyond the 1,500-micrometer level of the Pierre Verany #2 test disc before audible dropouts occurred, and its impact resistance was the

best we have seen in a home CD player. Only with the most extraordinary pounding on its case (more painful to the perpetrator than to the victim) could we cause brief dropouts. The cueing time of 1.5 seconds ranks with many of the faster CD players made today. Finally, the headphone volume was excellent, about 3.5 to 4 volts into typical headphone impedance loads before clipping occurred.

Comments

The Technics SL-P1300 is one of the most advanced CD players we have seen to date. While a few of its individual measurements have been equaled or slightly surpassed by some other top units, its overall performance places it at the head of its class in our experience.

We have been using an SL-P1200 for some time as a reference CD player, so we were naturally curious to compare it with its successor. Making the same measurements on both units with the same discs and test equipment, we verified that the newer circuits of the SL-P1300 do in fact produce measurable benefits. Compared with the SL-P1200, its wide-band noise level was 7 dB lower, its quantization noise was 3 dB lower, and its dynamic range was 2 dB greater. Its low-level linearity curve was visibly superior, and channel separation was about 10 to 20 dB greater.

All of these measurable differences really have little to do with the sound of the player, however, since we are dealing with infinitesimal performance aberrations. The principal significance, as we see it, is that Technics has made a number of refinements that, in the aggregate, make an excellent product even better. One of the most striking characteristics of our measurements of the SL-P1300 is their symmetry. Measurements on the two channels of a CD player almost always differ, often by a substantial amount. Even though the differences are not likely to have an audible effect, their presence suggests a degree of uncertainty that seems out of place in such a sophisticated component as a CD player. The fact that the two channels of the SL-P1300 measured so much more alike than those of other CD players suggests that its makers really had a handle on what they were doing, from the conception to the manufacture of the finished product.

The SL-P1300 is a most impressively engineered component. While I cannot say that it *sounded* better than other top-of-the-line CD players, or even different from them, I can say that I have not seen another CD player combining such a high level of performance and versatility with such an overall feeling of ruggedness, quality, and precision. **Circle 140 on reader service card**





RISING ABOVE THE CD JUNGLE





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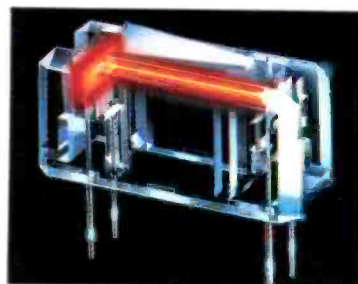
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JAMO CONCERT II SPEAKER

Julian Hirsch, Hirsch-Houck Laboratories

THE Danish-made Jamo Concert II speaker is a fairly conventional two-way system with a 6½-inch woofer operating in a bass-reflex enclosure. The cabinet, suitable for shelf or stand placement, measures 16½ inches high, 9¾ inches wide, and 9¾ inches deep, and each speaker unit weighs about 20 pounds. The crossover, at a nominal frequency of 2,000 Hz, is to a 1-inch soft-dome tweeter. The rated system impedance is 8 ohms, and the system has no controls or adjustments.

The cabinet of the Jamo Concert II is finished in mahogany or stained black ash. Gold-plated binding posts, recessed into the rear of the cabinet, accept stripped wire ends or banana plugs, but are spaced too widely for dual banana-plug connectors. The woofer port is in the rear of the cabinet. The black perforated-metal grille is retained

magnetically, with its edges fitting into slots along the sides of the speaker panel. The unusual design allows the grille to be removed and replaced with exceptional ease, and the absence of protrusions on the sculptured panel makes the Concert II much more attractive than most speakers are when operated without a grille.

Beyond the Concert II's physical specifications, crossover frequency, and impedance, the only ratings provided in the owner's manual are its frequency range, given as 40 to 20,000 Hz, and three distinct power ratings: "Operating Power 6.3 watts, IEC Input Power 40 watts, and Rated Power 80 watts (120 watts music)." These numbers, like all speaker power ratings, derive from nonstandard measurement methods and are not easily correlated with real-world operation. Price: \$798 a pair. Jamo Hi-Fi U.S.A.,

Dept. SR, 425 Huehl Rd., Northbrook, IL 60062.

Lab Tests

For our measurements and listening tests, we installed the Jamo Concert II speakers on 26-inch stands and placed them about 2 feet from the wall behind them. The room-response measurements indicated a notably flat and smooth response, with the usual floor-reflection peak and dip between 250 and 500 Hz, and a strong output between 50 Hz and our 20,000-Hz measurement limit. The close-miked woofer and port response curves combined for an unusually flat response from about 35 to 200 Hz, falling gently at higher frequencies to -10 dB at 2,000 Hz. When this was combined with the room curve, the result was a composite frequency response of ± 3 dB from 25 to 20,000 Hz.

Although the composite curve seems to suggest a remarkable bass extension for a 6½-inch woofer, the 25-Hz figure should not be taken too literally. The actual low-frequency limits of the speaker are defined by its power-handling and distortion characteristics rather than by an artificial low-level measurement.

The system's sensitivity was 88.5 dB sound-pressure level (SPL) at 1 meter with a standard input of 2.83 volts of pink noise. Our reference level for the distortion measurements was 3.36 volts, corresponding to a 90-dB SPL. The woofer distortion was about 1 percent at 100 Hz, 2 percent at 80 Hz, and 7 percent at 50 Hz. The effective crossover between the cone and port radiation was at about 75 Hz, and between 20 and 50 Hz the system's actual distortion with a 3.36-volt input was in the 10- to 30-percent range.

The impedance of the system was 7 to 7.5 ohms at 43 and 180 Hz, with another dip to 5 ohms at 3,500 Hz. There were impedance peaks of 21 ohms at 27 Hz, 27 ohms at 80 Hz, and 30 ohms at 1,000 Hz. The horizontal dispersion was good, with little divergence between the response measured on-axis and 45 degrees off-axis below 8,500 Hz and only about 6 dB difference at 12,000 Hz. Quasi-anechoic FFT response measurements with our IQS signal-analysis system confirmed the smooth-

TEST REPORTS

ness and uniformity of the system in the audible range, showing only ± 1.5 dB variation from 180 to 16,000 Hz. The overall group-delay variation of 0.2 millisecond from 3,000 to 20,000 Hz was consistent with our other measurements.

High-power tests with one-cycle tone bursts showed that the Concert II was no midget in its power-handling abilities. Our amplifier clipped before the speaker rattled, reaching inputs of 490 watts at 100 Hz (into 14 ohms), 250 watts at 1,000 Hz (30 ohms), and 790 watts at 10,000 Hz (8 ohms).

Comments

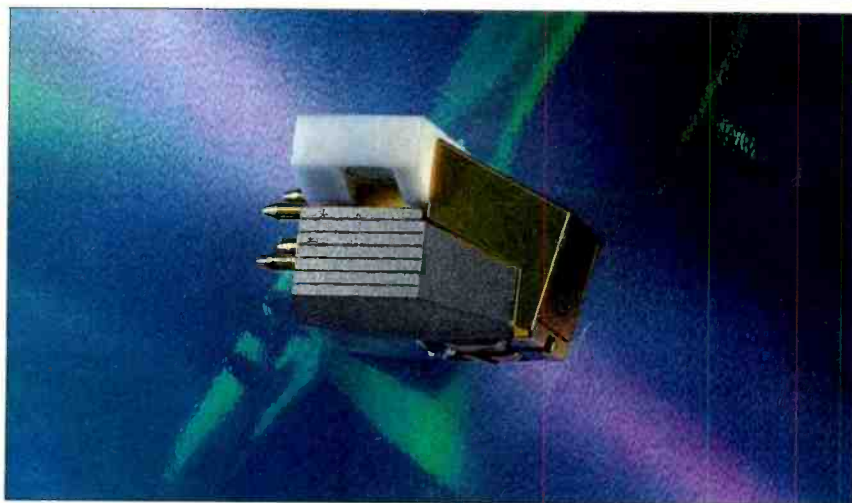
The measured performance of the Jamo Concert II indicated that it should be a very listenable small speaker, but we knew that before we made any measurements. The Concert II had a balanced spectral response and unmistakable smoothness that were instantly apparent. In A/B comparisons it showed itself to be in the same class as some highly regarded speakers of comparable size but much higher price. It was not even badly outclassed by some much larger, as well as more expensive, systems. There are no miracles in audio, however, and although the

The Jamo Concert II had a balanced spectral response and a smoothness that were instantly apparent in our listening tests.

Concert II had a pleasing frequency balance, its bass output could not compete with that of systems using larger drivers in larger enclosures.

Of course, each speaker has special characteristics that make it more or less attractive to any given listener, and no two speakers (including pairs of the same model) are truly identical. I would not presume to rank one speaker above or below another merely because their individual colorations differ slightly, but I have no hesitation in ranking the Jamo Concert II as one of the better contenders in the under-\$1,000-a-pair price class.

Circle 141 on reader service card



AUDIO-TECHNICA AT-ML170 PHONO CARTRIDGE

Julian Hirsch, Hirsch-Houck Laboratories

IN recent months, it has become apparent that despite the swift and universal acceptance of the compact disc medium, the development of new and improved phono cartridges (and tonearms and turntables) has not ceased. The recent announcement of the cancellation of marketing plans for the Final laser record player suggests, however, that future *major* advances in analog recording and playback technology are unlikely in view of the declining market for LP's. Rather, what we have seen, and may continue to see for a while, is a process of refinement, especially in phono-cartridge design, that will enable the phonophile to extract the last bit of performance and useful life from his valued disc collection.

The latest example of this trend to come to our attention is the new flagship cartridge from Audio-Technica, the ML170. This moving-magnet cartridge is based on the dual-magnet design used throughout the company's line. The dual magnets, mounted on a boron cantilever that's gold plated to damp resonances, form a "V" that matches the geometry of the recording process. As the stylus traces a record groove, the magnets' movement generates voltages in the indepen-

dent left- and right-channel coils. Like earlier Audio-Technica cartridges, the ML170 features a nude-mounted MicroLine diamond stylus whose shape closely resembles that of a cutting stylus, which is said to result in low playback distortion and high channel separation.

A number of high-end Japanese audio manufacturers (and some in other countries as well) believe that using certain exotic materials can have a positive effect on the sound of a product. The ML170 cartridge's coils are wound with "Pure Copper by Ohno Continuous Casting" (PC-OCC). It is claimed that this special high-temperature extruded copper has "virtually no transverse crystal barriers to... color sound." Even the connecting pins of the cartridge are made of PC-OCC. The benefit is said to be "greater resolution and signal clarity."

The body and mounting base of the ML170 are formed of nonresonant ceramic. The magnetic portions of the cartridge are shielded against hum pickup, and the removable stylus assembly is user-replaceable. The cartridge weighs 7 grams and mounts on standard 1/2-inch centers. It has a relatively high output, rated as 4 millivolts per channel for a lateral velocity of 5 centi-

TEST REPORTS

meters per second (equivalent to 3.54 cm/s in each channel). The recommended vertical tracking force is 1.25 grams ± 0.3 gram, and the tracking ability is rated as 90 micrometers (μm) at the center value, 100 μm at the maximum tracking force.

Channel separation is rated as 31 dB at 1,000 Hz and 21 dB at 10,000 Hz, with a channel imbalance of less than 0.5 dB. The vertical tracking angle of the stylus is 20 degrees. The recommended cartridge load is 47,000 ohms in parallel with a capacitance of 100 to 200 picofarads (pF). Price: \$345. Audio-Technica, Dept. SR, 1221 Commerce Dr., Stow, OH 44224.

Lab Tests

We installed the Audio-Technica ML170 in a medium-mass tonearm loaded with 47,000 ohms and 100 pF for our measurements. The tracking force was set to 1.25 grams. Playing a 3.54-cm/s, 1,000-Hz test band, the cartridge's output was 3.75 mV, with a channel imbalance of 0.7 dB. The vertical tracking angle was 16 degrees.

The frequency response and channel separation were measured using both the CBS STR 100 and CTC 300 test records. The results differed only slightly, with the flattest response being obtained with the STR 100. In fact, the ML170 produced one of the flattest frequency-response curves we have seen from a phono cartridge—it varied only ± 0.5 dB from 40 to 20,000 Hz. As often happens, the two channels did not have the same separation characteristics. The left-channel separation was about 30 dB in the mid-range, but the right-channel separation was about 22 dB. The separation was 30 dB in both channels at 10,000 Hz, however, and it was still a strong 20 dB at 20,000 Hz.

In most respects, the tracking ability of the ML170 was outstanding, setting new records in our experience with cartridges. With the DIN 45549 test record, it tracked the 100-micrometer level at 1.25 grams and almost handled 110 μm at 1.55 grams (a slight mistracking distortion was audible). Very few cartridges we have tested have been able to track 100 μm at any force.

The 30-cm/s 1,000-Hz tones of the Fairchild 101 record were played without mistracking at only 0.5 gram, another measurement first.

Only the low-frequency tracking ability of the cartridge failed to match its other achievements. The 32-Hz tones of the Cook 60 record mistracked at any force within the cartridge's design range. This result does not mean that the cartridge is inadequate at typical low frequencies, however, since the Cook 60's 32-Hz tone is recorded at a very high level, about 56 cm/s, with a groove-modulation amplitude that is easily visible to the unaided eye at a distance of 2 feet or more.

The frequency response of the ML170 obviously extended well beyond the audio range (it is rated as 5 to 40,000 Hz, with no tolerance specified). Its response to a 1,000-Hz square wave was nearly perfect, showing only a low-level damped ringing at about 40,000 Hz, which appeared to be the stylus resonance frequency.

Comments

The measurement data on the Audio-Technica ML170 clearly place it among the elite of phono cartridges. If it had tracked our low-frequency test bands as well as the higher frequencies, we would have no hesitancy in giving it a 100-percent performance rating. In our view, no cartridge needs to be better than this one, whose playing capabilities are

more than sufficient to deal with the most demanding discs.

The final question is, "How does it sound?" Frankly, we heard no special or unique qualities in the ML170's performance playing an assortment of the better discs on hand. It would take an impractically long search to find recorded musical passages, rather than test signals, that might stress the abilities of this cartridge to their limits (if any such actually exist). When components attain the degree of refinement evident in this cartridge, it is unreasonable to expect to find *meaningful* sonic differences between them.

From a listening standpoint, then, I suspect that this cartridge has reached a level of performance that is sufficient to extract all the useful sound from any analog record with insignificant distortion. No, it is not "perfect," but neither is a digital compact disc or a CD player, yet their performance is generally more than adequate for even critical listeners. I doubt that any future developments in cartridges will ever eclipse one of the caliber of the ML170, nor is there any need for such an achievement other than to provide equivalent performance at lower prices. It does not matter (to me, anyway) what exotic materials or methods are used in a product—what counts is how well it performs. In that respect, this one will be hard to beat.

Circle 142 on reader service card



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JOOK LEUNG

MITSUBISHI M-AV1 AUDIO/VIDEO RECEIVER

Julian Hirsch, Hirsch-Houck Laboratories

MITSUBISHI'S M-AV1 audio/video receiver, designed as the control center for a group of compatible components that form a complete and highly versatile A/V system, includes four channels of amplification. The front channels are rated for 125 watts each into 8 ohms from 20 to 20,000 Hz with less than 0.05 percent total harmonic distortion, the rear channels for 25 watts each into 8 ohms from 50 to 10,000 Hz with less than 0.5 percent distortion. The surround-sound decoder is compatible with Dolby-encoded video sources and has a matrix mode for adding ambience to any stereo program.

Although the M-AV1 is fairly large, it has perhaps the simplest-looking front panel we have seen on a component of this type. Only the large volume knob, a few pushbuttons, and the approximately 2 x 3-inch illuminated display are normally visible. Next to the display

are two pairs of buttons with up/down arrow indicators, one marked SCAN and the other INPUT. The input buttons are used to select the main program source for listening or viewing, and the scan buttons step through the tuner's sixteen AM or FM presets. The selected source or preset station appears in large characters on the display, along with such other status indications as TUNED, STEREO, MUTE, and CLIPPING. The receiver has input connections for a turntable, a CD or videodisc player (identified as CD-V), a TV monitor/receiver, two VCR's, and digital and analog tape decks.

The remaining always-visible controls are the power switch at the lower left and a small, round push-button marked PUSH OPEN. Pressing this button causes the bottom of the panel to swing down, revealing more buttons, a few knobs, and a headphone jack.

The tuning buttons operate in a conventional manner except that

there is no band selector as such. The up and down buttons step the tuned frequency by 200 kHz for FM and 10 kHz for AM; when the end of the band is reached, the receiver automatically switches to the other band. The PRESET MEMORY button is used with the tuning buttons to store selected frequencies. The speaker-selector button is used to drive either one or two pairs of speakers from the front channels. When the surround mode is selected, the second pair of speakers is automatically driven by the rear (surround) channels. The conventional balance knob is supplemented by an INPUT BALANCE knob to minimize leakage of the front channels into the rear ones during surround operation.

The other operations of the M-AV1 are handled in a rather unconventional manner. There are two pairs of AUDIO FUNCTION buttons with up/down arrows behind the hinged panel, one pair marked SELECT and the other ADJUST. The select buttons step through FM mode (mono, stereo, and highblend), surround mode (off, matrix, and Dolby), surround volume, bass, treble, tone defeat, loudness, subsonic filter, high-cut filter, and record monitor. For each selected



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function, the adjust buttons step through the available range of values or switch the function on or off.

Perhaps the most unusual control on this receiver is its DISPLAY ANGLE adjustment. The M-AVI uses a liquid-crystal display (LCD) with green, yellow, and white letters and numerals on a dark background. An LCD normally has a narrow viewing angle; contrast and legibility are best when it is viewed head on and fall off rapidly as the angle changes. The M-AVI's DISPLAY ANGLE knob electronically "steers" the optimum viewing angle up or down for easier

viewing when the user's eyes are not on the same level as the display.

The M-AVI has separate record-selector buttons for audio and video programs, and either type of recording can be made independently of the program being heard through the speakers. There are direct video connections for dubbing between two VCR's as well as S-VHS inputs and an S-VHS output. The S-type inputs and output are not switched by the receiver's dubbing controls, requiring a direct S-cable connection between video components.

The rear apron of the receiver

contains all of the audio and video input and output jacks, a 75-ohm coaxial FM antenna input, terminals for an AM wire antenna or the supplied loop antenna, input/output jacks for an audio-processor loop (normally joined by jumpers), and heavy-duty binding posts for two pairs of speakers. A small slide switch bypasses the front-panel speaker selector and drives the rear speakers only from the rear-channel amplifiers in a surround mode. There are five AC outlets, three of them switched. A multipin jack is provided for direct connection to compatible Mitsubishi components for total system control through the receiver's remote unit. A video output supplies signals to an external monitor (or a receiver with a direct video input).

The remote control is a key part of a total system based on the M-AVI. It is quite large, about 9¾ inches long, and is covered in a suede-like gray flocking. It can be switched by its own SELECT button to operate the audio, TV, or VCR portions of the system. Pressing this button also lights the corresponding letters in the remote's small display window for a few seconds.

Sliding out the bottom part of the control unit's cover an inch or so exposes the audio and video buttons, which select various functions of those portions of the system (the audio button duplicates the SELECT button on the receiver's subpanel). The ADJUST button between them varies the selected function. Sliding the cover back further reveals a number of additional buttons related to TV and VCR operation and programming. Fully opened, the remote unit is an impressive 13 inches long, but for most purposes it can be used fully closed.

The M-AVI can supply an on-screen audio menu to a video monitor, which is a convenient way to set or review the preset tuner frequencies. The numerical keypad on the remote unit can be used for direct access to any preset station or for setting the preset memories. The on-screen menu also duplicates the status indications of the front-panel display.

The Mitsubishi M-AVI measures 16¾ inches wide, 6¼ inches high,

FEATURES

- Integrated front-panel and remote control for complete audio/video system
- Four amplifier channels
- Drives one or two speaker pairs in stereo or surround mode
- AM/FM tuner with sixteen presets
- Inputs for phono, CD or videodisc player, two tape decks, two VCR's, monitor/receiver
- Outputs and switching for tape decks, VCR's, monitor/receiver
- External-processor loop
- Independent selection of listening and recording sources for audio and video
- Surround-sound decoder
- LCD panel with adjustable viewing angle
- Headphone jack
- Audio mute on remote control
- Volume control motor driven in remote operation
- Audio menu and status display on video monitor

LABORATORY MEASUREMENTS

- Tuner Section** (all figures for FM only except frequency response; measurements in microvolts, or μV , referred to 300-ohm input)
 - Usable sensitivity** (mono): 15.5 dBf (3.1 μV)
 - 50-dB quieting sensitivity:** mono, 19 dBf (5 μV); stereo, 44 dBf (87 μV)
 - Signal-to-noise ratio at 65 dBf:** mono, 76 dB; stereo, 69.5 dBf
 - Harmonic distortion** (THD + noise) at 65 dBf: mono, 0.4%; stereo, 1.35%
 - Capture ratio at 65 dBf:** 1.5 dB
 - AM rejection:** 72 dB
 - Selectivity:** alternate-channel, 58 dB; adjacent-channel, 0 dB
 - Stereo threshold:** 15 dBf (3 μV)
 - Pilot-carrier leakage:** 19 kHz, -37 dB
 - Hum:** -78 dB
 - Stereo channel separation at 100, 1,000 and 10,000 Hz:** stereo mode, 24, 41, and 40 dB; high-blend mode, 20, 10, and 0.2 dB
 - Frequency response:** FM (stereo mode), 30 to 15,000 Hz +1.5, -2 dB; FM (high-blend mode), 30 to 15,000 Hz +0, -6.3 dB; AM, 75 to 2,600 Hz +1, -6 dB
- Amplifier Section**
 - 1,000-Hz output power at clipping:** front, 147 watts into 8 ohms, 195 watts into 4 ohms, 218 watts into 2 ohms; rear, 31.5 watts into 8 ohms
 - Clipping headroom** (relative to rated output): 0.7 dB
 - Dynamic power output:** 202 watts into 8 ohms, 338 watts into 4 ohms, 400 watts into 2 ohms
 - Dynamic headroom:** 2.1 dB
 - Maximum distortion** (20 to 20,000 Hz into 8 ohms): 0.045% at 20,000 Hz at 125 watts, 0.019% at 62.5 and 12.5 watts
 - Sensitivity** (for a 1-watt output into 8 ohms): CD, 14 mV; phono, 0.22 mV
 - A-weighted noise** (referred to a 1-watt output): CD, -77.5 dB; phono, -72 dB
 - Phono-input overload:** 84 to 92 mV from 20 to 20,000 Hz
 - Phono-input impedance:** 48,000 ohms in parallel with 90 pF
 - RIAA equalization error:** +0, -1 dB from 20 to 20,000 Hz
 - Tone-control range:** 100 Hz, +9, -10 dB; 10,000 Hz, +12.5, -8.5 dB



ENOUGH
TO MAKE A
TWIST
GO STRAIGHT.

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and 15 $\frac{3}{4}$ inches deep, and it weighs 26 $\frac{1}{2}$ pounds. Price: \$1,000. Mitsubishi Electric Sales America, Dept. SR, 5757 Plaza Dr., P.O. Box 6007, Cypress, CA 90630-0007.

Lab Tests

With both front channels driven at 1,000 Hz into 8-ohm loads, the Mitsubishi M-AV1 clipped at 147 watts per channel. Into 4 ohms, the clipping level was 195 watts. To prevent damage to the receiver, we drove a 2-ohm load with only one channel, loading the other with 4 ohms. The 2-ohm clipping level was 218 watts. The surround (rear) channels delivered 31.5 watts to an 8-ohm load. The dynamic power output was 202 watts into 8 ohms, 338 watts into 4 ohms, and 400 watts into 2 ohms.

The input sensitivity for a 1-watt output was 14 millivolts (mV) through a high-level input and 0.22 mV through the phono input, with respective A-weighted signal-to-noise ratios of 77.5 and 72 dB. The phono input overloaded at inputs between 84 and 92 mV from 20 to 20,000 Hz. Its impedance was 48,000 ohms in parallel with 90 picofarads. The RIAA equalization error was +0, -1 dB from 20 to 20,000 Hz.

At its rated 125 watts output into 8 ohms, the receiver's total harmonic distortion (THD) plus noise was about 0.04 percent from 20 to 20,000 Hz. At half-power and less, the distortion was 0.02 percent over that range. The 4- and 8-ohm distortion readings were similar. At 1,000 Hz, the THD plus noise varied from 0.08 percent at 1 watt to a minimum of 0.015 percent at about 60 watts. Into 4 and 2 ohms, the readings were similar except that the minimum of 0.012 percent was reached at 100 and 170 watts, respectively. The distortion in the rear surround outputs (1,000 Hz into 8 ohms) was 0.9 to 1 percent at power outputs from 10 to 30 watts, reaching 1.8 percent at 1 watt.

The frequency response with the tone controls defeated was +0, -0.5 dB from 20 to 20,000 Hz. The bass tone control had a shelved response, with a turnover frequency shifting between 300 and 700 Hz and a maximum range of +10, -12

dB. The treble control had a fixed turnover frequency of 1,500 Hz and a maximum range of +14, -10 dB. The loudness-compensation circuit boosted both low and high frequencies moderately. With the subsonic filter, the response was down 3 dB at 50 Hz and 6 dB at 30 Hz, and with the high-cut filter the response was down 3 dB at 6,500 Hz and 6 dB at 11,000 Hz.

The response of the surround (rear) channels in the matrix mode was flat from 200 to 2,000 Hz, -7 dB at 20 Hz, and -3 dB at 7,000 Hz. There was a 25-dB notch in the response at about 12,000 Hz, and the output returned to a -5-dB level at 20,000 Hz.

The FM tuner section's usable sensitivity was 15.5 dBf in mono and 21.5 dBf in stereo. The 50-dB quieting sensitivity was 19 dBf in mono and 44 dBf in stereo. With a 65-dBf input, the S/N was 76 dB in mono, 69.5 dB in stereo; distortion was 0.4 percent in mono, 1.35 percent in stereo. The distortion was not at a minimum when the tuner and our signal generator were set to the same frequency, but the offset required for a minimum reading varied from 35 to 55 kHz as the signal level was adjusted.

The FM frequency response varied over a +1.5- to -2-dB range in the stereo mode. The channel separation was 40 to 42 dB between 1,000 and 10,000 Hz and 37.5 dB at 15,000 Hz. Below 1,000 Hz, the separation decreased linearly to 13 dB at 30 Hz. In the high-blend mode, the maximum separation was 20 dB in the 100- to 200-Hz range, falling to 10 dB at 1,000 Hz and 0 dB at 6,000 Hz and above. The high-frequency response was also slightly rolled off above 5,000 Hz, to -6 dB at 15,000 Hz. Although the AM rejection and the capture ratio were very good, the image rejection was only passable, and adjacent-channel selectivity was nonexistent. The AM tuner's frequency response, relative to its 1,000-Hz level, was +1, -6 dB from 75 to 2,200 Hz.

Comments

Our initial attempts to use the Mitsubishi M-AV1 were frustrating, but after following our own oft-given advice, "When all else fails, read

the instructions," we began to appreciate its extraordinary versatility. We can only guess how this receiver would perform in a complete Mitsubishi A/V system, but as part of a conventional audio system it was quite satisfactory.

Although the M-AV1 has a very powerful amplifier section, its FM tuner section was less distinguished. Some of its measured characteristics—such as the channel blending, which almost eliminated stereo reception without quite being pure mono, and the relatively high stereo distortion—were reminiscent of car radios and not at all typical of today's home tuners. Also, this is the first FM tuner we can recall testing that had zero adjacent-channel selectivity (fortunately that's not a critical matter in most locations). The ingenious DISPLAY ANGLE control worked more or less as claimed, but the range over which the display was legible remained very limited, ± 30 degrees at most.

We used the surround portion of the receiver in its matrix mode to enhance stereo reception. The effect was comparable to other basic (non-logic) matrix systems we have used, with some sibilant spillover into the surround channels, but it provided good front-rear separation nonetheless. Although Mitsubishi refers to Dolby Surround in its literature, its decoder is not licensed by Dolby and the receiver carries no Dolby logo on its panel (the logo does appear on the display when Dolby Surround is selected). Instead of using Dolby B noise reduction, the receiver apparently uses a Mitsubishi-developed compander circuit that is claimed to provide a wider dynamic range than the Dolby system does.

Mitsubishi's ergonomic approach in the M-AV1 makes good sense for a product designed as a control center for a complete A/V system, for use by people who prefer to enjoy listening or watching with a minimum of involvement in operating details. After all, what could be simpler than a receiver with only *one* knob and almost no buttons? Especially when it works smoothly, sounds good, and does a lot more than most receivers.

Circle 143 on reader service card

Old Records, New Life

I wanted a better cassette deck. So one Saturday I dropped by a hi-fi store. The salesman took me into one of the sound rooms for a demonstration. Racks of equipment were everywhere. He started to make a recording and I immediately fell in love with the music. It was so clean, so rich, so dynamic.

"What CD is that?" I asked.

He didn't hear me over the music but it didn't matter because I quickly saw that I wasn't listening to a CD at all. It was a record.

I made quick mental notes of the system I was hearing. I walked over to the wall of speakers and discovered that KLIPSCH® kg4s® were playing. That was the first time I had truly heard *wide* dynamic range.

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CIRCLE NO. 2 ON READER SERVICE CARD



PARADIGM EXPORT MONITOR SPEAKER SYSTEM

Julian Hirsch, Hirsch-Houck Laboratories

THE Canadian-made Paradigm Export Monitor is a moderately sized two-way speaker system with an 8-inch woofer and a 1-inch soft-dome tweeter. The woofer, which operates in a vented enclosure, is assembled on a die-cast aluminum chassis and has a mineral-filled copolymer polypropylene cone, a Kapton high-tem-

perature plastic voice-coil former, and a butyl surround.

The tweeter, which takes over at 2,000 Hz, has a laminated-textile dome and a high-temperature ferrofluid-cooled voice coil on an aluminum former. The crossover from the woofer is a fourth-order (24-dB-per-octave) quasi-Butterworth type, using the natural rolloff of the woof-

er's response to augment the inductive and capacitive elements of the crossover network.

According to the manufacturer, every production unit of the Export Monitor is matched to a reference system within 0.25 dB (it is not clear whether this figure refers to the system's frequency response or its sensitivity). The cabinet is made of composite fiberboard with Medite front and rear baffles for improved overall damping and higher stiffness. The woofer is located at the center of the front baffle, with its port below and the tweeter above. The black cloth grille is retained by plastic snaps. The cabinet is covered with oak, walnut, or black-ash veneer on all surfaces except the front speaker board.

The multiway binding-post connectors, separate for the tweeter and woofer, are recessed into the rear panel of the cabinet. The two sets of terminals are normally joined by jumpers, but the Export Monitor can be operated as a biwired or biamplified system by removing the jumpers. In any case, the individual crossovers (for tweeter and woofer) are always present between the amplifier and the drivers.

The system's specifications include an on-axis frequency response of 55 to 20,000 Hz ± 2 dB, sensitivity of 88.5 dB, and a nominal impedance of 8 ohms. The cabinet measures 24 inches high, 10 $\frac{3}{4}$ inches wide, and 14 inches deep, and each speaker weighs 33 pounds. The Export Monitor is designed to be operated on matching stands, away from any room walls, and for best results the tweeters should be approximately at the listener's ear level. Price: \$790 a pair; stands, \$120 a pair. Paradigm, Dept. SR, P.O. Box 2410, Niagara Falls, NY 14302.

Lab Tests

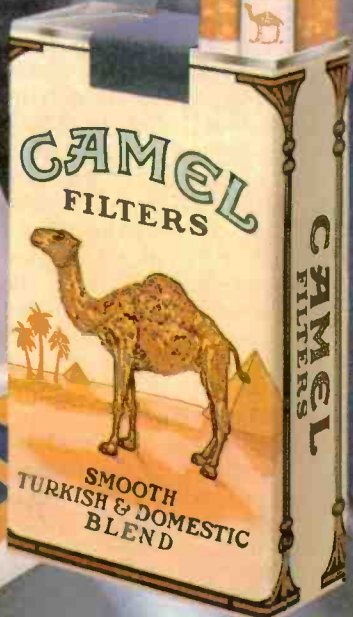
Lacking the matching Paradigm stands, we used other available speaker stands to bring the tweeters nearly to the ear height of a seated listener. The room response of the speakers was impressively flat, within ± 2 dB from 200 to 20,000 Hz. The output rose slightly at lower frequencies to a maximum of about 5 dB between 50 and 70 Hz in the composite curve, which was con-

Smooth character.



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TEST REPORTS

structed by joining a close-miked woofer measurement to the averaged room response of the two speakers, corrected at high frequencies for the room-absorption characteristics. The overall composite response was an excellent ± 4 dB from 20 to 20,000 Hz (the upper measurement limit in this test).

The Paradigm Export Monitor sounded distinctly different from some of our previously favored speakers, but at least as enjoyable, with a slight crispness in the upper midrange and treble.

The quasi-anechoic FFT response plots from our IQS analysis system confirmed the uniformity of the output of the Paradigm speaker. On-axis, the output was flat within ± 3 dB from 180 to 30,000 Hz. The response measured 45 degrees off-axis did not diverge significantly from the on-axis curve at frequencies below 8,000 to 10,000 Hz, indicating good horizontal dispersion.

The success of Paradigm's efforts to preserve phase coherence over the audio range was demonstrated by the system's group-delay variation, which was less than ± 0.2 millisecond in the overall tweeter range from 2,000 to 28,000 Hz and much better than that, about ± 0.02 ms, from 10,000 to 20,000 Hz.

The system's impedance reached its minimum of 6.2 ohms from 110 to 140 Hz and its maximum of 35 ohms at 1,200 Hz. The sensitivity was 88 dB sound-pressure level (SPL) at 1 meter with a pink-noise input of 2.83 volts. With a drive level of 3.5 volts (equivalent to a 90-dB SPL), the woofer distortion was 3 to 4 percent from 60 to 100 Hz. The effective crossover to the port was at about 50 Hz, where the distortion was 2 percent, increasing to 5 percent at 30 Hz.

The Export Monitor was able to handle very large peak inputs without distortion or damage. At 100 Hz, the woofer cone began to rattle with a single-cycle input of 500

watts into its 6.5-ohm impedance. At 1,000 Hz, still in the woofer's operating range, the amplifier clipped at 242 watts into its 31-ohm impedance before any distortion was audible.

Comments

The overall sound quality of the Paradigm Export Monitor speaker was characterized by balance and clarity. The common speaker aberration of an emphasized upper-bass response, which gives male voices a tubby, unnatural quality, was notably absent, and there was no obvious sign of an emphasis or lack of response in any other part of the audible range.

Comparisons with other speakers on hand revealed what appeared to be a slight crispness in the Export Monitor's upper-midrange and treble output. When we checked our response measurements on the other speakers, it was apparent that their high-frequency output either sloped off gently or was shelved at a lower level than the woofers' maximum output. If the overall response of the other speakers was assumed to be "correct," the Paradigm's sound could be considered slightly bright. But it would be equally justifiable to accept the response of the Export Monitor as "flat," in which case the other speakers could be

judged as soft sounding or perhaps somewhat lacking in high-frequency output.

This situation points up the virtually unsolvable problem of determining objectively what is the ideal speaker response. We found the Paradigm's sound to be distinctly different from that of some of our previously favored speakers, though it was at least as enjoyable, and after a brief period of listening to it, the other speakers seemed a trifle dull sounding! This dichotomy between the perceived sound characters of two different speakers is one of the more fascinating aspects of loudspeaker performance, and since either type of response may be preferred by different listeners, or by the same listener for different program material, it is not advisable to be too dogmatic about the "correctness" of one or the other.

The Paradigm Export Monitor was a very smooth, natural-sounding speaker with good, if not exceptional, imaging properties. Its low-bass performance was at least adequate, and the middle and high ranges were exceptionally smooth and extended. Its overall well-balanced, unified sound was what we would expect, but do not always hear, from any speaker in this price range.

Circle 144 on reader service card



"... Of course, there are still a few bugs to work out, but Dr. Epstein here feels that the 'moving-head' concept will produce greater bass response than the conventional 'moving-coil' principle."

"McIntosh . . . no other transistor amplifier is capable of reproducing as well."

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

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

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

—REVUE DU SON, foremost French stereo magazine.

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

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EASTERN STANDARDS

World-class audio equipment from across the Pacific

Whether you are looking for a new CD player, a sleek tuner/tape player for your Porsche, a digitally controlled preamplifier, or even a digital audio tape (DAT) deck, odds are you will consider equipment designed and built somewhere across the Pacific. Provocative new audio and video components as well as modern twists on old themes are coming from Japan, Taiwan, and Korea to make your choices harder than ever.

Digitally driven components appear to be the biggest news. The first preamplifier and receiver to do the bulk of their processing in the digital domain are due to arrive on these shores this fall. New CD players utilizing "true" 18-bit linear digital-to-analog (D/A) conversion and 1-bit converters

by Michael Smolen

combined with multistage noise shaping (MASH) will set the stage for truly spectacular living-room listening sessions.

Multiroom systems that let users control audio and video sources independently for every room in the house will capture the eyes and ears of music lovers. It's getting easier to have music anywhere in your home that you want it.

Other areas of interest include sophisticated surround-sound processors, large-screen improved-definition television sets, loudspeakers, and automotive products that rival the construction and sound quality of home audio equipment. The components shown on these pages are just a sample of what you can get your hands on right now or in the next few months.



ILLUSTRATION BY KAREN CALDICOTT



Akamichi has a Model 1000 again, only this time it's a two-piece reference-standard digital audio tape recorder. The United States version will permit recording at a sampling frequency of 44.1 kHz through its digital inputs. But don't rush too quickly to the store—the Model 1000 costs \$10,000!

Clarion's 720EQ electronic equalizer and spectrum analyzer includes a built-in digital surround-sound circuit that combines with a digital delay to create a 360-degree sound stage in the car. It also has five EQ presets with audible and visual preset scan.



Audio-Technica's AT-ML170 phono cartridge uses dual magnets mounted on a gold-plated boron cantilever to damp resonances. The nude-mounted Micro-Line diamond stylus is shaped like a cutting stylus, which is said to result in low playback distortion and high channel separation.



Borrowing a bit of styling from the turntable, the top-loading Technics SL-PC20 offers the flexibility of a five-CD carousel changer. It features a four-times-oversampling digital filter and dual D/A converters, all at a great price: \$330.



Onkyo's Grand Integra DX-G10 CD player features linear 18-bit circuitry with an eight-times-oversampling digital filter, dual D/A converters, five-element Opto-Coupling, and variable shuttle search.

As the center of a complete audio/video system, Toshiba's 125-watt XB-1000 integrated amp can switch up to ten audio and four video inputs. It also has Dolby Surround and eight factory-preset and four user-adjustable surround modes.



Luxman's TP-117 tuner/preamplifier looks deceptively simple. It actually has two preamp sections and can be the heart of a multiroom system offering separate audio and video source control for every room in the house.



Mitsubishi's CS-3504R is a 35-inch direct-view TV set with a full range of digital special effects, MTS decoding, and S-VHS inputs.

Yamaha's AST-C10 Unity system makes use of the company's Active Servo Technology, which provides impressive deep bass without large speakers. The complete system sells for \$999.





Pioneer's new Elite PD-71 CD player boasts dual "true" 18-bit linear D/A converters with eight-times-oversampling, 18-bit digital filters. Its disc tray is engraved, "Dedicated to the true music lover."

The RX-801V from JVC, a 100-watt receiver, features the Compu Link remote system, which allows you to preset every variable parameter (volume, bass, surround sound, equalizer, etc.) for any source hooked up to the receiver.



Sony's D-555 Discman is the first portable CD player to use an eight-times-oversampling digital filter with noise-shaping circuitry and dual D/A converters. It is also the first portable to use digital signal processing (DSP).



Kenwood's premier A/V receiver, the KR-V9010, has 130 watts per channel and Dolby Pro Logic surround-sound circuitry. Other features include a 20-watt rear-channel amplifier and S-VHS inputs and outputs.



Sansui's new CD-X711 is the first compact disc player to use a 1-bit D/A converter in combination with Matsushita's multistage noise-shaping digital filter (MASH). Sansui calls the whole process LCDS, for "linear direct converter system."



Aiwa's XC-005 CD player has an eight-times-oversampling digital filter and dual 18-bit linear D/A converters. Its unique recording-calibration system allows you to optimize your tape deck for recording CD's.

The Eclipse EST-240 car DAT player has three volume presets, thirty-track programmability, and electronic volume, tone, balance, and fader controls.



The Panasonic PV-S4990 VCR is a videophile's dream come true. It offers digital special effects, VHS Hi-Fi sound, S-VHS compatibility, and bar-code programming.



NEC's new Renaissance Series CD-830 CD player uses a sixteen-times-oversampling digital filter that's said to improve sound reproduction over the audible range.





The Alpine 7909 is the first car CD player that has 18-bit processing, eight-times oversampling, and dual D/A converters. It's also the first in-dash CD player to control a trunk-mounted changer.



The Fisher name returns to hi-fi prominence with the 150-watt RS-Z1 receiver. It has built-in D/A processing and can accept digital inputs from a CD player, a DAT deck, or a satellite broadcast receiver.

Sharp's DX-R830 CD player has dual D/A converters, eight-times oversampling, and a three-beam pickup.



The Denon AVC-2000 integrated amp features Dolby Pro Logic decoding, fourteen audio inputs and nine outputs, and facilities for video display of its operating status.

Hitachi's DA-C70 CD changer has twin six-disc magazines that allow you to load and program six CD's while listening to six others.





Sherwood's AM-7040 power amplifier, rated for 200 watts per channel with 0.008 percent distortion from 20 to 20,000 Hz, has independent power transformers for each channel.



The Marantz CD-94 is a 16-bit, four-times-oversampling CD player with a die-cast aluminum transport mechanism that's mounted on a floating subchassis for optimum isolation from vibration.

Proton's AI-3000, "The System" from Taiwan, includes a 22-watt amplifier, an AM/FM tuner, a CD player, a cassette deck, speakers, and a remote control.



TDK's line of audio cassettes features two new high-performance, normal-bias tapes and new formulations for seven existing grades of tape.



Celebrating its twentieth anniversary in the United States, Maxell introduced a new audio cassette line-up including the UR, UD, XL, XLS, and MX series.



MADE IN JAPAN

Sophisticated engineering and methodical construction go into a Yamaha receiver on its way to American audio consumers.

BY BRYAN HARRELL



PHOTOGRAPHS BY AKIRA KOBAYASHI

OVER a century ago, in 1887, Torakusu Yamaha, a medical-equipment technician, built the first reed organ in Japan. Just five years later, he exported eighty-seven Yamaha reed organs to countries in Asia. In another five years, Nippon Gakki Co., Ltd., was established with Mr. Yamaha as president.

Nippon Gakki ("musical instrument") set up for business in Hamamatsu, today still a small city by Japanese standards, located on a plain at the mouth of the Tenryu river, which originates high in the Japan Alps. In early times, lumber from Japan's mountainous interior was floated down the Tenryu to the Pacific Ocean, making the area a major center of Japan's lumber and woodworking industries. The location was a natural; Yamaha produced its first upright piano in 1900 and its first grand piano two years later.

Interestingly, Hamamatsu's location about halfway between Japan's two largest cities, Tokyo and Osaka, is somewhat symbolic of Yamaha itself. Tokyo is home to Sony, a relatively new company that cuts a dynamic figure. Osaka's Matsushita (Technics, Panasonic), on the other hand, is an older company with a more conservative presence. Yamaha is squarely in between in character, earning it the distinction of being perhaps the most typical of Japan's consumer-electronics leaders. It is also the oldest, and considered by many one of the best managed.

We recently toured Yamaha's audio production facilities in Hamamatsu. Since Yamaha makes so many different products in several facilities in and around Hamamatsu, we decided to focus on one product—a typical receiver. The receiver is perhaps Yamaha's most "American" product, in that almost all it makes are sold in North America. Hardly any are sold in Japan, and in Europe there is demand only for lower-price models.

We chose the RX-530 receiver, a

medium-price model that will hit the U.S. market early this summer. The RX-530 is made in large quantities, and compared with Yamaha's higher-price receivers, it isn't particularly "high tech" in outward appearance.

In a talk before our tour, the Yamaha product-planning staff emphasized that the company's line of receivers is continually evolving, albeit slowly, to reflect the demands of consumers. Generally, more and more Yamaha receivers are "A/V," or video compatible, with more video terminals and circuits to switch them.

Since the receivers are primarily destined for North America, I asked the planning staff what sort of consideration is given to American preferences. One unanimous reply was, "the volume control." Though electronic up/down rocker switches are now less expensive than conventional volume controls, easier to build into receivers, and quite compatible with remote-control systems, Americans overwhelmingly still prefer the familiar round volume knob—the bigger and heavier, the better. Apparently this preference was particularly puzzling to Yamaha's parts suppliers, who had a hard time understanding why the up/down switches, which are often superior to conventional knobs in many respects, weren't good enough. Nevertheless, Yamaha spurred the development of a conventional-looking volume knob that can also be motor driven for operation by remote control.

The Yamaha engineers also pointed out that Americans don't share the Japanese fondness for rows of tiny buttons. So how small is too small? Engineer Kenji Yokoyama smiled and gave me the thumbs-up sign. "We just think of our thumb when judging the size of American fingers," he explained. A rule of thumb indeed.

I asked the planning engineers about the "titanium color" in components, first introduced in



Yamaha's 10,000 series two years ago. Since then, other manufacturers have released components in similar colors. One engineer explained that Yamaha was the first major manufacturer to offer black components, a little over ten years ago, and that black became the trend. Will the new titanium-color front panels soon become the rage? Nobody would answer directly, but to a man their faces read, "Definitely."

First on our tour agenda was Yamaha's large-scale integrated circuit (LSI) factory in the village of Toyo-oka, about 18 miles northeast of Hamamatsu city. I was told that this was where the "heart" of the RX-530 receiver was designed, but since a handful of different LSI's are mounted on the RX-530's circuit boards, we might as well think of them as internal organs.

The master for each LSI must be created in extremely clean surroundings; a speck of dust smaller than the eye can see could foul up the micrometer-order electronic pathways that allow the integrated circuit to function. The "clean rooms" at Toyo-oka have a rating of Class 10, a standard specifying less than ten dust particles of 0.1 micrometer or larger per cubic foot of air.

The LSI's themselves are manufactured at Yamaha's own semiconductor factory in Kagoshima prefecture on the southern island of Kyushu. Both the air and water are extremely clean in this relatively remote location, a distinct advantage in production.

AFTER leaving Toyo-oka, we headed about 10 miles southeast to the town of Fukuroi, where the Yamaha LSI's are mounted onto the RX-530 circuit boards along with transistors, resistors, capacitors, and other electronic parts. At the Fukuroi plant, one might expect to see rows of robots banging out stacks of circuit boards. In reality, there are several rows of insertion machines that automatically insert transistors, resistors, and other parts into the circuit boards, but these machines are tended to by a fairly large staff of factory workers, who keep a close watch on how everything is going together and often lend a hand.

When a blank circuit board is fed into the machine, each mounting "hand" (the number of these vary) picks a single electronic part and mounts it in a specified location on the board. Another "hand" underneath bends the pins of each part to hold it in place. The electronic parts are supplied to the machine on large rolls of paper tape fed into the back. We saw parts for the RX-530 that bore the names of virtually every major Japanese manufacturer.

After a trip through several insertion machines, the circuit board is still not finished. The machines have placed approximately 560 electronic parts on the RX-530's circuit board. Another ninety or so will be added by hand after the boards are sent to another assembly line in an adjoining building. There they are checked and soldered, and larger parts and terminals are added.

ON completion, the boards are subject to electrical checks by a computer, which performs a sequence of 616 tests in a matter of seconds. The computer identifies any faulty connections by an "address" on the circuit board so that a worker can replace the improperly positioned part by hand. After the electrical check, each board is sent to another computer station for a software-driven function check. Boards that pass inspection are stacked in special boxes and trucked the 20 miles to Hamamatsu for final assembly into the RX-530 receiver.

Our last stop was the receiver assembly line in Hamamatsu. This time, it was all human workers, with nothing even resembling a robot. The finished circuit boards from the Fukuroi factory are unpacked, and each one is placed on a chassis along with displays and subassemblies. The front panel and some knobs are added in stages, the circuit board is screwed onto the chassis, the power cord is connected, and the almost-completed RX-530 rolls into a testing station where a computer performs a 49-step function check in a matter of seconds. The remaining knobs are added, and the RX-530 heads around the corner of the line to another testing bench where audio parameters are checked. If it passes, the top cover is fitted and all final screws are inserted.

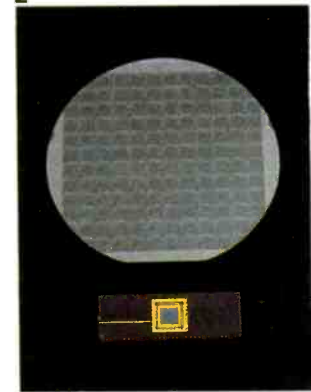
The RX-530 travels its last few yards down the line toward a worker who carefully wraps it in plastic and boxes it together with a packet of accessories and another packet containing the owner's manual and other printed material. The packaged receiver is then sent by truck to one of several ports for shipment. Most RX-530's leave through Hamamatsu port or nearby Shimizu.

Few Americans will ever look inside an RX-530 receiver. But looking at these pictures from our factory tour will give you an idea of the sophisticated engineering and methodical construction that go into making a receiver users can take for granted.

Bryan Harrell is Tokyo correspondent for STEREO REVIEW. **Akira Kobayashi** is one of Japan's leading commercial photographers.



2



3

1. Inside one of the "clean rooms" at Yamaha's Toyo-oka LSI research lab. The location has a rating of Class 10, meaning that there are less than ten contaminant particles of 0.1 micrometer or larger per cubic foot of air.

2. The main corridor linking the various clean rooms. The light is specially filtered to reduce the harmful effects of ultraviolet radiation on the circuit design and etching processes.

3. A completed silicon wafer containing numerous identical LSI chips. Between one-third and one-half are normally judged to be defective. Those deemed perfect are precision cut and mounted. Below the wafer is a completed LSI with its internal chip exposed.

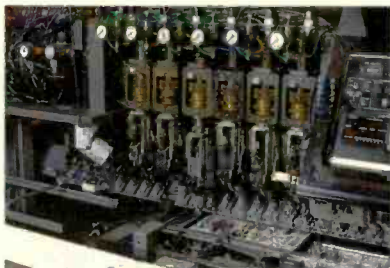




PHOTOS BY AKIRA KOBAYASHI



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4. The wiring diagram for the RX-530's circuit board shows the routing of "cable jumpers."

5. An insertion machine at the Fukuroi factory. The circuit board is moved around while each of the vertical, cylindrical devices mounts a specific type of electronic part in the blink of an eye.

6. The insertion machine mounting pushbutton switches (they look like little white dots) on a part of the circuit board that will be separated and placed just behind the receiver's front panel.

7. The partially completed circuit board, containing LSI's, capacitors, resistors, transistors, and other electronic parts, is sent to this automatic soldering machine, where it is "floated" through a bath of molten solder to fix the pins of the components to the contacts on the board.



8



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8. After the solder bath, workers visually check all connections and add more electronic components and other, larger parts not mounted by the insertion machines.

9-10. Any abnormalities found on the circuit boards are corrected and hand-finished by experienced line personnel. Most of the internal cables used are installed at this stage.

11. Slow and careful visual inspection is followed by solder touch-ups where necessary.

12. A surprising amount of time is spent pushing, poking, and prodding each circuit board to make sure every piece is perfectly placed.

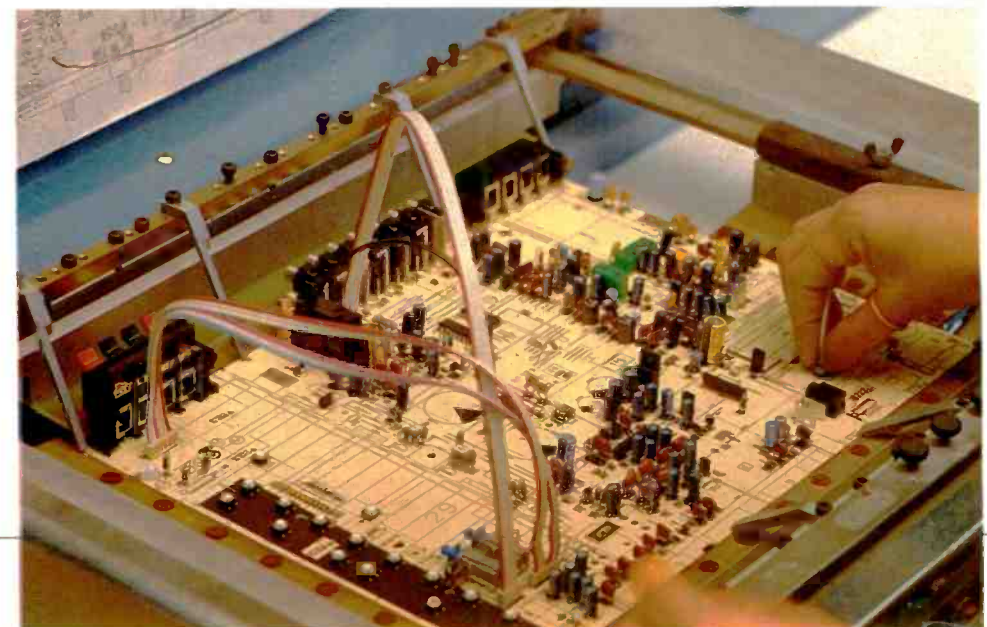


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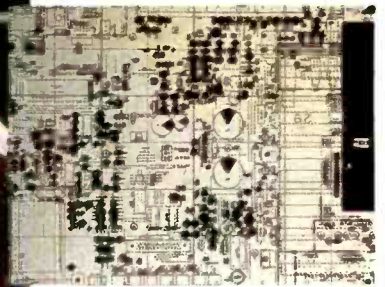
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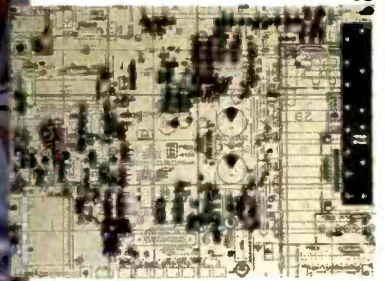




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13. Running production totals are displayed on each assembly line.

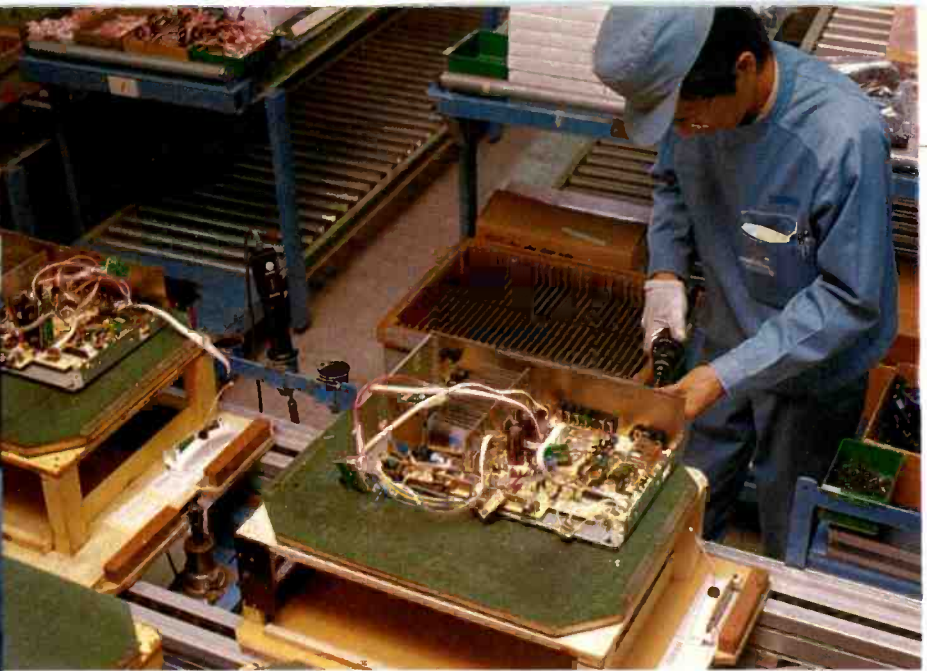
14. After completion, the receiver's circuit board is checked electrically by computer. The board is held in the checking machine while the long, white probes make connections for the computer, which performs a sequence of 616 tests in a matter of seconds.

15-17. Various stages of completion of the RX-530's circuit board at the Fukuroi factory.





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18. At the Hamamatsu assembly factory, the circuit boards from the Fukuroi factory are unpacked and placed on chassis, and rear panels are fitted.

19. The receiver heads down the final assembly line, where larger parts are added in stages.

20. The front panel and knobs are positioned.

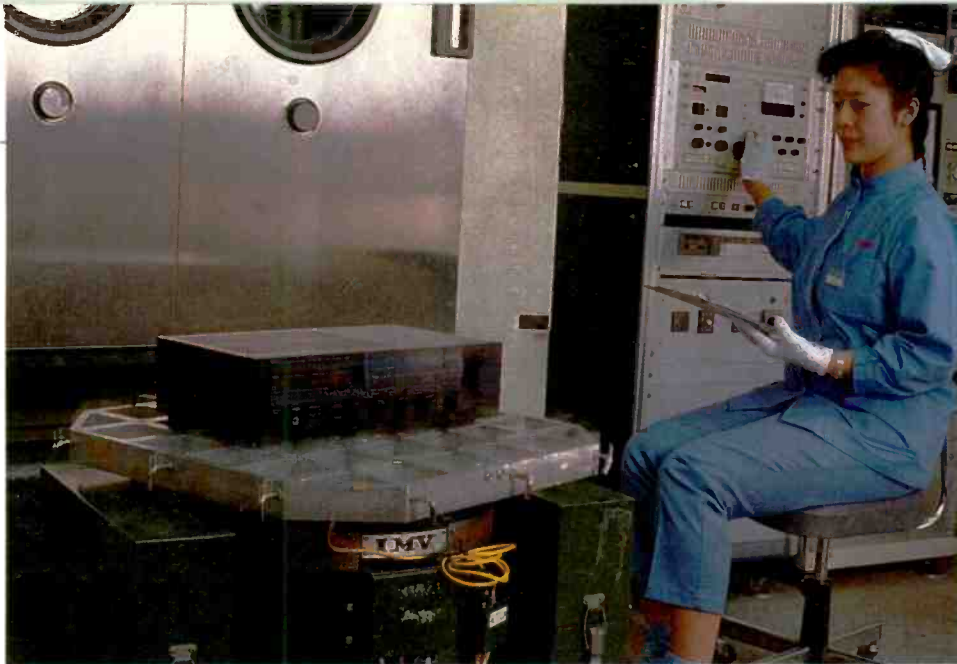
21. Final soldering of the last internal cables.

22-23. The performance of the receiver's amplifier section is tested at one work station, the tuner section at the adjoining station.

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▼ 20





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24. Part of Yamaha's extensive testing facility. A sample RX-530 receiver undergoes a shock and vibration test while a technician makes note of each mode of the test performed.

25. The finished receiver is wrapped in plastic and boxed with accessories, the owner's manual, and other documents.

26. Newly hired employees return from a lunch break at the Hamamatsu factory.



SYSTEMS

Out of sight in La-La Land

by Rebecca Day

THEY'RE familiar words to collectors: A fed-up spouse, feeling crowded out by stereo components or recordings, issues the ultimatum—"Either they go or I go." For Leo Gutman, it meant finding a new home for the 150 Metropolitan Opera broadcasts he had recorded onto 7- and 10½-inch reels. It also meant devising a way to hide his huge array of equipment.

Gutman shares his wife's love for music and distaste for exposed electronics, however, so when he drew up preconstruction plans for their Los Angeles condominium he provided for tucking his equipment away in a cabinet and connecting it through the walls with 12-gauge cable to floor-level speaker outlets in five rooms. He set up pairs of JS Engineering Infinite Slope Model 1 speakers in the living room, dining room, and den and pairs of KEF C30 speakers in both bedrooms. He has another pair of KEF C30's in the den "just for fiddling around" so that no one is disturbed when he is tuning in a radio station or sampling a tape.

Gutman also designed the mirrored Formica cabinet and the acrylic shelves inside, which he had made to order. Below the equipment are different-size drawers for different kinds of recordings and accessories. Inside the cabinet is the comprehensive collection of taping gear that Gutman, a movie and TV-show syndicator, uses for recording broadcasts and dubbing and editing his tapes. There are two Technics RS-1700 open-reel decks, a Technics RS-B905 cassette deck, Sony EV-S800 and S700 8mm VCR's, and Panasonic PV-S4864 and PV-S4880 S-VHS VCR's. Gutman recently started using his 8mm VCR's for audio-only recording, transferring his open-reel tapes to the smaller format.

The rest of the system consists of a Technics SE-A3MK2 300-watt-per-channel power amplifier, a Sony TA-E77ESD preamplifier, a Technics ST-S8 tuner, a Sony CDP-650ESD CD player, a Sony CDP-C15ESD CD changer, a Pioneer LD-833D videodisc player, and a Panasonic CTK-2073S 20-inch monitor/receiver with S-VHS inputs. To select all the different source and speaker combinations, there's also a Russound SD-8 sound-distribution system and a Russound AV-4 audio/video patch bay.

Gutman, a twenty-five-year patron of the Metropolitan Opera in New York, where he also has a residence, is still trying to find a permanent home for his Met broadcast recordings. □





CD CHANGERS

Let the music play, and play...

BY IAN G. MASTERS



MOST people who have been buying recorded music for a while have become resigned to the notion that building a collection is hardly cost-effective; the number of recordings that we *always* want to listen to in their entirety is typically small. Classical recordings may be an exception, as many of them contain a single work, or at least related items, but when it comes to popular music most of us end up with a large number of discs or tapes, each containing only two or three selections of interest.

That being so, the compact disc is an ideal format, as it allows a listener to delete tracks with ease. The result, however, is often a fairly short playing time for any one disc. Usually that is no problem, but there are times when it would be preferable not to have to change discs every few minutes—when entertaining, say, or simply spending a quiet evening with a good book.

In predigital days, it was possible to achieve long playing times in a couple of ways. For some years, many North American audio buyers chose record changers, which played up to six records in succession. There was no ability to choose particular cuts, of course, or to mix selections from different recordings at random, but there was still the possibility of hands-off listening for reasonable stretches of time. The record changer did involve some technical compromises, however,

so it eventually fell out of favor.

The other method of gaining long playing times has usually been to transfer favorite selections to tape. This has the advantage of weeding out unwanted music, certainly, but it also commits a listener to one group of tracks in a particular order. And while it is possible to make such compilation tapes from compact discs, this tends to offset some of the sonic advantage of the digital format.

Increasingly, therefore, listeners have been turning to CD changers: players that hold from five to twelve discs and allow random selection from tracks on any of them. While the CD changer is still a relatively new product category, the number of models available has more than doubled in the past year, now standing at about fifty. Prices start at around \$300 and go up to several thousand dollars for the most elaborate versions.

One form of changer, available from Sony and Technics, is the *carousel*. Instead of the familiar disc drawer, a carousel machine has a much larger drawer that can accommodate up to five discs, which are arranged in a circle on a platter that rotates to bring each disc into position as required. You can play five discs nonstop or choose a selection of tracks from among them. And by simply loading a single disc, you can use this type of changer as a conventional CD player as well.

The first carousel changers were



Sony's CDP-C7ESD uses the company's proprietary five-disc carousel format. Priced at \$480, it features four-times oversampling, dual D/A converters, Custom File, variable line output, and shuffle play.





Equipped with two six-disc magazines, Hitachi's DA-C70 changer allows you to play one magazine while adding or removing discs from another. Random play is possible using one disc, all twelve discs, or a set of up to thirty-two selections from several discs. Price: \$550.



Sansui's CD-X510M changer has two six-disc magazines. It comes with a remote control, a single-disc magazine, and a 3-inch-disc adaptor. Intro scan previews the beginning of each track. Price: \$630.



The Elite PD-M900 (\$825) is Pioneer's top changer. It features an eight-times-oversampling digital filter, dual D/A converters, and a disc-stabilizer system said to eliminate vibration during play.

CD CHANGERS

somewhat awkward to program and were plagued by long pauses between selections if those selections were on different discs, but the current models from Sony have solved these problems for the most part. The primary appeal of this configuration is the simplicity with which the changer is loaded: Simply insert a disc, rotate the platter, put in another disc, and so on. It is also possible to program the units while actually reading the discs' labels. Sony has five carousel changers available, with varying degrees of programming flexibility, with and without remote control, and with differing levels of sophistication in digital-to-analog (D/A) conversion.

Virtually all other changers employ *multidisc magazines* that must be loaded with the desired discs and then inserted into the player. The majority accommodate six discs at a time, although models from both Mitsubishi and Fisher take five, and changers from Sanyo, Yamaha, and Sony employ ten-disc magazines (the Sony models use the same loading magazines as Sony's automotive CD changers). Scott, Sansui, and Hitachi all offer changers that will hold *two* six-disc magazines each, allowing the user either to program from the contents of the twelve discs or to program one magazine while the other is playing.

Although the magazine approach does allow for a considerable reduction in space compared with the carousel, and discs can be stored in the magazines rather than their own jewel boxes, any time you want to listen to a different selection of discs you'll have to unload and reload a magazine. Also, in most cases, listening to a single disc requires placing it in a magazine first and then loading the magazine in the player, a process somewhat more awkward than loading a conventional single-disc player. To get around that, several companies offer changers that combine magazine capability with a conventional one-disc tray.

The NAD 5170, for instance, will take a six-disc magazine plus an extra disc in its own drawer, and it lets you select tracks from all seven discs or use the two sections separately. A different approach is taken in the Philips CD 875, which accommodates a magazine of six full-size CD's and also provides a single-disc tray for the smaller 3-inch CD's.

Sharp's SA-CD800 uses five-disc magazines, with an extra single-disc drawer for six-CD capacity. What sets this unit apart, however, is that it also contains a complete stereo receiver—it's what the company has dubbed a "CDver"—all for \$899.95. Another unusual combination is the VCD-650CX from Vector Research, which contains both a six-disc changer and a full-featured autoreverse cassette deck, locked into the CD player for easier dubbing. It lists for \$599.

While the magazine configuration is the most common, standardization has only recently gotten started. Not only are there five-, six-, and ten-disc magazines, but each type has variations. Pioneer and eleven other manufacturers—including Denon, Hitachi, Kenwood, Marantz, Nakamichi, Philips, and Sansui, among others—have now settled on the same six-disc magazine for at least some of their changers, but JVC, NAD, and Toshiba had adopted a different type for their six-disc models. When in doubt about compatibility, check with your dealer.

All changers are supplied with at least one magazine, and several include a single-disc magazine as well for those occasions when multidisc capability is not required. Many users find, however, that having extra magazines is useful for setting up separate "standard" programs. In such cases, the cost of extra magazines must be taken into account, and this may turn out to be fairly expensive in the long run: Extra magazines sell for between \$15 and \$29 each.

How useful the ability to choose music from several discs will be depends on how many selections can be programmed. The minimum number of tracks that can be selected is Mitsubishi's twenty, but most models offer thirty-two, and the Matsushita brands (Technics, Panasonic, Quasar) give you thirty-six. In most cases, individual tracks can be programmed from anywhere on the discs inserted, for something like two hours of uninterrupted music. In some cases, though, there is even more flexibility. With the Sharp changer, for instance, any one of the selections can be a single track, a group of continuous tracks, or a complete disc, which can extend the playing time considerably.



The Philips CDC-875 six-disc changer (\$469) has a digital output jack, a wireless remote control, a quadruple-oversampling digital filter, thirty-track programming, and shuffle play.

Kenwood's DP-M107R (\$399) has a six-disc magazine and a single-disc drawer. Up to thirty-two tracks can be programmed from any of the seven CD's. Random play is also provided. A "music calendar" shows the program order and how many discs are loaded.





Denon's DCM-555 changer (\$550) uses a six-disc loading magazine. It features three modes of random playback, a quadruple-oversampling digital filter, a vibration-resistant pickup mechanism, and a remote control.



Yamaha's CDC-610U, with a ten-disc magazine, has a quadruple-oversampling digital filter and twin D/A converters. Random-play and repeat-play options are offered. The changer's list price is \$599.



Onkyo's DX-C400 magazine-loading six-disc changer (\$430) has an Opto-Coupling system to separate the digital and analog sections electrically. It uses double oversampling and has a 16-bit D/A converter.





Theac's six-disc PD-700M changer (\$499) has a quadruple-oversampling digital filter. It allows up to thirty-two tracks to be programmed in any order.



The NAD Model 5170 has a six-disc magazine as well as a single-disc drawer. It uses a quadruple-oversampling digital filter and a four-pole analog filter. Price: \$699.



Mitsubishi's M-C4100 (\$449) has a five-disc magazine. It features twenty-track programmability, intro scan, audible scan, and index search. It can play 3-inch discs without an adaptor.



The Panasonic SL-P3800C uses a six-disc magazine and features a two-color display. Priced at \$380, it has a quadruple-oversampling digital filter and offers random play.

Pioneer's top changers contain memory for some 256 program steps from a number of different magazines, allowing for very long programs (but ones that require switching magazines every so often). This feature's greatest benefit is the ability to set up a number of separate standard programs from discs stored permanently in their own magazines. Several of Sony's changers have a Custom File feature, which stores user-programmed information about some 226 discs, including track preferences for each disc.

In terms of capacity and selection, two changers stand out. The Nikko NCD-600 stores sixty discs at once, allowing selection of any track from any disc. "Unlimited programmability" is possible by means of the company's computer interface, which allows the changer to be controlled by any IBM-compatible computer. The changer alone carries a \$3,999 price tag; the interface module costs an additional \$4,599. And for sheer outrageous flexibility, there's the Audio Access PX-240, a \$5,000 changer that holds up to 240 discs. Its programming features allow the selection of some ten "playlists" of up to ninety-nine tracks each as well as eighty-one random-playback combinations. Programs can even be automatically selected by musical type.

All the flexibility of the new generation of CD changers would be of little worth if they were inferior as digital playback devices, but the manufacturers have been careful to include the latest technological developments in virtually all of these machines. Onkyo features its Opto-Coupling system, for example, to separate the digital and analog circuits. Sony offers an 18-bit digital-to-analog converter with eight-times oversampling. Technics has built a floating isolation system into its changers. And nearly every changer comes with a full-featured wireless remote control.

Only a couple of years ago, the idea of a CD changer seemed to many observers like a curious throwback to record players of the Sixties. But the many advantages they offer, without any sacrifice in audio quality, have earned CD changers a legitimate place in the audio arsenal of even the most discriminating hi-fi enthusiast. □

ANNE-SOPHIE MUTTER

by Herbert Kupferberg



ANTHONY CRICKMAY/DEUTSCHE GRAMMOPHON

ANNE-SOPHIE MUTTER is a violinist who has a powerful effect upon people who encounter her for the first time. When she played Bach for violinist Henryk Szeryng (she was nine years old at the time), he forthwith told her to call him "Uncle Henryk." When Herbert von Karajan heard her (by now she was thirteen), he invited her to play a Mozart concerto with him and the Berlin Philharmonic at the Salzburg Festival. And when she

*"You have to develop your
musical personality,
even if it means playing
music you don't
understand immediately."*

met cellist-conductor Mstislav Rostropovich a few years ago, he proposed that she form a string trio with himself and the violist Bruno Giuranna.

With such endorsements behind her, it's no wonder that Mutter, now barely twenty-six, is one of the most sought-after young violinists in the world today. She plays 120 concerts a year, travels the globe, and records copiously, mainly for Deutsche Grammophon, with whom she now has an exclusive contract. She's

made seven American tours already, and in 1990 she will observe the tenth anniversary of her U.S. debut. Her concert engagements and recording dates stretch far into the future, yet she makes it clear that she has by no means exhausted her ambitions or her enthusiasm.

"My main desire is to enlarge my repertoire," she told me in a recent interview, "and I am doing it through contemporary music. You have to push yourself further and further. You have to develop your musical personality, even if it means playing music you don't understand immediately."

Mutter has been praised by critics for her assured technique, rich tone, and general command of her instrument. And her career has certainly not been harmed by the striking picture she presents on stage—a handsome young woman who invariably wears low-cut, strapless, form-fitting, split-skirt gowns expressly designed for her in Paris. To many in her audiences she is a feast for the eyes no less than the ears as she presses her Stradivarius against her bare shoulder and sweeps her right arm smoothly and gracefully into the music.

MUTTER insists that her décolleté gowns are as practical as they are decorative. Holding the violin directly against the skin produces a better sound, she said, pointing out, inarguably, that "there is nothing to dampen the vibrations." Also, she added, perspiration is less troublesome. She's rather amused, in fact, by the American preoccupation with her concert garb.

"In Europe, nobody cares," she said. "Even in Paris, I'm just another woman in a nice dress. I usually travel with four or five of the gowns, but, like all concert dresses, they don't last very long—maybe ten concerts a year, with all that dry-cleaning. How do I pick the one I'll wear on any particular night? That's easy. It really depends on how much I eat, and I love to eat. The dress I can get into is the one I take."

Mutter didn't have to worry about such details when she first took up the violin at the age of five. Her father edited a newspaper in the small city of Rheinfelden in Germany's Black Forest; neither of her parents was particularly musical, but they wanted Anne-Sophie and her two older brothers to take up instru-



*"You can do so much
inside of just one
note when you put a
bow on a string."*

ments. She started with the piano, which she still plays, but suddenly decided that she wanted violin lessons "for my fifth birthday."

"I don't remember exactly why," she said. "It was just an urge. My brother Andreas, who was nine, says that I had heard Yehudi Menuhin play Mozart's A Major Concerto on the radio, and that pushed me into it. Maybe he remembers better than I."

Her first teacher, Erna Honigberger, was an excellent pedagogue who found time to walk the dog and perform other household chores while giving lessons to her young pupil. "It was concentrated, yet relaxing," Mutter recalled. Whatever the formula, it worked, for after less than a year she entered a German youth competition, Jugend Musiziert, for contestants six to twenty-four, and walked off with first prize. When Honigberger died, Mutter moved on to the Swiss violinist Aida Stucki (some of whose Mozart recordings appeared in the U.S. on the old Period label in the early days of the LP).

Mutter's audition for Karajan was, of course, the turning point of her young life. He proclaimed her one of the three top violinists in the world and gave regular concerts

with her. His support, she acknowledges, obviated any need to enter further competitions or take other traditional steps to advancement. She was sixteen when Zubin Mehta invited her to make her U.S. debut with the New York Philharmonic, an event whose tenth anniversary she'll celebrate next February when she plays the Bruch G Minor Concerto and Witold Lutoslawski's *Chain 2* with the orchestra.

It was her introduction to Lutoslawski's difficult score that got Mutter started on contemporary music, she says. Paul Sacher, the veteran Swiss conductor who commissioned the piece and to whom it is dedicated, asked her to give its world première in Zurich in 1986. Some twenty minutes in duration, it derives its name, according to Lutoslawski, from "two structurally independent strands," with an improvisational section for the soloist. Whatever else it offers, it demands a high level of intensity and almost continual playing from the violinist. Mutter has played it in Germany thirty-two times, she told me, "and now all Germany loves it." Next year she'll offer America the same opportunity, for she plans to play it not only in New York but also in Los Angeles and perhaps in one or two other cities.

Lutoslawski has also written for her an orchestral version of his Partita, originally scored for violin and piano. She seems to have an affinity for Polish composers, for Krzysztof Penderecki is writing a concerto that she commissioned. "I should have it by the end of 1991," Mutter said. "It's practically impossible to get a great composer to write quickly, and Penderecki is the kind who rushes up at the last minute with five more pages. So I'm giving him plenty of time."

Her recordings offer as good an index as anything of her mastery of the standard repertoire. For DG, she's done the Beethoven, Brahms, Bruch, and Mendelssohn concertos, all with Karajan and the Berlin Philharmonic, as well as Mozart's Concertos Nos. 3 and 5, Beethoven's Triple Concerto, and Brahms's Double Concerto. Just out from DG are the Tchaikovsky concerto, in a live performance with Karajan and the Vienna Philharmonic, and the Stravinsky concerto on a disc that includes "her" two Lutoslawski pieces, *Chain 2* and Partita. Next year her plans include recordings of

the Berg concerto and Bartók's Second Concerto with Seiji Ozawa and the Boston Symphony.

For EMI/Angel she has recorded Bach's Violin Concertos Nos. 1 and 2 and the Double Concerto, sonatas by Brahms and Franck with pianist Alexis Weissenberg, Lalo's *Symphonie espagnole*, and Mozart's Concertos Nos. 2 and 4. And Erato has just released her versions of the Prokofiev First Concerto and the Glazunov A Minor Concerto with the National Symphony under Rostropovich.

ASKED if she ever envies pianists their more extensive repertoire, she answered, in effect, yes and no. "Sure, I envy them their Chopin, their five Beethoven concertos, that great Schumann Piano Concerto, which has more genius than his Violin Concerto," she said. "But on the other side, having a string instrument in your hand is so much more satisfying than sitting down at a keyboard. Just think of the phrasing opportunities you have with a violin, the sounds you can bring forth. You can do so much inside of just one note when you put a bow on a string. I don't think you can do that with a piano."

Mutter currently is the owner of not one but two Stradivarius instruments. "If I could afford it, I'd have three," she declared. The instrument she prefers is the "Lord Dunraven" (named after a previous owner), which she has had for five years. She likes it for its superior sound and projection and what she calls its "palette of colors." Her other Strad she keeps locked up in a safe as a back-up should anything happen to the Dunraven.

She acknowledged that she is not a fanatical practicer, working on her instrument principally when she is learning a new piece. "I do most of my practicing in my head," she confessed. "Interpretation only grows in your head. I'm not saying it happens just like that, but that's where it takes place."

Since 1986 Mutter, who speaks English fluently though with a marked accent, has been on the faculty of the Royal Academy of Music in London, where she holds the first International Chair of Violin Studies. She conducts master classes there twice a year, one week at a time. She ruffled some feathers at the staid institution when she asked her students to give up their cus-

tomary lunch and tea breaks to keep working—a request that some regarded as presumptuous, coming as it did from a twenty-two-year-old "professor." But she has had no lack of pupils. "Since I've been doing this in London I realize the impact that teaching has, especially on the mid-level pupil," she said. "A greatly gifted talent will survive bad teaching, but a mid-level talent might not."

Mutter has been known to present her musical views forcefully outside the classroom as well. She expects to be treated as an equal by the conductors with whom she plays and has reportedly even had several disagreements with Karajan. Her only known serious dispute, however, involved the Romanian-born conductor Sergiu Celibidache and had to do with the tempos of the Sibelius concerto at a concert in Munich. "I listened to everything he had to say, but he wouldn't listen to anything I had to say," she recalled. "So after three rehearsals we decided to call off the concert. The announcement said it was a question of 'artistic responsibility.'"

For all the intensity Mutter brings to her violin playing, it by no means represents her sole interest in life. Like Karajan, she is addicted to fast driving, and she likes to streak along the German autobahns in her white Porsche. She enjoys American jazz and movies and once, at a party, indulged in an impromptu session with trumpeter Dizzy Gillespie. She swims and does yoga as antidotes to indulging in her favorite dish, which happens to be pasta.

Last January, she was married to Detlef Wunderlich, a lawyer she met while negotiating her contracts with recording and film companies. "He loves music," she said, "especially Italian opera." One change brought about by her marriage is that she will henceforth make her home in Munich rather than in Monte Carlo, where she has been residing for the last six years.

She foresees no change in her music making, however. She expects to continue both her solo appearances and her work with the Mutter - Giuranna - Rostropovich Trio, which, she said, she finds particularly stimulating. (When she appears with the trio, incidentally, she is clad more sedately than at her solo concerts.) Deutsche Grammophon has just released their recording of the complete Beethoven trios.



Mutter noted that the trio is adding pianist Lambert Orkis to its ranks, thus expanding its repertoire. "I would like to play some piano quartets," she said. "I want to play more chamber music and to vary it as much as possible."

And then, in words that apply not only to chamber music but to the whole range of her art, Mutter exclaimed: "There is so much time ahead to do so many things!" □

◆
Herbert Kupferberg is a senior editor of *Parade* magazine. His most recent book is *The Book of Classical Music Lists*, published by Penguin.



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BEST RECORDINGS OF THE MONTH

Stereo Review's critics choose the outstanding current releases

MADONNA'S "LIKE A PRAYER"

YOU can't judge a record by its cover. On the jacket of her new album, "Like a Prayer," Madonna bares her midriff; in the music inside, she bares her soul. It is easily her most serious work, and if you can clear your mind of any preconceptions of Madonna as disco diva, it is well worth taking seriously. The conclusions are as inescapable as the images are penetrating: of a tempestuous marriage to Sean Penn that didn't work; of a childhood wracked by an angry union that didn't work; of a defiant independence masking a vulnerability confessed in lines like, "When I get lonely . . . I need to be/Loved for who I am, not what they want to see."

While Madonna still makes synthesized music that doesn't miss a technological trick, "Like a Prayer" is humanized by the openness and warmth in her voice. This isn't really an album to dance to at the club; rather, it's meant to be listened to in solitude after the club has closed and you've gone home alone. Without being maudlin or bitter, Madonna announces that the party's over and it's time to look into the mirror and commit to the things that have lasting value in this life: honoring family ties, pursuing a higher ideal of love, possibly even placing faith in a higher power.

Regarding that higher power, she appears to be following Prince's lead. In the title song—despite the ill-fated Pepsi tie-in and the misbegotten video—the act of love becomes a sacrament, something holy, vital, and exultant. Prince himself turns up in *Love Song*, a fragmented track in which mistrustful lovers ask each other questions against a slowly oozing scratch-funk background. An insistence on honesty

and commitment is one of the themes developed in this song as well as in *Cherish* and *Express Yourself*, the latter a rousing exhortation for women to bail out of a relationship if they're not getting respect from a mate who can't "express himself."

It's tempting to suppose that this bit of advice is one of the lessons of Madonna's recently dissolved marriage, a subject broached with disarming candor in *Till Death Do Us Part*. It's a powerful song, as confessional as any artist is likely to get in public. Over a skittering pop-funk track, Madonna sings ethereally of love's waning, her voice ominously matter-of-fact as she ticks off a list of horrors that ensue when things turn ugly: "He takes a drink, she goes inside/He starts to scream, the vases fly." The sudden crash of breaking glass at the end may be one of the most chillingly evocative moments on record.

As the album is structured, her marriage's undoing leads into a pair of songs that find her reflecting on troubled ties to her mother (*Promise to Try*) and father (*Oh Father*) and arriving at an inner peace with both of them. Musically, both songs are adventurous and imaginative—a far cry from cookie-cutter dance music. *Promise to Try* is a ballad sung to the accompaniment of piano and strings, and *Oh Father* is laden with a deep emotionality, the rhythms liquid and slow as Madonna sings, "You can't hurt me now/I got away from you."

Dear Jessie, on the other hand, is a whimsical, Lewis Carroll-type tale about an idealized childhood in a fantasy world of "Pink elephants and lemonade . . ./Running through the love parade." Her inventive pop-psychedelia flows mesmerizingly while smart, unconventional percussion from the Brian Wilson school tethers it to a recognizable beat. Finally, the message of these meditations is tied together, in *Keep It Together*, with a simple statement of belief: "Don't forget that your family is gold." Madonna, who has the whole world at her feet, sounds as if she'd trade it all for the unconditional love of a family. In other words, the Material Girl has just gotten spiritual, and I didn't doubt

her sincerity—or her pain—for a second of this remarkable album.

Parke Puterbaugh

MADONNA: *Like a Prayer*. Madonna (vocals); vocal and instrumental accompaniment. *Like a Prayer*; *Express Yourself*; *Love Song*; *Till Death Do Us Part*; *Promise to Try*; *Cherish*; *Dear Jessie*; *Oh Father*; *Keep It Together*; *Spanish Eyes*; *Act of Contrition*. SIRE 25844-1, © 25844-4, © 25844-2 (51 min).

HERB RITTS/SIRE



BEST RECORDINGS OF THE MONTH

NORRINGTON CONDUCTS BERLIOZ

ONE of conductor Roger Norrington's first recordings—perhaps *the* first—was a collection of Berlioz choral songs that he made for Argo with the Heinrich-Schütz Choir of London more than twenty years ago. With that early juxtaposition of his name and Berlioz's in mind, per-



Roger Norrington: revelatory

haps it ought not to be all that surprising that he turned to Berlioz to follow up his "original-instruments" cycle of the Beethoven symphonies with his current group, the London Classical Players. But the new Berlioz release is nothing less than the *Symphonie fantastique*, the very work that is regarded as the first grand showpiece for the modern orchestra. Why on earth would anyone want to consider a period-instruments approach to such a work?

Well, Berlioz may have come up with a new way of writing for the orchestra, but it was based entirely on possibilities that presented themselves at the time (1830), just after the deaths of Beethoven and Schubert in 1827 and 1828. There's no need to debate whether Berlioz was actually the first great Romanticist or the last great Classicist. The point is that no one understood the orchestra and its instruments better than he did, and it was that profound understanding that enabled

him to exploit orchestral color with such unprecedented imaginativeness. That, in brief, would seem to be the basis for Norrington's undertaking—an approach to Berlioz, as to Beethoven, on the composer's own terms—and it turns out to be productive beyond imagining, even more revelatory than his Beethoven performances.

Again, as in the Beethoven, this approach involves an awareness of the composer's performing practice as well as of the instruments he used—and, again, some of the tempos are a good deal brisker than the ones to which tradition has accustomed us. All repeats are taken, but the total playing time is no longer than in most performances in which they are not. The waltz goes with a wonderful dash, and the middle movement, taken at a pace that shows its clear relationship to what H. C. Robbins Landon characterizes as "the non-slow slow movements" of Haydn's symphonies, gains immeasurably in terms of convincing dramatic narrative. Both the "March to the Scaffold" and the finale, on the other hand, are taken more deliberately than today's norm—the march particularly so—and again the musical and dramatic gains are pronounced.

The instruments are tuned not to today's A=440 but to Berlioz's preferred pitch, A=435, and the orchestra seating for the recording followed the highly effective (and clarifying) plan he devised for his own performances. The instrumental balance is magical, permitting one to hear, for example, little muted asides from the horn in the first movement that hitherto have gone unnoticed. There's a voluptuousness evoked by the fairy-tale prominence of the four little harps in the waltz and a picture of credible terror in the implacable tread of the march, with its raspy, narrow-bore trombones and ophicleides, and the bell strokes in the "Witches' Sabbath" go right to the marrow.

EMI has come through with the only sort of sonics that would do in this case—a recording of outstanding excellence in its own right that allows all the performance's wonderful points to be made most clearly and directly. When I began listen-

ing to this recording my feeling was that it would make an intriguing back-up, a novelty for alternating with the two or three favorites among the conventional modern versions. Before I got to the end I knew that *this* was the *Fantastique* that will be the "basic" recording from now on, and the others will be the alternates. *Richard Freed*

BERLIOZ: *Symphonie fantastique*, Op. 14. London Classical Players, Roger Norrington cond. EMI/ANGEL © CDC 49541 (53 min).

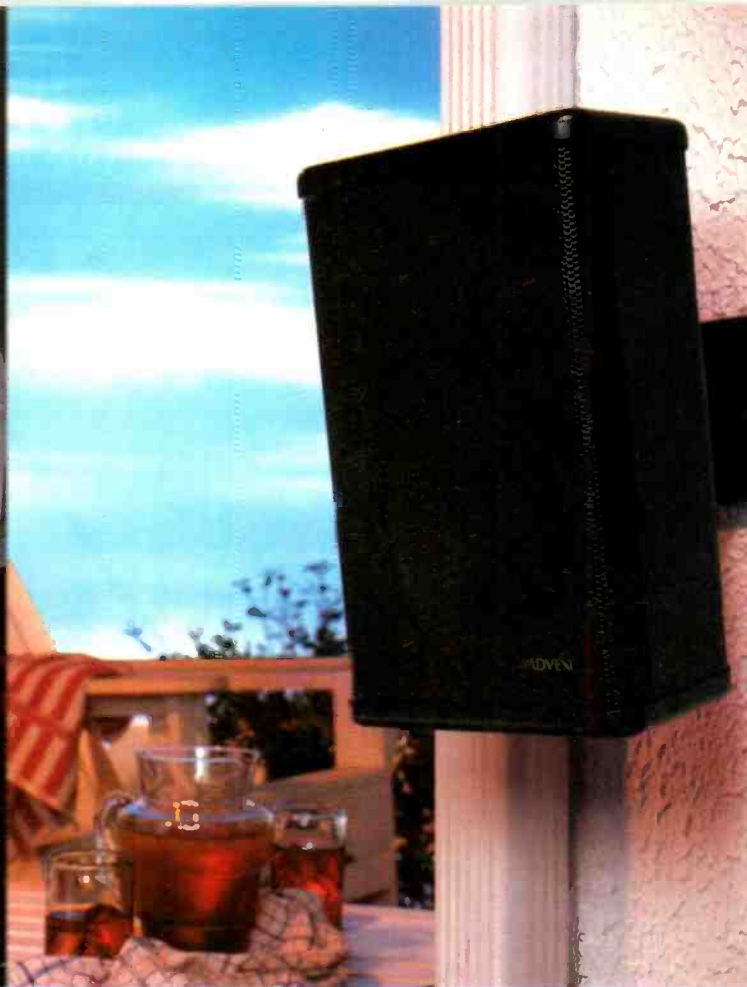
JAZZ PIANIST MARCUS ROBERTS

PIANIST Marcus Roberts is part of that refreshing breeze of young jazz talent that has blown onto the jazz scene in recent years and raised the consciousness of many who had taken the soul train to more lucrative territory. It was in 1985 that Roberts answered the call of Pied Piper Wynton Marsalis to join his group, but "The Truth Is Spoken Here" is Roberts's first album as a leader. And what an impressive debut it is! That should come as no surprise to anyone who has heard Roberts with the Marsalis group, but if you thought he was impressive as a sideman, wait until you hear him here. Produced by Wynton's brother, Delfeayo Marsalis, this is one of the best jazz albums I have heard in a very long time. Roberts is decidedly star material; his solos and compositions (of which the album contains five) are like perfectly composed pictures, so full of delicate details

Marcus Roberts: star material



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BEST RECORDINGS OF THE MONTH

that you discover something new each time you listen.

Convinced that current music must respectfully acknowledge the past, Roberts has honed his work on this album accordingly. He is a devoted admirer of Thelonious Monk and teams up with the late pianist's long-time associate, tenor saxophonist Charlie Rouse, for three Monk-tinged Roberts originals. (Sadly, these turned out to be Rouse's last recordings.) Also included is a stunning solo rendition of Monk's *Blue Monk*. Not surprisingly, Wynton Marsalis, himself a well-known keeper of the flame, is on hand for the proceedings, playing superbly, and so is former John Coltrane drummer Elvin Jones, providing a link to another Roberts idol. The performances here of Duke Ellington's *In a Mellow Tone* and his lesser-known *Single Petal of a Rose* reflect the young pianist's admiration for Duke's music, but the real tribute to those who came before him lies in the purity of Marcus Roberts's own music. A beautiful album.

Chris Albertson

MARCUS ROBERTS: *The Truth Is Spoken Here*. Marcus Roberts (piano); Wynton Marsalis (trumpet); Charles Rouse (tenor saxophone); Reginald Veal (bass); Elvin Jones (drums). *The Arrival; Blue Monk; Maurella; Single Petal of a Rose; Country by Choice; The Truth Is Spoken Here; In a Mellow Tone; Nothin' But the Blues*. NOVUS/RCA 3051-1-N, © 3051-4-N, © 3051-2-N (53 min).

MICHELANGELI PLAYS DEBUSSY

ARTURO BENEDETTI MICHELANGELI'S remarkable recording of the first book of Debussy's Preludes was issued on LP more than ten years ago and has been available on CD for nearly five years. It has taken a long time for the other shoe to drop, but all expectations are abundantly fulfilled in the recording of Book II issued recently by Deutsche Grammophon. Once again, Michelangeli is entirely absorbed in what Debussy



Arturo Benedetti Michelangeli

set down, with every emphasis on precision, refinement, and subtlety, so that any programmatic or evocative impressions seem generated by the music itself rather than by an interpretive overlay. No other pianist who has recorded this music has so successfully clarified Debussy's textures—or gone about it less ostentatiously.

The realization of the specified “*brusques oppositions d'extrême violence et de passionnée douceur*” in *La Puerta del Vino* is perhaps the most striking single example of the elemental impact Michelangeli achieves here by simply (or not so simply) taking Debussy at his word, but the chaste understatement of *Canope* and the exalted sobriety in *Feuilles mortes* are hardly less remarkable. Indeed, every one of the twelve pieces reaches a level that may be called “exalted.” The piano sound itself is the most lifelike I have heard in any of this pianist's recordings, focused just right to convey a shimmering, “liquid” quality that never turns soupy or brittle.

Thirty-nine minutes is not very generous for a full-price CD, but in the face of this recording's musical values such a consideration is rather beside the point. *Richard Freed*

DEBUSSY: *Preludes, Book II*. Arturo Benedetti Michelangeli (piano). DEUTSCHE GRAMMOPHON © 427 391-2 (39 min).

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□ **BENNY GOODMAN:** *Big Band in Europe*. MUSICMASTERS CIJ 60157X. Previously unreleased recordings made at the Brussels World's Fair in 1958, featuring Jimmy Rushing, Zoot Sims, and Roland Hanna.

□ **CHARLIE HADEN:** *The Golden Number*. A&M CD-0825. “Inspired” duets with Don Cherry, Ornette Coleman, Hampton Hawes, and Archie Shepp (May 1978).

□ **MEL LEWIS:** *And Friends*. A&M CD-0823. “Light 'n' lively” (June 1977).

□ **ROY ORBISON:** *The Classic Roy Orbison (1965-1968)*. RHINO R2 70711. An eighteen-track compilation covering the late artist's first four years with MGM Records.

□ **REO SPEEDWAGON:** *Good Trouble*. EPIC EK 38100. *Nine Lives*. EK 35988. Hard rock played with “disarming exuberance” (November 1982).

CLASSICAL

□ **BEETHOVEN:** *Symphonies Nos. 1 and 2*. Thomas. CBS MDK 44905. “Elegant” (September 1986).

□ **GERSHWIN:** *Porgy and Bess*. Warfield. L. Price; Henderson. RCA 5234-2-RG. Highlights from the memorable revival of 1963.

□ **GOTTSCHALK:** *A Night in the Tropics; Grand Tarantelle*. List. Abravanel. VANGUARD VCD 72026. “Spectacular” (November 1968).

□ **MOZART:** *Andante in C Major*. **ROSSINI:** *Theme and Variations*. **WEBER:** *Clarinet Concerto No. 1*. Stoltzman, Schneider. RCA 60035-2-RG. Performances of “brilliance and passion” (September 1983).

□ **ROSSINI:** *William Tell*. Bacquier, Caballé, Gedda; Gardelli. ANGEL CDMD 69951 (four CD's). “Uniformly first-rate” (Best of Month, December 1973).

□ **WAGNER:** *Die Walküre, Act II*. Flagstad, Lehmann, Melchior, Schorr; Reiner. LEGATO LCD 133-1. Recorded live at the San Francisco Opera in 1936.

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Discs and tapes reviewed by Chris Albertson, Phyl Garland, Ron Givens, Roy Hemming, Alanna Nash, Mark Peel, and Steve Simels

BIG BAM BOO: *Fun, Faith & Fair-play.* Shark (vocals, guitar); Simon Tedd (vocals, guitar, keyboards, programming); vocal and instrumental accompaniment. *Fell Off a Mountain; Shooting from My Heart; If You Could See Me Now; What's Bigger Than Life?; Justice;* and five others. UNI/MCA UNI-8, © UNIC-8, Ⓞ UNID-8 (42 min).

Performance: *Fresh-faced pop*
Recording: *Good*

Two guitars, two voices, and two nationalities—Canadian and British—give this duo the flavor of an internationalized Everly Brothers or a late-model Peter and Gordon. Like their popbilly forebears, Big Bam Boo's Shark and Simon Tedd sing in close harmony and accompany themselves on guitar. They write all their own material, half of which is very good, the rest just okay. But when they hit the mark, the songs take off like long-lost pop nuggets whose date of origin could be the Sixties or Eighties (but definitely not the Seventies) and actually sound like a hybrid of the best parts of both decades. *Fell Off a Mountain* boasts a poppish underpinning not unlike the Easybeats' *Friday on My Mind*, and the guitars in *What's Bigger Than Life* recall the twangy tone of Duane Eddy's big rig. Meanwhile, the roller-coaster vocals in *Wicked Love* could pass muster in a Timbuk 3 album. If Big Bam Boo's mission is to put fun, faith, and fair play back into pop music, they're off to an encouraging start. P.P.

E.U.: *Livin' Large.* E.U. (vocals and instrumentals); instrumental accompaniment. *Buck Wild; Livin' Large; Shake Your Thang; Taste of Your Love; Shaka Zulu;* and five others. VIRGIN 91021-1, © 91021-4, Ⓞ 91021-2 (49 min).

Performance: *Hot fun*
Recording: *Very good*

This is a *great* party record, one of the best I've ever heard. That comes as no surprise, for E.U. is the group that

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TOM PETTY ON HIS OWN

TOM PETTY'S "Full Moon Fever," his first album without the Heartbreakers (actually, all of them except drummer Stan Lynch show up in cameo roles), is not only the finest thing he's done in ages but a truly glorious throwback. And I don't mean musically, although there's almost nothing here that—stylistically—would have been out of place in 1969. Rather, it's a throwback to an era when superstar albums weren't years (and millions of dollars) in the making, to that long-vanished time when rock musicians simply wrote a bunch of new songs and got them out to the public as quickly as they could, to the days when commercial pop music was exciting because it had something in common with journalism—topical immediacy. And, most important, it's a throwback to an age that now seems as remote as the Pleistocene, when musical and artistic decisions were made more on the basis of gut instinct than market research.

In other words, "Full Moon Fever" is an album of short, catchy songs, cool riffs, seemingly tossed off but often amusing lyrics, and brilliant studio touches, all of which seem to exist solely because the participants believed in what they were doing. The music, not surprisingly, is Petty's trademark mix of the Byrds, the Rolling Stones, and a certain kind of Southern soul, but it's unencumbered here by the need to make Big Statements or (on the aural evidence) by any sort of self-imposed pressure beyond the desire to have fun. It has a good beat, too, and you can dance to it. It is, in short, a thoroughly entertaining record.

Although the basic sound will come as no shock to anybody who's heard the Traveling Wilburys album (also co-produced by Jeff Lynne), "Full Moon Fever" is hardly the Wilburys, Part Two, or any kind of star-on-a-lark indulgence. Taken on their own, simply as songs, the new tunes here are uniformly strong, and several of them—particularly the wonderfully ominous *Won't Back Down*—will doubtless sound terrific when Petty gets around to performing them with the Heartbreakers. For that matter, *Zombie Zoo*, which nods slightly to the Cars, provides the best outsider's take on alienated youth that has been heard this decade.

But what's ultimately most rewarding about the album is that none of its craft or playfulness seems calculated: It's as spontaneous sounding as a 3 a.m. jam session. While you're listening to it, you don't have time to ponder what Petty was thinking. Instead, you can only marvel at the way *A Mind with a Heart*

of Its Own, with its Bo Diddley beat and primitive slide guitar, suggests some unutterably cool band you missed at the Whisky a Go Go in 1966, or at how *Depending on You* makes such effective and subtle use of a supposedly obsolete effect (like a tremolo amplifier), or at how *Runnin' Down a Dream* manages to be part car song, part homage to Dave Edmunds. And all that's without even considering the long-overdue remake of the Byrds' great *Feel a Whole Lot Better*, which manages the neat trick of sounding thoroughly authentic and thoroughly personal at the same time.

Of course, given the debased times in which we live, it is tempting to oversell "Full Moon Fever" as some sort of masterpiece, which it isn't. Modest, unassuming, *recherché*, it breaks no new ground and has little of importance to say. Nevertheless, it is smart, tuneful, and witty rock-and-roll, a commodity never to be sneezed at. If it's commercially successful, it can only encourage similar efforts and, consequently, should be purchased by anyone whose sensibilities are even remotely screwed on right. Steve Simels

TOM PETTY: *Full Moon Fever.* Tom Petty (vocals, guitar, keyboards, tambourine); Mike Campbell (guitar, mandolin, keyboards); Jeff Lynne (guitar, keyboards, vocals); Phil Jones (drums, percussion); George Harrison (guitar, vocals); other musicians. *Free Fallin'; I Won't Back Down; Love Is a Long Road; A Face in the Crowd; Runnin' Down a Dream; Feel a Whole Lot Better; Yer So Bad; Depending on You; The Apartment Song; Alright for Now; A Mind with a Heart of Its Own; Zombie Zoo.* MCA MCA-6253, © MCAC-6253, Ⓞ MCAD-6253 (40 min).



AARON RAPIPORT/MCA

brought an incendiary surge to Spike Lee's movie *School Daze* with the authentically funky rhythms of *Da Butt*. It is reprised here in an updated version along with several other selections set to moderately paced rhythms that are perfect for marathon dancing. E.U.'s music harks back to early rhythm-and-blues, layered over with a playful, homespun kind of rap. The combination is all but irresistible. Occasionally the group shifts to a quieter mood, proving that there's more than one level to their talent, as in *Taste of Your Love*, an evocative piece suited to dim lights, close movement, and sensual thoughts. E.U. is already immensely popular in Washington, D.C., its home town, and its following is sure to grow with the release of "Livin' Large." *P.G.*

TIM FINN. Tim Finn (vocals, guitar, keyboards); vocal and instrumental accompaniment. *Young Mountain; Not Even Close; How'm I Gonna Sleep; Parihaka; Tears Inside*; and five others. CAPITOL C1-48735, © C4-48735, © C2-48735 (40 min).

Performance: *Emotionally candid*
Recording: *Very good*

Baring your soul in public is a risky venture in the superficial world of contem-

porary pop, where artifice is more highly compensated than art. Tim Finn, however, doesn't back down from his true feelings, which run the gamut from heart-rending disillusionment to the hopeful stirrings of a new beginning. The result is an album that will touch a resonant chord within anyone who's ever been troubled and confused at some point in his life and found the faith and will to surmount his problems. (Hey, is there anyone who has *not* felt that way?)

Tim Finn, brother of Crowded House's Neil Finn and one-time leader of Australia's beloved Split Enz, is boldly confessional and brilliantly perceptive in this, his third solo album. His distinctive, bittersweet voice conveys emotions with sureness and power, and he never allows bathos to get the better of him. As with Phil Collins in his first solo album, "Face Value," you get the sense here of a man carrying himself through an episode of depression to a more cheerful place, using work as therapy. Finn examines his life with candid objectivity, drolly portraying himself as a former pop star currently out of public favor in *Been There Done That*. Such songs as *Tears Inside*, *Not Even Close*, and *How'm I Gonna Sleep* are achingly personal, the feeling of loss starkly driv-

en home by lines like, "Weave me a rope that will pull me through/These impossible times."

On the brighter side, Finn turns for inspiration to the life of Te Whiti, a Maori prophet of nonviolence, in the prayerful and pulsating *Parihaka*, and he looks beyond his own suffering to tell the story of one Derek Bainbridge in *Suicide on Downing St.*, a portrait of incurable despair whose moral is, "You cannot call us civilized/As long as one life is denied." There's an eloquent metaphor for renewal in *Young Mountain* and some wonderful lines in *Birds Swim Fish Fly* about the changeable and fickle nature of emotional states ("I turn one way and the wind blows me over/I turn another way and it's holding me up"). The latter song is also musically irresistible, a solid rocker reminiscent of Split Enz at peak power.

Producer Mitchell Froom allows Finn the room to express himself, leaving the musical quirks and emotional openness intact but applying just enough polish to make Finn accessible to more than a cult following. Froom was able to work much the same magic with Crowded House, so who knows? In any case, an album as courageous and creative as this one deserves to be heard by more than just the cognoscenti. *P.P.*

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SUZY BOGGUSS



ONE of the joys of writing record reviews is the knowledge that one of the thousand albums that stumble across the threshold each year will deliver the thrill of discovering an immensely talented new artist. Occasionally, a smart record executive will pair such an artist with an equally rare find—a producer who understands what the artist is trying to do and surrounds him or her with the kind of tasteful, creative backing that helps make the record a classic, like the debut discs of Emmylou Harris and Rodney Crowell, both produced by Brian Ahern in the mid-Seventies, and, more recently, those of Lyle Lovett and Steve Earle, with Tony Brown at the helm.

As these examples might hint, that kind of thing doesn't happen in country music all that often. Amazingly, however, another startling debut effort has floated to the top, this one from a young woman with the unlikely name of Suzy Bogguss and with the unlikelier background of having worked as one of the house acts at Dollywood, Dolly Parton's theme park in Pigeon Forge, Tennessee. Bogguss's new record for Capitol, "Somewhere Between," was produced by Wendy Waldman, who has never appeared so in command of the essence of both traditional and progressive country music.

Bogguss comes as a surprise for several reasons. Her debut album seems anything but a freshman effort. Rather, like Emmylou Harris's "Luxury Liner" of over a decade ago, it seems to reflect years of working out the kinks and trying on styles to achieve a certain refinement. In other words, Bogguss's "Somewhere Between," with its exceptionally poised and polished vocals and inspired song selection, bypasses those awkward

rites of passage that most new recording artists experience. The songs succeed because of their inherent character and functional beauty, and because of the kind of honesty that transcends studio-made technique. There's not a jive lick from start to finish.

Described by her press material as a "second-generation revivalist," Bogguss nonetheless steps forward as a full-blown artist. She dusts off three of country's most tenacious numbers—Merle Haggard's title song, Hank Williams, Sr.'s *My Sweet Love Ain't Around*, and Patsy Montana's campy *I Want to Be a Cowboy's Sweetheart*—and approaches them with a fresh perspective and eager passion. She can also segue convincingly from the Texas swing of *Handyman's Dream* to the urban angst of *Guilty As They Come*. Bogguss is nothing if not versatile.

"Somewhere Between," then, eschews all the easy formulas—of songwriting, of sequencing, of mindless session picking, and of the normal star-building procedure. It heralds the arrival both of a serious new country talent and of a producer finally coming into her own. And, most of all, it adds a new name to that short list of artists known as Nashville's New Integrity. Dollywood's loss, it happily appears, is everyone else's gain. *Alanna Nash*

SUZY BOGGUSS: *Somewhere Between*. Suzy Bogguss (vocals); vocal and instrumental accompaniment. *Somewhere Between*; *I'm at Home on the Range*; *My Sweet Love Ain't Around*; *Guilty As They Come*; *Handyman's Dream*; *I Want to Be a Cowboy's Sweetheart*; *Cross My Broken Heart*; *Take It Like a Man*; *Hopeless Romantic*; *Night Rider's Lament*. CAPITOL CI-90237, © C4-90237, © C2-90237 (35 min).

FOSTER AND LLOYD: *Faster and Louder*. Radney Foster (vocals); Bill Lloyd (vocals, guitar, mandolin, tambourine, piano); vocal and instrumental accompaniment. *Faster and Louder*; *Fair Shake*; *She Knows What She Wants*; *Happy for a While*; *Fat Lady Sings*; and four others (five others on CD). RCA 9587-1-R, © 9587-4-R, © 9587-2-R (36 min).

Performance: *Amalgamated steal*
Recording: *Crisp*

You could argue from now until doomsday about whether Radney Foster and Bill Lloyd are rock musicians who mix it up with a country twang or country musicians who cut their teeth on rock-and-roll. Either way, Foster and Lloyd have kicked up a dust storm of excitement around Nashville, where one journalist quipped, "If the Byrds and the Beatles were to have lunch at the Everly Brothers' house and listen to Hank Williams, Sr., records, the music would sound like Foster and Lloyd."

For me, at least, that's the rub. Despite a multitude of catchy hooks, sparkling instrumentals, and often thrilling vocal harmonies, the bottom line is that Foster and Lloyd are more exquisite mimics than true creators. Their various influences include all of the above along with Chuck Berry, Buck Owens, Poco, the Flying Burrito Brothers, the Band, Roy Orbison, Bruce Hornsby, and even Velvet Underground, and the all-too-obvious allusions to these artists' work run rampant through the F&L song catalog. That was the problem in their debut album, too, but now, in "Faster and Louder," their second effort, the approach seems even more like a pose than a commitment, a calculated attempt to evoke some of the best-loved music in country-rock. Still, if none of that bothers you, "Faster and Louder" offers high energy, sure-fire picking, singable lyrics, an instantly nostalgic groove, and plenty of attitude. Make that *plenty* of attitude. *A.N.*

INDIGO GIRLS. Amy Ray, Emily Saliers (vocals, acoustic guitars); vocal and instrumental accompaniment. *Closer to Fine*; *Secure Yourself*; *Kid Fears*; *Prince of Darkness*; *Blood and Fire*; and five others. EPIC FE 45044, © FET 45044, © EK 45044 (44 min).

Performance: *Unrestrained*
Recording: *Good*

The two women of Indigo Girls, Amy Ray and Emily Saliers, make music with great passion. I imagine them standing upright, lifting their chins, and singing to the rafters, strumming mightily at their acoustic guitars all the while. Their husky altos threaten to shatter our feeble resistance as they belt out strong words and stronger feelings. This is red-blooded folk music with no holds barred.

Ray and Saliers are Romantic romantics, and their solipsistic lyrics are

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"poetic" in a variety of ways. Saliers stitches metaphors together in *Closer to Fine* when she writes, "I wrap my fear around me like a blanket/I sailed my ship of safety till I sank it." *Secure Yourself*, written by Ray, is a clot of disparate images: "In the ink of an eye I saw you bleed/through the thunder I could hear you scream/solid to the air I breathe/open-eyed and fast asleep." And Ray's *Blood and Fire* boils longing down to its brutal essence with a verse that repeats, four times, "I am intense, I am in need, I am in pain, I am in love."

Producer Scott Litt knew enough to get out of the way of Indigo Girls. The accompaniment is dominated by the duo's pounding guitar work, augmented by occasional rock touches. Members of Hothouse Flowers and R.E.M. provide support, but without obscuring the two headstrong lead voices. Recommended. R.G.

CAROLE KING: *City Streets*. Carole King (vocals, keyboards, guitar); vocal and instrumental accompaniment. *City Streets; Sweet Life; Down to the Darkness; Lovelight; I Can't Stop Thinking About You*; and five others. CAPITOL ● 90885-1, © 90885-4, © 90885-2 (43 min).

Performance: *Strained*
Recording: *Very good*

Carole King has had, essentially, two careers—the first, in the Sixties, as the best of the Brill Building pop tunesmiths, and the second, in the Seventies, as the most successful of all the confessional singer-songwriters. Critically speaking, she's (justifiably) more highly regarded for the first phase, but to give her her due, King II has been an enormous and underacknowledged vocal influence on a lot of recent singers. Without her nasal, conversationally phrased suburban soul singing, for example, performers as varied as Chrissie Hynde and Cowboy Junkies' Margo Timmins would be unthinkable.

"City Streets," King's first album in over five years, attempts to split the difference between her two compositional modes, and while it would be nice to say it shows her near the peak of her form, it would also be a colossal fib. The idiom here, as it is for so many other newly matured rockers (and as you should be able to gather from the album title) is sort of ersatz Springsteen—which is a bit of poetic justice since much of "Born to Run" derives from the Sixties King. Unfortunately, King mostly sounds silly here nattering on about life on the other side of the tracks, and her attempts to toughen up vocally—as in a thoroughly mundane rocker like *Sweet Life*—are pretty embarrassing. True, the album has a certain energy, and in the abstract it may be more palatable than the *You've Got a Friend*-style treacle she's been peddling for many years. But take away the vocals—

which, strained or not, at least bear an identifiable personal stamp—and what you've got left sounds like demos by an aspiring schlock mistress. In short, underwhelming. S.S.

LEO KOTTKE: *My Father's Face*. Leo Kottke (vocals, guitar); instrumental accompaniment. *Times Twelve; Everybody Lies; B.J.; Why Can't You Fix My Car; Theme From "The Rick and Bob Report"*; and six others. PRIVATE MUSIC 2050-1-P, © 2050-4-P, © 2050-2-P (39 min).

Performance: *Wonderful*
Recording: *Very good*

Leo Kottke is one of those people who's been good for so long that people tend to take him for granted, which is a shame since he's something of an American natural resource. This latest effort from the reclusive virtuoso offers pretty much the usual Kottke mix of reflective guitar instrumentals (in what used to be referred to as a folk-music style before the New Age people co-opted it), leavened for the first time in a while with an occasional vocal in his inimitable froggy baritone. There's at least one song here (*Everybody Lies*) that cries out for a cover version by some college radio band, there's a delightful deadpan jape (*Why Can't You Fix My Car*), and there's a superior-sounding remake of a gorgeous piece Kottke originally cut back in the early Seventies (*Mona Ray*). The remaining tracks are never less than compositionally interesting, and all are impeccably played. S.S.

MADONNA: *Like a Prayer* (see Best of the Month, page 67)

CHRIS REA: *New Light Through Old Windows*. Chris Rea (vocals, guitar, keyboards); vocal and instrumental accompaniment. *Let's Dance; Working on It; Windy Town; Steel River; Stainsby Girls; Ace of Hearts; I Can Hear Your Heartbeat*; and three others. GEFEN GHS 24232, © M5G 24232, © 24232-2 (48 min).

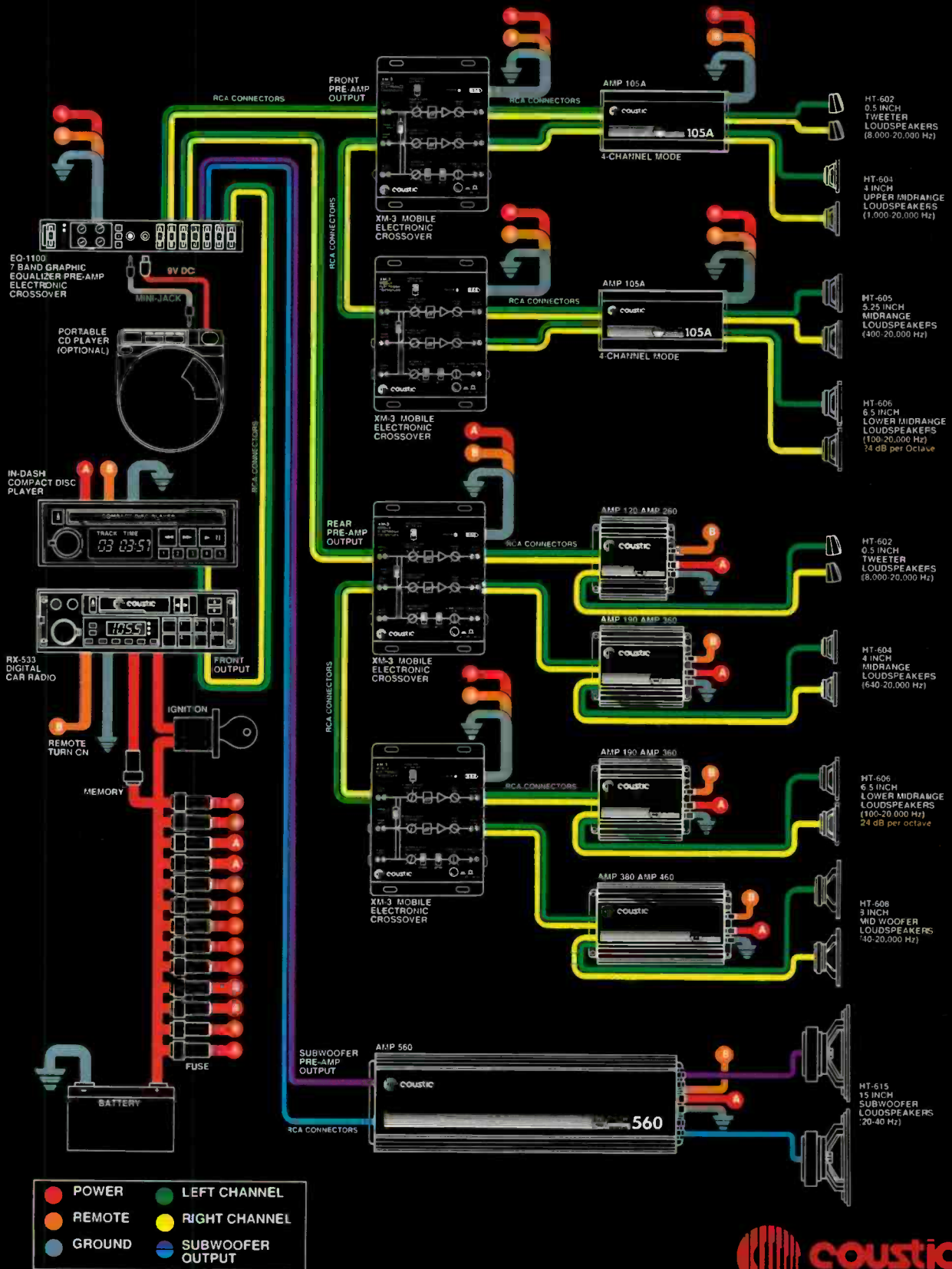
Performance: *Captivating*
Recording: *Good*

Chris Rea sings with the voice of experience. It's a weathered instrument, softened by disappointment and frayed by regret. Here's a man who's been in and out of love, who's been the betrayer and the betrayed, who's been taught by the ups and downs of life that patience is a practical, necessary virtue. Rea may be weary to the bone of bad relationships, and tired of coming up short, but he's unable to stop leading with his heart. When opportunity knocks, as it does in *Let's Dance*, he sings: "Caught in a world full of tears/So many sad times and fears/So while there's a chance and you're near/Let's dance."

"New Light Through Old Windows" is a catalog of romantic joys and afflictions. Considering that the emphasis is

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MARC V.



MARC V. is a new artist who seems to have everything: a spirited, seamlessly polished singing style, a gift for writing songs with both intelligent lyrics and instantly appealing melodies, and a big enough talent to attract the sort of top-ranking producers and back-up musicians who can give him a dazzling send-off. His first solo outing, "Too True," shows that he has another important attribute as well: personality, an identifiable musical presence that sets him apart.

Marc V.'s work is wonderfully eclectic, drawing from the diverse strains of his own background. The obvious comparison is with Sade since, like her, he has a Nigerian father and a British mother. There is also a stylistic similarity in the minor mode of some of his songs and the way he often employs close harmony in the vocals. But his approach is much hotter than Sade's, more closely linked to current pop music, with the soul strains carefully woven in.

Marc V. (his last name is Vormawan) was born in Liverpool, and, like that city's most famous sons, the Beatles, he writes melodically rich songs that would stand up even without modern electronic enhancements. He credits his mother for exposing him to a broad range of American music, from Motown to vintage jazz—saxophonist Les-

ter Young is one of his favorites. Perhaps this knowledge of jazz gave him a taste for musical adventure and a preference for substance over flash.

Yet he is a totally modern performer. Though his voice is a bit higher and sweeter, at times he resembles Stevie Wonder, especially in *Paint the Moonlight Black*, with its surprising harmonic changes and rhythmic twists. Also like Wonder, he edges into social commentary, as in *Let Them Stare*, about the public disapproval faced by a racially mixed couple, and *Cops & Robbers*, in which he muses about the way children are corrupted by the terrible examples adults set for them.

Marc V. delivers all these songs—which he wrote together with Colin Brown—with an affecting energy and directness. They have enough driving rhythms and vitality to infuse a party, but they also repay close listening. Marc V. has a lot to say, and he says it with admirable authority. *Phyl Garland*

MARC V.: *Too True*. Marc V. (vocals, keyboards); vocal and instrumental accompaniment. *Cops & Robbers; House Arrest; Let Them Stare; Something to Believe In; Paint the Moonlight Black; I Remember; Powerful Love; When Am I Gonna Learn; Can't Stop Lovin' You; You Can Turn the Lights Out*. ELEKTRA 60811-1, © 60811-4, © 60811-2 (39 min).

on the afflictions, it is a surprisingly casual, glossy album. The instrumentals are slick, sometimes distractingly so, and you may be reminded of Mark Knopfler or Billy Joel, not always in a good way. For the most part, however, Rea is as restrained musically as he is vocally. Melodies, countermelodies, and solos all make their emotional points without being strident or pushy. Yet they linger on, like heartache. The same is true of Rea's lyrics. Wisps of longing breeze by, like this memory from *Windy Town*: "No car for kissing/ Nowhere to go/Except inside each other/And I loved you so."

A number of these songs have been hits in Europe. In fact, a number of them have appeared, in other versions, in Rea's previous American releases, which have been little heard. The discrepancy between his popularity on the two sides of the Atlantic is hard to explain, but it just might be eliminated by "New Light Through Old Windows." *R.G.*

KAREN STALEY: *Wildest Dreams*. Karen Staley (vocals); vocal and instrumental accompaniment. *So Good to Be in Love; Tumbleweed; Give Me One Good Reason; That's Not the Kind of Love I Need Tonight; Now and Then; He Thinks He's James Dean; Wildest Dreams; Looks Like Rain*, and two others. MCA © MCA-42112, © MCAC-42112, © MCAD-42112 (33 min).

Performance: *Yeah!*
Recording: *Variable*

Karen Staley has been known around Nashville for several years now both as Reba McEntire's harmony singer and as the writer of a handful of standout songs recorded by Patty Loveless, the Dirt Band, Holly Dunn, and Michael Martin Murphey. But probably no one anticipated the range and power of her debut album, "Wildest Dreams," a smart collection of original, sassy songs co-produced by Jimmy Bowen, Tony Brown, and Staley herself.

Influenced by such diverse artists as Bonnie Raitt, James Taylor, and Mahalia Jackson, Staley has a deep, throaty, and enormously expressive voice that sometimes brings to mind Tracy Nelson. But because her music is so diversified—segueing easily from progressive country-rock to contemporary western swing to wild-and-wounded ballads and even glorious gospel-blues—it is unfair to compare her with anyone. Armed with a heavy backbeat, she approaches traditional country with due respect but adds a certain creative recklessness, melding acoustic and electric guitars, for example, in a way not usually found in the strictly country genre. And if Staley, from the hard-scrabble steel-mill country of Pennsylvania, is still more concerned with the music than the lyrics, she nevertheless applies a certain lyrical inventiveness, too, titling one rocker, about a teenager

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with an attitude problem, *He Thinks He's James Dean*.

What should really win Staley legions of fans, however, is the vocal intensity that propels this album like an engine. Backed by some of the best female harmony singers in the business (watch for Jonelle Mosser to get her own solo contract), Staley soars, purrs, and growls her way through her repertoire, pausing only occasionally to give the listener a breather. There is some unevenness in the production and an irritating overuse of reverb throughout. But, that aside, "Wildest Dreams" marks the arrival of one of Nashville's brightest young performers. *A.N.*

MARTIN STEPHENSON AND THE DAINTEES: *Gladsome Humour & Blue*. Martin Stephenson and the Daintees (vocals and instrumentals); vocal and instrumental accompaniment. *There Comes a Time; Slaughterman; The Wait; I Can See; The Old Church Is Still Standing; Even the Night; Wholly Humble Heart; Me & Mathew; Nancy; Goodbye John; I Pray; Crocodile Cryer;* and eight others. CAPITOL C1-91751 two LP's. © C4-91751 one cassette, © C2-91751 one CD (76 min).

Performance: *Eclectic*
Recording: *Warm*

In the sepia-toned photograph of Martin Stephenson that graces the front jacket of "*Gladsome Humour & Blue*," he's clutching a battered hollow-body and wearing a coarse workman's shirt, his derby tilted to one side as he intently fingers a chord. While no one will mistake him for Woody Guthrie, his songs have an affecting, human-scaled, and folkish dimension. He sings in a plain and honest voice with a minimum of posturing and rather subdued back-up from his band, the Daintees.

Stephenson's Capitol debut is a double-length compendium of his first album, 1986's "*Boat to Bolivia*," and 1988's "*Gladsome Humour & Blue*," both previously unreleased in the U.S. "*Bolivia*" is the more frisky and extroverted of the two, with Stephenson and the band trying their hands at a variety of styles—country-and-western (*Candle in the Middle*), unaccompanied folk (*Rain*), UB40-flavored pop-reggae (*Boat to Bolivia*), barnstorming bluegrass (*Running Water*), and even a spunky rock song or two.

"*Gladsome Humour & Blue*" finds Stephenson well on his way to defining himself as a songwriter with a literate, Joycean lyrical bent and a penchant for restrained, intimate folk-pop settings. It's one of those curious records that actually sounds better at low volume; it's perfect for late-night reveries when you don't want to worry about waking the neighbors. *Me & Mathew* is an impressionistic remembrance of summer, as gushingly open as Jonathan Richman. "*Gladsome Humour*" also contains a batch of modest and melan-

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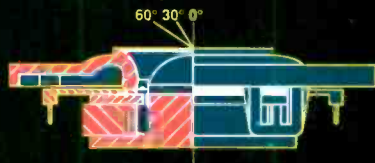
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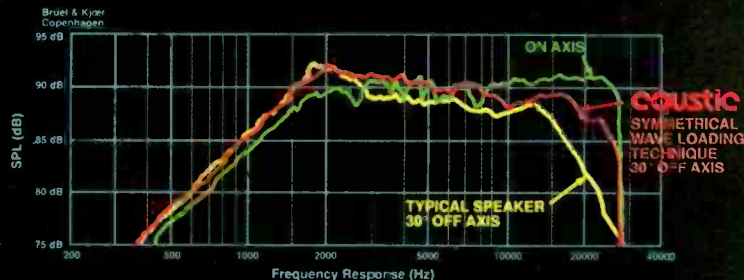
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THE REAL PHOEBE SNOW



FOR the past eight years, Phoebe Snow's shimmering, four-octave voice has been confined solely to commercial jingles, her instantly recognizable, otherworldly alto extolling the virtues of AT&T, Coca-Cola, Pillsbury, and even Exxon. But Snow, who admits that doing jingles is "nice work if you can get it," yearned for something else. What she wanted, she sings in her first album since 1981's "Rock Away," was "something real, one time, before I die."

Snow's new effort, "Something Real," is her most accessible and coherent record since her left-field debut in 1974. It opens with that statement in the title song and at once recalls the finger-picked, airy folkiness of *Poetry Man*, reacquainting her old fans both with that magnificent voice—which zooms to stratospheric heights at the slightest provocation—and with the tough emotionalism that always stitched her more remarkable songs together. From there she moves on to explore a variety of musical niches, including grandiose ballads, kick-out rock, and, most successfully, a bluesy, comfortable style of pop-soul. All of these, with their careful production and instrumental finesse, set her squarely in the Eighties and give her a very different kind of image—that of a strong, caring, benevolent romantic, but a romantic with her head screwed on straight.

"Something Real" has been called a pop album for grown-ups, because it examines life in the post-twenties years, when emotional scarring or growth are likely to have occurred as a result of adversity and disappointment. Snow, at thirty-six, has experienced a good deal of pain—a failed marriage, the rearing of a handicapped child, the death of her mother, to whom she was exceptionally close, a debilitating illness, a faltering

career, unending legal hassles, and the demise of an important romantic relationship.

The songs in "Something Real" naturally reflect such struggles; more important, they also chronicle recovery and lessons learned. And yet none of this is pushed down the throat. Snow's enormously seductive music often lunges forward with intense urgency, but out of strength and compassion, not finger-wagging. The two most affecting original songs, in fact, are heartbreaking in their honesty and emotional exposure: In *Touch Your Soul*, Snow bids an affectionate, if self-protecting, goodbye to a lover who has little to give to himself, much less another. And in *I'm Your Girl*, a song she wrote for her late mother, she sings of a continuing, if changed, relationship, of a lifeline that has not withered. It is a love song of a different kind.

"Something Real" is the work of several producers—Rob Fraboni and Ricky Fataar produced most of it, but Russ Titelman did three tracks and Phil Ramone one. Occasionally, the patchwork shows, particularly in the more routine second half. When the album really connects, however—and connecting is what it is fundamentally about—Snow achieves that rarest of musical feats, a shortcut to the soul. "Something Real" turns out to be just that.

Alanna Nash

PHOEBE SNOW: *Something Real*. Phoebe Snow (vocals, guitar); vocal and instrumental accompaniment. *Something Real*; *Mr. Wondering*; *Touch Your Soul*; *We Might Never Feel This Way Again*; *I'm Your Girl*; *If I Can Just Get Through the Night*; *Stay Away*; *Soothin'*; *Best of My Love*; *Cardiac Arrest*. ELEKTRA 60852-1, © 60852-4, © 60852-2 (41 min).

choly pop songs—*Slaughterman*, *I Can See*, and, especially, *Nancy*—that are refreshingly unforced and unhurried. While many artists are busy scratching and clawing for some gimmick that will gain them attention, Martin Stephenson is doing it the old-fashioned way: by writing good songs and singing as if he means them.

P.P.

TONE-LÖC: *Löc-ed After Dark*. Tone-Löc (vocals); vocal and instrumental accompaniment. *On Fire*; *Wild Thing*; *Löc-ed After Dark*; *I Got It Goin' On*; *Cutting Rhythms*; *Funky Cold Medina*; *Next Episode*; *Cheeba Cheeba*; *Don't Get Close*; *Löc'in on the Shaw*; *The Homies*. DELICIOUS VINYL/ISLAND DV 3000, © ZCD 3000, © CCD 3000 (51 min).

Performance: *A real hoot*

Recording: *Appropriately cheesy*

To paraphrase Morrissey of the Smiths, most rap doesn't have a lot to do with a lot of people's lives. But here's a rap record that has a *lot* to do with a *lot* of people's lives, hence its astonishing commercial success, and yet it makes no concessions to pop-radio programmers or guardians of public morals like Tipper Gore and her Parents' Music Resource Center. Basically, this is great, stupid/funny party music, rap as a direct linear descendant of all the great, stupid/funny frat-party rock and r-&-b songs so beloved by the characters in *Animal House*. What, for example, is *Wild Thing*, the monster hit in "Löc-ed After Dark," if not a contemporary *Louie Louie* or *Shout*—that is, an excuse to party and yell "Toga!" at top volume? The similarities found in this new album are unmistakable: the great thumping beat, the minimalist melody, the sly innuendos, and the general attitude of disposable silliness.

True, some of the subjects that Tone-Löc deals with so engagingly here would have been taboo in the days of the Kingsmen—for example, transvestism, aphrodisiacs, and marijuana (he's ambivalent about the first, interested in the second, and enthusiastic about the third). Nevertheless, the message that lurks beneath the surface of this music is exactly the same as that of such early Sixties classics as *Double Shot of My Baby's Love* or *Twist and Shout*, and I suspect that that's why so many folks who normally rate rap right up there with root canal have taken to this stuff so enthusiastically.

It is also worth noting, for rock critics and other amateur musicologists, that this album is a veritable treasure trove of pilfered riffs. In fact, half the fun of "Löc-ed After Dark" is figuring out from whom the drum parts and rhythm grooves were digitally sampled. (I'd say it's the late John Bonham in *Don't Get Close* and Charlie Watts, from his *Satisfaction* break, and Foreigner, from *Hot-Blooded*, in *Funky Cold Medina*.) Still, all that is merely icing on the cake. The

ineluctable truth of the matter is that Tone-Loc is a very amusing fellow who has created here one of the great, transcendent artifacts of the under-the-counter culture. His is a profoundly democratic music that says the urge to do the Wild Thing knows no race, color, or creed. **S.S.**

RICKY VAN SHELTON: *Loving Proof*. Ricky Van Shelton (vocals, guitar); vocal and instrumental accompaniment. *Swimming Upstream: I'll Leave This World Loving You; From a Jack to a King; Let Me Live with Love (and Die with You); Living Proof*; and five others. COLUMBIA FC 44221, © FCT 44221, © CK 44221 (29 min).

Performance: *Best foot forward*
Recording: *Very good*

When Warner Bros. turned Randy Travis into a Major Force several years ago, Columbia went into a frothy sweat scrambling for a surrogate. What they came up with was a soft-talking Virginian named Ricky Van Shelton, whose first album for the label traded on his muscular sex appeal (including a cover that posed him in his undershirt) and sounded like the work of a manufactured artist. Van Shelton was probably too eager to succeed and too green about the business really to assert himself musically, and the packaging tended to obscure the fact that he was (and is) one of the finest ballad singers ever to hit Nashville, a talent that producer Steve Buckingham now showcases to perfection in "Loving Proof."

Van Shelton mixes such contemporary material as *Swimming Upstream* and *The Picture*, an affecting gem of true hillbilly longing he co-wrote with Troy Seals and Buckingham, with a generous sampling of classic oldies. It's in these that he really proves his mettle. In *He's Got You*, for example, he breaks the song out of its Patsy Cline mold with the vocal leaps and turns of an early-Sixties rocker, but in others, including *Hole in My Pocket*, a remake of Little Jimmy Dickens's 1958 rockabilly jumper, and *Somebody's Back in Town*, a 1959 hit for the Wilburn Brothers, Van Shelton proves more faithful to the original versions, duplicating Dickens's powerful vocal stance and including a note-for-note emulation of Hank Garland's hopping guitar solo. The treatment of both these songs is in the nature of a salute rather than a rip-off, honoring a timeless subgenre of the country idiom.

"Loving Proof" also serves up another oldie whose title just may prophesy Van Shelton's fate. In a velvety-smooth performance of Ned Miller's *From a Jack to a King*, Van Shelton proves that a sure baritone and a healthy Bakersfield-rockabilly approach make one hell of a strong country ticket. If he was no real threat to Randy Travis when he started out, he is one now. Hats off to you, fella. **A.N.**



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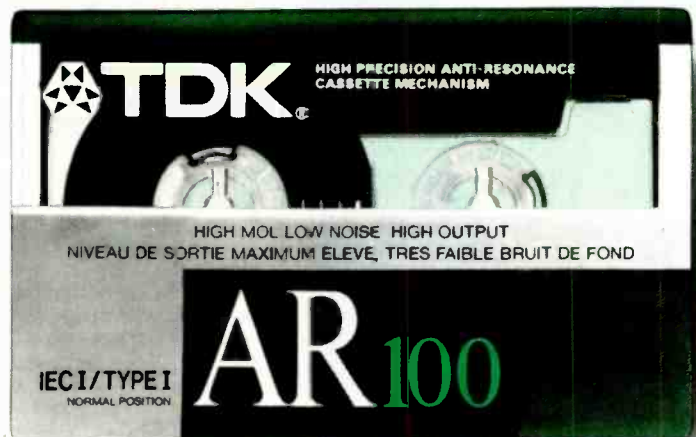
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MICHEL CAMILO. Michel Camilo (piano); instrumental accompaniment. *Suite Sandrine Part I; Nostalgia; Dreamlight; Crossroads; Sunset (Interlude/Suite Sandrine);* and four others. PORTRAIT/CBS ● OR 44482, © ORT 44482, © RK 44482 (44 min).

Performance: *Dazzling*
Recording: *Excellent*

It seems as if Michel Camilo came out of nowhere to dazzle us with his fiery style and extraordinary piano technique, but this young Dominican musician has actually been impressing jazz fans and critics for some time. He has roused audiences at jazz festivals on both sides of the Atlantic, has made records as both a sideman (with saxophonist Paquito D'Rivera) and a leader, and has made his presence felt writing music for movies and television. Now, with his new album on the CBS Portrait label, he is finally stepping front and center, treating many people to their first earful of his considerable creative and technical skills. Indeed, "Michel Camilo" is a splendid, wholesome sampling of music that blends the best of American jazz traditions with south-of-the-border fire. Camilo is José Iturbi with soul and substance, a breath of fresh air on a musical scene that for a while was filled with the studied keyboard tinkles of McCoy Tyner clones. After you've heard Camilo's fingers race across the keyboard, you won't be surprised to learn that it was Art Tatum's music that inspired him to turn to jazz. And he is a gifted composer as well. There is no risk in predicting that we will hear a lot of good music from Camilo in the future. I hope a good portion of it is in the jazz vein. C.A.

Michel Camilo: front and center



CHICK COREA: Akoustic Band. Chick Corea (piano); John Patitucci (bass); Dave Weckl (drums). *Bessie's Blues; My One and Only Love; Sophisticated Lady; Autumn Leaves; Morning Sprite;* and three others (five others on CD). GRP ● GR-9582, © GRC-9582, © GRD-9582 (61 min).

Performance: *Splendid*
Recording: *Excellent*

When Herbie Hancock returns to acoustic jazz, which he does occasionally, it's not without traces of the fusion style that so broadened his audience. Chick Corea, on the other hand, seems to have lost nothing to the fusion style that gave his career a financial, if not artistic, boost. Corea's new "Akoustic Band" is a substantial trio session that strokes my semi-purist's ears with disarming charm. This is not Corea hiding behind lumps of synthesized sound; it's Corea as he ought to be heard, out in the open, playing some of his most striking compositions, including *Circles* and *Spain*, one tune each by Duke Ellington, Johnny Mercer, John Coltrane, and Cole Porter, and (on CD only) a fine version of *Someday My Prince Will Come*. In all, an excellent album. C.A.

MAYNARD FERGUSON: High Voltage 2. Maynard Ferguson (trumpet, flugelhorn); John Toomey (keyboards); Dave Tull (drums); Michael Lufkin (bass); other musicians. *Omaha; Watcha Thinkin'; Star Eyes; Till Then;* and four others. INTIMA/ENIGMA ● 73360-1, © 73360-4, © 73360-2 (43 min).

Performance: *Moderate Maynard*
Recording: *Very good*

The press kit for "High Voltage 2" refers to Maynard Ferguson as a "legendary trumpeter." The tag was presumably attached by a well-meaning promoter to make us bow our heads reverently and perk up our ears, but it made me wince. True, Ferguson has been around for a few years, but legendary he is not. If you are old enough to have followed the jazz scene in the late Fifties and Sixties, you probably remember him as a high-powered trumpeter whose big band generated so much steam that some people thought it obscured the music. It sometimes did, but there were first-class musicians in the band, and that was its saving grace.

Ferguson's current band is a septet called High Voltage. Its members are relatively young, and its sound is a cross between fusion funk and Fifties funk—nowhere near the voltage of old, I'm glad to say. Ferguson was always a good technician, and that facility was fully exploited when he rose to the top thirty years ago. There is still some grandstanding here, and a touch of the balloon-about-to-burst exhibitionism that

marked the work of Harry James, but in the main, this second album with High Voltage shows us a kinder, gentler, more musical Maynard Ferguson. C.A.

KEITH JARRETT: Dark Intervals. Keith Jarrett (piano). *Opening; Hymn; Americana; Entrance; Fire Dance;* and three others. ECM © 837 342-2 (58 min).

Performance: *Okay*
Recording: *Very good*

This concert, recorded in Tokyo in the spring of 1987, marked Keith Jarrett's return to solo improvisation after extended work in the classical repertoire and with his jazz trio. For most of "Dark Intervals" Jarrett seems ponderous, slow to develop melodic fragments. The music is somber and the performances painstaking. The first cut, *Opening*, lasts for nearly thirteen minutes, and the closer, *Recitative*, goes for more than eleven—and in both the pianist is unable to sustain his momentum through to the end. This is not the lyrical, expansive style that characterized much of Jarrett's earlier solo albums. No one can question his technical power, but in this album his imagination seems to lag a bit. R.G.

MARCUS ROBERTS: The Truth Is Spoken Here (see Best of the Month, page 68)

ROSS TRAUT AND STEVE RODBY: The Great Lawn. Ross Traut (guitar); Steve Rodby (bass). *Up on the Roof; Round Midnight; The Great Lawn; The Song Next Door; Old Folks; La La Means I Love You;* and three others. COLUMBIA ● FC 44472, © FCT 44472, © CK 44472 (48 min).

Performance: *Quietly bracing*
Recording: *Very good*

The concept for this album was blindingly simple: Put an electric guitarist and an acoustic bassist—two friends—together in a room by themselves, and let them play music they love. The results are superb. Of course, the two musicians are topflight jazzmen: Ross Traut has performed with the likes of David Samuels and Paul McCandless, and Steve Rodby is a member of the Pat Metheny Group. It also helped that they chose a nice mix of pop and jazz tunes and wrote some fine ones together as well. Capping off the whole project are the wonderfully empathetic performances of the two men. Traut's sweet, decorative guitar is often in the lead, but Rodby's thick, strolling bass is never far behind. They know what these songs have to offer, and together, seamlessly, they extract it all. Traut's got music, Rodby's got rhythm; who could ask for anything more? R.G.

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CLASSICAL MUSIC

Discs and tapes reviewed by Robert Ackart, Richard Freed, David Hall, Stoddard Lincoln, Eric Salzman, and David Patrick Stearns

ALBÉNIZ: Cantos de España, Op. 232; Suite española, Op. 47. FALLA: The Three-Cornered Hat, Three Dances; El amor brujo, excerpts. Ruth Laredo (piano). MCA CLASSICS © MCAC-6265, © MCAD-6265 (65 min).

Performance: *Albéniz better*
Recording: *Vibrant*

Ruth Laredo plays Albéniz with considerable fluency and charm, and she benefits here from sonics of demonstration-class vibrancy. But there is that inescapable Alicia de Larrocha, who always manages to bring such music to life that much more convincingly and to make even the piano reductions of Falla's ballet music not only charming but pianistically irresistible. Laredo strikes me as being more closely competitive with De Larrocha in the Albéniz than in the Falla. The *El amor brujo* pieces, in particular, sound like music Laredo had not quite persuaded herself she really wanted to play, but the first bars of *Granada*, which opens the *Suite española*, take us at once into an atmosphere of utter conviction and no little evocativeness. As recorded here, that suite comprises only the four numbers of the earliest version, but more of the music of the final version is present in the album than might appear to be: Among the four additional pieces added to the suite after Albéniz's death were the *Preludio (Asturias)* and *Seguidillas (Castilla)*, which Laredo plays here in their original positions as the first and last of the five *Cantos de España*. Overall, though, De Larrocha's account of the final, eight-movement version of the Op. 47 suite is superior, and it's included with her stunning recent remake of the complete *Iberia* on London. *R.F.*

BERG: Wozzeck. Franz Grundheber (baritone), Wozzeck; Hildegard Behrens (soprano), Marie; Walter Raffeiner (tenor), Drum Major; Heinz Zednik (tenor), Captain; Aage Haugland (baritone), Doctor; others. Vienna State Opera Chorus; Vienna Boys' Choir; Vienna Philharmonic Orchestra, Claudio Ab-

bado cond. DEUTSCHE GRAMMOPHON © 423 587-2 two CD's (89 min).

Performance: *Gripping*
Recording: *Excellent*

Despite its increasing public acceptance, Alban Berg's *Wozzeck* cannot be called an easy opera. Its tonalities are upsetting, it boasts no "arias," its narrative is depressing, its language is stark. No romance touches its *dramatis personae*. We do not attend a performance or play a recording of it at home to be transported. Yet, by virtue of its invention and intention, it is a monumental work, a work that becomes more immediate and moving with each hearing.

This new Deutsche Grammophon recording is first-rate. Admirably recorded and authoritatively conducted by Claudio Abbado—who approaches much of it, quite rightly, as though it were chamber music—it is a performance by artists who have not only mastered Berg technically but have also imbued themselves with the spirit of his work.

As *Wozzeck*, Franz Grundheber is particularly effective, drawing a powerful characterization from the music and text and, when the music permits, singing lyrically. The part does not have to be unremittingly barked or delivered in a kind of *Sprechstimme*. Hildegard Behrens, surely one of our foremost singing actresses, is undaunted by Berg's tortuous vocal line and creates an entirely credible Marie—pitiable, hateful, vulgar, weak, and vulnerable. Walter Raffeiner's Drum Major, Heinz Zednik's Captain, and Aage Haugland's Doctor are on the same commendable level. Each singer is musically secure in Berg's intricate tonal tapestry, and each evokes strongly a character to which *Wozzeck*, victim both of his environment and of his own limitations, reacts. And the remaining members of the large cast make their contributions to the overall effect of human desolation with similar conviction.

Most important, perhaps, is the contribution of Abbado, who so deftly balances the orchestra and voices, text and musical line, that the performance assumes the dramatic relentlessness and musical richness intended by the composer. The accompanying notes are excellent and will especially be of help to the listener wanting to delve deeper into this complex score.

Perhaps *Wozzeck* is not everybody's opera, but it deserves the careful attention of anyone interested in the art form. And this recording is a fine place to start. *R.A.*

BERLIOZ: La Mort d'Orphée; Scène héroïque; Le Cinq mai, Op. 6; L'Impériale, Op. 26. Soloists; Dutch Radio Choir; Dutch Radio Symphony

Orchestra, Jean Fournet cond. DENON © CO-72886 (59 min).

Performance: *Serviceable*
Recording: *Partly cloudy*

Although these four cantatas range from early to fairly late in the composer's output, they're unmistakably Berlioz. All of the earmarks are there—the quicksilver shifts, the vigorous bass writing, the heroic brass, the collage-like juxtaposition of several musical elements. But, surprisingly, it's the earliest that proves the most satisfying. *La Mort d'Orphée*, written in 1827 for the Prix de Rome competition, is the best thing here. The music is specifically characterized and deeply felt, and the lushly scored opening monologue prefigures the sublime monologue that opens *The Damnation of Faust*. But while it's interesting to hear this early work, it cannot justify buying a full-price CD all by itself. Unfortunately, it's all downhill from there.

It's possible to find seeds of *Les Troyens* in the wild choral writing of the 1827 *Scène héroïque*, written in praise of Greek nationalism, but it still amounts to Berlioz trying out techniques rather than using his rich creativity with the sort of discipline and sense of purpose that mark his major works. The two remaining pieces are more mature but even less interesting. The 1835 *Le Cinq mai*, a eulogy to Napoleon (who died on May 5), and *L'Impériale*, written for the 1855 International Exposition in Paris, are histrionic trifles full of bombast and mock-heroic gestures.

Recorded live, the performances are reasonable realizations of these Berliozian curiosities. While conductor Jean Fournet has a good sense of French style, none of the soloists seems particularly confident or inspired. The recording itself has some nice resonance but lacks transparency during the key climaxes. *D.P.S.*

BERLIOZ: Symphonie fantastique, Op. 14 (see Best of the Month, page 68)

BERNSTEIN: Prelude, Fugue, and Riffs (see COPLAND)

BRAHMS: Violin Concerto in D Major, Op. 77; Academic Festival Overture, Op. 80. Shlomo Mintz (violin); Berlin Philharmonic Orchestra, Claudio Abbado cond. DEUTSCHE GRAMMOPHON © 423 617-4, © 423 617-2 (53 min).

Performance: *Glowing*
Recording: *Demonstration class*

Shlomo Mintz and Claudio Abbado have made some fine recordings together in Chicago, and they seem especially well attuned to each other in this

EXPLANATION OF SYMBOLS:

- = DIGITALLY RECORDED LP
- Ⓢ = TAPE CASSETTE
- Ⓢ = COMPACT DISC (TIMINGS ARE TO NEAREST MINUTE)

handsome account of the Brahms Violin Concerto. Certainly there is no want of commitment here, and there's not a single perfunctory phrase. This is mellow, warmhearted, expansive playing. It reaches a proper glow with the soloist's first entry and maintains it throughout the work. Moreover, while Mintz is focused close enough to make the very most of his sumptuous tone, the demonstration-class recording does not slight the orchestra, whose playing is very much in the same expressive vein. The opening of the slow movement is really eloquent, and while the finale is not allowed to run away with itself, it has plenty of real flair. In short, while this recording may not displace existing favorites, it is a profoundly satisfying version of the concerto. The filler is an even more vital, assured, and smiling performance of the *Academic Festival Overture* than the one Abbado recorded with the same orchestra more than twenty years ago, which makes it altogether one of the best around. *R.F.*

COPLAND: *Concerto for Clarinet, Strings, Harp, and Piano.* **CORIGLIANO:** *Clarinet Concerto.* **BERNSTEIN:** *Prelude, Fugue, and Riffs.* Richard Stoltzman (clarinet); London Symphony Orchestra, Lawrence Leighton Smith cond. RCA ◉ 7762-1-RC, © 7762-4-RC, © 7762-2-RC (56 min).

Performance: *Spectacular*
Recording: *Superb*

These three contemporary American works have been issued previously on CD in stunning performances derived from various analog masters, but this newly recorded collection fully measures up to those formidable predecessors. Richard Stoltzman plays with dazzling agility, articulation, and coloration, Lawrence Leighton Smith and the London Symphony provide superb backing, and the digital sonics are truly state of the art.

The John Corigliano concerto is the most spectacular item. Fashioned in an eclectic contemporary style with a sense of high drama, the work traverses Bartókian territory in the opening movement, touches on Britten in the poignant second movement, and in the last movement employs very nearly every sonic-theatrical device short of electronics available to a composer today. The deployment of winds and brass around the recording space suggests Giovanni Gabrieli (from whom there's a brief quotation), and the timpani on both sides of the stage suggest Carl Nielsen. As an aural experience, particularly with surround-sound playback equipment, the Corigliano is quite an earful, and the scoring for the clarinet is the most wide-ranging in terms of its capabilities that I have encountered to



RICHTER LIVE

SVIATOSLAV RICHTER's new recording of Beethoven's *Diabelli Variations*, just issued by Philips, is another strong argument in favor of live recordings. Richter has made a lot of them by now but perhaps no other as compelling as this one, taped in a recital at the Concertgebouw in Amsterdam in June 1986. We can dispense with most of the concern regarding the sound quality; it is focused as effectively as a studio recording and virtually free of audience noise. I could have done without the applause at the end, and I do think Philips could have eliminated it. What cannot be eliminated in a live situation, however, is the damage to the piano's tuning in the course of a solo work that takes nearly an hour to perform. "Corrections" can be spliced in, of course, and apparently were in this case—smoothly enough to keep most listeners from noticing the seams.

Some may prefer the more straightforward statement of the theme and the first variation in Claudio Arrau's studio recording made one year earlier, also by Philips. But Richter's greater individuality in drawing out that march varia-

tion in a sly caricature is provocative in the best sense, and in the concluding variations his direct, even slightly understated approach may be more persuasive than Arrau's broadening of the tempo: on the one hand, a gesture in the direction of utter simplicity, and on the other, a more overt gesture toward distilling a "spiritual essence" from the music. But a few observations on the beginning and end of the respective performances cannot begin to convey the character or quality of either. Both are profound, stimulating, and richly satisfying explorations of a remarkable work on which no single performance can be expected to give us the last word. Yet Richter's is one performance that seems indispensable, projecting at the same time a sense of individuality and of modesty in the face of the music and its creator, a sense of exploration rather than of manipulation, and the sort of momentum that comes most naturally in the live setting. *Richard Freed*

BEETHOVEN: *Variations in C Major on a Waltz by Diabelli, Op. 120.* Sviatoslav Richter (piano). PHILIPS © 422 416-2 (52 min).



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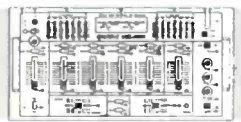
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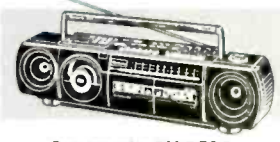


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date. How well this piece will wear over the years compared with the beguiling Copland concerto, not to mention those of Mozart and Weber, remains to be seen, however.

Stoltzman's performance here of the Copland, with its mixture of tropical languor and sassy Stravinskian jazz, lasts about a minute longer than the composer's own recording with Benny Goodman, for whom it was written. It sounds gorgeous here, though, and I particularly like the way the piano obbligato comes through in the later pages.

For the Bernstein work, the complexity of the London Symphony ensemble changes from the strings, harp, and piano of the Copland to a hard-driving swing band comprising reeds, brass, piano, bass, and drums—nineteen players in all. Stoltzman rides over and through the group at a pace marginally faster even than Goodman's in Bernstein's own blistering performance.

I'm not about to give up my earlier recordings of these works, but I can wholeheartedly recommend this release on both musical and, especially, sonic grounds. *D.H.*

CORIGLIANO: Clarinet Concerto (see COPLAND)

F. COUPERIN: Organ Mass No. 1; Organ Mass No. 2. Anthony Newman (organ). NEWPORT CLASSIC © NCD 60041 (69 min).

Performance: *Outgoing*
Recording: *Fine*

Nearly everything Anthony Newman does has a surface brilliance and an ebullient spirit—sometimes to a maddening extent. His performances here of Couperin's Masses for solo organ are done in a very definite style that may not be to everyone's taste. If you believe that solemnity is essential to this music, look elsewhere.

Newman convinces *me*, however, that these are the works of a decidedly unsolemn twenty-two-year-old genius. The often cheerful spirit of his readings is underscored by the bright, open sound of the Fisk organ at the Downtown Presbyterian Church in Rochester, New York. Only occasionally does his playing seem too relentlessly sprightly, but it's hard to fault him too much for that since his fast tempos allow both works to fit on one generous-length CD. *D.P.S.*

DEBUSSY: Preludes, Book II (see Best of the Month, page 70)

FALLA: The Three-Cornered Hat; El amor brujo (see ALBÉNIZ)

HARRISON: Piano Concerto. Keith Jarrett (piano); New Japan Philharmonic, Naoto Otomo cond. *Suite for Violin, Piano, and Small Orchestra.* Lucy Stoltzman (violin); Keith Jarrett



Keith Jarrett: a match for Harrison

(piano); ensemble, Robert Hughes cond. NEW WORLD © 366-1, © 366-4, © 366-2 (51 min).

Performance: *Excellent*
Recording: *Superior*

Lou Harrison, born in 1917, belongs to that generation of olde American eccentric originals. Like John Cage, his friend and sometime collaborator, he was a disciple of composer Henry Cowell and a West Coast native who came to New York. Like Cowell and Cage, Harrison was also influenced by Eastern culture and music.

The Suite for Violin, Piano, and Small Orchestra, written in 1951 for the Ajemian sisters, Maro and Anahid, is in no way an imitation of Oriental music, but it constantly evokes its spirit in a Western context. This utterly delightful work is so unpretentious that, for all its originality and charm, it has been overlooked—along with many other Harrison works—for years.

In 1985, Harrison was commissioned to write a concerto for Keith Jarrett, a pianist more closely associated with jazz than with the rarefied atmosphere of California Orientalism. Yet the match is perfect. The way back to Harrison has been paved, so to speak, by the triumph of minimalism and the new interest in world music. Along with Cowell, Harrison was one of our first musical world travelers, and his works have an extraordinary appeal. Fittingly enough, the Piano Concerto was recorded in Tokyo with the fine Westernized musicians found there, but the suite was recorded in New York with an excellent group of New York studio musicians. Altogether, a recording of extraordinary charm and interest. *E.S.*

HAYDN: Symphony No. 90, in C Major; Symphony No. 93, in D Major. Orchestra of the 18th Century, Frans Brüggen cond. PHILIPS © 422 022-4, © 422 022-2 (51 min).

Performance: *Rugged*
Recording: *Excellent*

Frans Brüggen's vigorous approach to Haydn fits these two particular symphonies perfectly. The rugged effect is

enhanced by the period instruments, which lends the woodwinds a distinctive timbre and brings the bold punctuation of the brass to the fore. You might, perhaps, miss the homogenous sound of the modern orchestra, but the tradeoff is that you hear the inner workings of the music and experience it the way Haydn intended. *S.L.*

MONTEVERDI: Vespers for the Feast of St. John the Baptist. Soloists: Netherlands Chamber Choir; Monteverdi Ensemble Amsterdam, Gustav Leonhardt cond. PHILIPS © 422 074-4, © 422 074-2 (71 min).

Performance: *Articulate*
Recording: *Very good*

MONTEVERDI: Second Vespers for the Feast of Santa Barbara. Soloists: the Sixteen, Harry Christophers cond. HYPERION © CDA 66311/2 two CD's (109 min).

Performance: *Indistinct*
Recording: *Even worse*

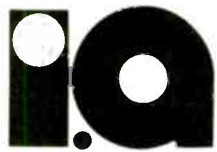
At first glance, these two recordings appear to deliver major new discoveries in Monteverdi's output. On closer examination, however, the music all turns out to be previously known—sometimes *well* known. The *St. John Vespers* on Philips is musicologist Frits Noske's reconstruction of a service referred to in a written account by a Dutch composer who was traveling through Venice in 1620, but the music mostly comes from Monteverdi's 1641 collection, *Selva morale e spirituale*. While there's really no harm in putting these marvelous psalm settings in a liturgical context, it seems a bit audacious to revive the earlier title for what is a rather speculative endeavor.

The music itself is considerably more advanced in style than the famous 1610 Vespers, reflecting Monteverdi's deepening experience as an opera composer. There's no less dramatic contrast than in the earlier work, but the music seems more integrated, less splintered, and the melodies have more character and personality. Gustav Leonhardt's direction is articulate and expressive, the vocal soloists are excellent, and the choir is first-rate.

The so-called Second Vespers for the Feast of Santa Barbara, on the other hand, is the sort of thing that gives musicology a bad name. Operating on some sketchy evidence, Graham Dixon decided that the 1610 Vespers were originally written in praise of St. Barbara, rather than the Virgin Mary, and he has shuffled the pieces around in a way that makes little dramatic sense. He has also cluttered up the work with various ceremonial interludes and, for a sense of liturgical continuity, interpolated a motet by Palestrina that makes no sense stylistically even in a work so diverse.

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but it's really not worth the trouble considering the quality of the performance. I've enjoyed Harry Christophers's previous Monteverdi outings, but his approach this time seems wrong, with tempos that are too slow and ceremonious. Also, many details are blurred by the distant recording perspective, which seems to put you in the rear pew of a large church. *D.P.S.*

MOZART: *Clarinet Concerto in A Major (K. 622); Clarinet Quintet in A Major (K. 581).* Eric Hoepflich (clarinet); Orchestra of the Eighteenth Century, Frans Brüggen cond. PHILIPS © 420 242-4, © 420 24202 (60 min).

Performance: *Well considered*
 Recording: *Good*

Although clarinetist Antony Pay and conductor Christopher Hogwood have produced a revelatory recording of Mozart's Clarinet Concerto on original instruments for L'Oiseau-Lyre, using an authentic basset clarinet, which has a lower register than the modern clarinet, it is superseded by this one featuring Eric Hoepflich, who also plays a basset. He may lack Pay's creamy tone, but his interpretation is more characterized and deeply considered, thanks in part to conductor Frans Brüggen. While Brüggen isn't the most exciting early-music conductor (some of his performances even court blandness), he never records any piece until he has toured with it extensively and thoroughly explored its inner workings. The result here is that even the most incidental strands in the orchestration are inflected with an ear for the total picture.

Mozart's Clarinet Quintet—which, like the concerto, hails from the composer's late period—is a sensible couplet. It was written for the same clarinetist, Anton Stadler, and is also in the key of A Major. Hoepflich's limited tone quality, however, is more exposed against the thinner texture of the four string players, members of Brüggen's Orchestra of the Eighteenth Century, and as a quartet they sound unseasoned, lacking a sufficiently homogeneous sound. Even so, the quintet is preferable to the work usually coupled with Mozart's Clarinet Concerto, his early Bassoon Concerto, a pathetic trifle in comparison. *D.P.S.*

PROKOFIEV: *Piano Sonata No. 7, in B-flat Major, Op. 83; Piano Sonata No. 8, in B-flat Major, Op. 84.* Yefim Bronfman (piano). CBS © MT 44680, © MK 44680 (48 min).

Performance: *Very good*
 Recording: *Warm*

Yefim Bronfman has been a frequent recital and recording partner of Shlomo Mintz, and their most recent joint release happens to be a surpassingly fine Deutsche Grammophon recording of the two Prokofiev violin sonatas. His new CBS record of two solo sonatas is

not quite so all-surpassing—not while DG has its handsome CD transfers of Richter's extraordinary account of No. 8 and Pollini's uniquely powerful one of No. 7 in circulation. Both go a little deeper below the surface than Bronfman, both are even more dazzling with their faster speeds in the respective finales, and DG's analytically clear analog transfers serve the music more effectively than CBS's warmer, more diffuse sonic focus. Still, Bronfman makes a very good showing here. He is really inside the music, and if the coupling of the two sonatas should appeal to you more than the alternatives on DG, you certainly won't be disappointed. In any event, I do hope CBS will continue through the Prokofiev sonatas with Bronfman; right now he'd have a clear field for No. 9 and most of the earlier ones. *R.F.*

RIMSKY-KORSAKOV: *Symphonies: No. 1, in E Minor, Op. 1; No. 2, Op. 9 ("Antar"); No. 3, in C Major, Op. 32. Russian Easter Festival Overture, Op. 36; Capriccio espagnol, Op. 34.* Gothenburg Symphony Orchestra, Neeme Järvi cond. DEUTSCHE GRAMMOPHON © 423 604-2 two CD's (126 min).

Performance: *First-rate*
 Recording: *Very good*

Once again the indefatigable and versatile Neeme Järvi has undertaken one of his all-embracing orchestral surveys—this time of the Rimsky-Korsakov symphonies, with a pair of his popular shorter works thrown in as a bonus. (Another bonus here, by the way, is the excellent and highly informative annotation by Richard Taruskin.) The composer completed all three of the symphonies before he was thirty, but by the time he got to No. 3 he had "gotten religion," having accepted an invitation to join the theory and composition staff of the St. Petersburg Conservatory. Since at the time he knew considerably less about the craft of composition than did most of his students, all of the symphonies subsequently underwent thorough revision. The First was redesigned as a vehicle for student ensembles, and as such it is agreeable stuff, with a touch of Schumann in the first movement and a bit of folk-derived orientalia in the second. The two final movements are fairly faceless, with touches of Glinka here and there.

Rimsky's Second, or *Antar*, Symphony is stronger, a programmatic work that, when well performed in the right edition, seems a worthy precursor of the composer's great *Scheherazade*. The symphony was overhauled no fewer than three times, the last being a publisher's compromise in 1903 between versions dated 1880 and 1897. The posthumously published 1897 version is favored and has been recorded in the U.S.S.R., but most non-Russian recordings have used the 1903 compromise. Järvi here gives us the 1897 score in a

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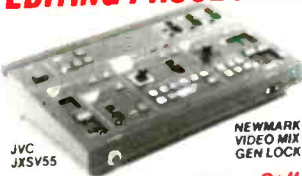
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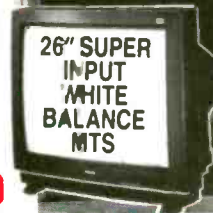
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60	Adcom	2
30	Advent	69
9	Alpine	15
58	API-Energy	87
45	API-Mirage	71
157	Cambridge SoundWorks	10-11
	Carver	13, 19
	CBS Columbia House-CD Club	16-17
18	Coustic	79
8	Coustic	81
98	Coustic	83
	Crutchfield	78
	Delco Electronics	33
71	Discount Music	94
1	Electronic Wholesalers	95
58	Energy	87
70	Hills Products	82
	Illinois Audio	93
30	Int'l Jensen-Advent	69
39	J&R Music World	90-91
2	Klipsch	37
52	Luxman	22
25	Maxell	7
29	McIntosh	41
45	Mirage	71
	Onkyo	26-27
	Perfectbound Press	82
	Philips	Cover 2, 1
	Philip Morris-Merit	Cover 3
89	Pioneer-Home	21
90	Polk Audio	8-9
93	Proton	66
	Radio Shack	72
	RCA-BMG Direct	24 a, b
	R. J. Reynolds-Camel	39
	R. J. Reynolds-Magna	31
	Seagram's	35
103	Sherwood	75
105	Signet	74
106	Sony	4-5
119	TDK	85
	Wisconsin Discount Stereo	97
	Yamaha	Cover 4

JULY

definitive performance full of passion and urgency.

The Symphony No. 3, despite its pleasant folkloric overtones, is still fairly academic though by no means unpleasing. It is when Järvi and the orchestra cut loose with a resplendent *Russian Easter Overture* and a sizzling *Capriccio espagnol* that we learn the difference between a near miss and a genuine masterpiece. At all events, we can be grateful to the Gothenburg Symphony, its conductor, its fine concert hall, and Deutsche Grammophon's expert production team for a fascinating package of Russian music and history. *D.H.*

SCHUMANN: *Waldszenen, Op. 82; Kinderszenen, Op. 15; Piano Sonata No. 1, in F-sharp Minor, Op. 11.* Vladimir Ashkenazy (piano). LONDON © 421 290-2 (74 min).

Performance: *Lovely Waldszenen*
Recording: *A little clattery*

Schumann's *Waldszenen*, curiously, has not been offered in stereo on CD until now. It is gratifying to have that gap filled by a performance as thoroughly satisfying as Vladimir Ashkenazy's. This is perhaps not one of Schumann's absolutely greatest masterworks, and there is no effort on Ashkenazy's part to make it into something grander than it is; his straightforward, unaffected approach is just what serves the music best. His freer, more overtly eloquent response to the big Op. 11 sonata is quite in order for that work, but I'm not sure his performance here will wear as well as some others. For instance, Maurizio Pollini's 1973 recording of the sonata on Deutsche Grammophon, very handsomely transferred to CD, takes an aristocratic approach to the work that happens to suit it especially well.

Kinderszenen, of course, is one of those works one can hardly avoid duplicating, and just as well, for Ashkenazy seems off his form here—not technically, to be sure, but interpretively. The more animated sections struck me as downright dull, though there is a glimmer of poetry in some of the more ruminative ones (including a very tasteful *Träumerei*). London's piano reproduction is generally good, though a little clattery here and there. *R.F.*

SHOSTAKOVICH: *Symphony No. 7, in C Major, Op. 60 ("Leningrad").* Leningrad Philharmonic Orchestra, Mariss Jansons cond. EMI/ANGEL © CDC 49494-2 (69 min).

Performance: *Stunning*
Recording: *Excellent*

Shostakovich and his music have been subject to several episodes of condemnation and "rehabilitation" in his own country and, on a less dramatic scale, in ours as well. His Seventh Symphony received enormous attention when it was new, as a symbol of heroic determi-

nation on the part of an entire nation that was then our ally, but it quickly went out of favor. The work's rehabilitation here began when Leonard Bernstein performed it in New York in 1962, and now it seems to be edging its way into the general repertoire.

This new recording is a stunning account of the *Leningrad* Symphony from the great orchestra of the "Hero City" itself, superbly recorded by EMI in the Oslo concert hall in which Mariss Jansons has built so impressive a reputation with the Oslo Philharmonic over the last few years. As usual with Jansons, the tempos are brisker than what we might regard as the norm, and in this sprawling work that can be a decided plus: His reading conveys a very convincing urgency and tension. The slow movement might remind us of Solomon Volkov's report that Shostakovich regarded his Seventh and Eighth Symphonies as his "requiem," but what is most pertinent is how well this big piece can work simply as a symphony. It works very well indeed in this performance. *R.F.*

COLLECTION

MONTREAL SYMPHONY: *Fête à la française.* Chabrier: *Joyeuse marche; España.* Dukas: *The Sorcerer's Apprentice.* Satie: *Two Gymnopédies.* Saint-Saëns: *Samson et Dalila. Air and Bacchanale.* Bizet: *Jeux d'enfants.* Thomas: *Raymond, Overture.* Ibert: *Divertissement.* Montreal Symphony Orchestra, Charles Dutoit cond. LONDON © 421 527-4, © 421 527-2 (70 min).

Performance: *Classy*
Recording: *Luminous*

Charles Dutoit is one of the few major conductors who truly enjoys "light classics" and isn't afraid to record such music. This particular collection of French lollipops is so suave and stylish that it's miles above similar collections. In fact, Dutoit's performances here are quite the opposite of those by extroverts like Arthur Fiedler. Dutoit is more like Sir Thomas Beecham, and he approaches even *The Sorcerer's Apprentice* as a valid piece of concert music rather than as the soundtrack of a Disney cartoon. In Dutoit's hands, nothing seems schlocky or kitschy. But while Beecham could convince you, however temporarily, that this kind of music is great, Dutoit only convinces us that it's engaging. There isn't quite the meticulousness of his other Montreal recordings—or the heart.

In any case, these clean, beautifully engineered performances offer much to enjoy. Chabrier's *España* is full of colorful masterstrokes, the Bizet has a lean, tight sparkle, and the Montreal strings have a sheen that makes the *Raymond Overture* seem more substantial than it is. Best of all is the Ibert *Divertissement*. Dutoit and company have a grand time with this comic piece. *D.P.S.*

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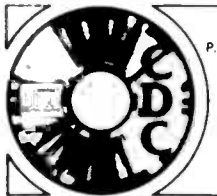
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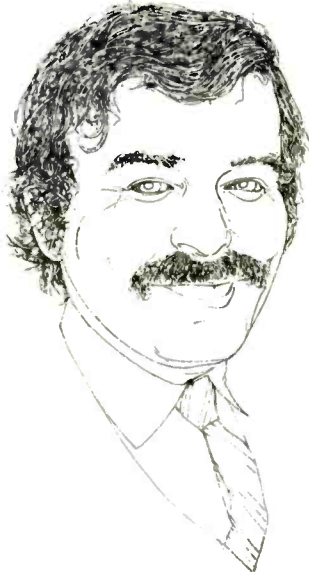
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V15 TYPE IVMR .79

by Ralph Hodges



SIX-INCH OVERACHIEVER

MANY audiophiles do not care much for the component size and expense entailed in truly big bass response. Not a few of them have found rationalizations for all but ignoring deep low frequencies, often asserting that show-off sonics are not what high fidelity—or at least *their* high fidelity—is all about. But breathes there a single one of us whose attention is not grabbed when something goes off with a stentorian, convincingly subterranean boom or roar? And are we not intrigued when that something turns out to be itsy-bitsy, appearing to have no business hanging around major acoustical events? If you answered “No” and “Yes,” perhaps a new Yamaha line of powered speaker systems has something for you.

The system I have in mind here is the diminutive AST-S1, which comes in pairs with the companion AST-A10 power amplifier for \$1,200 a set. The “woofer” of the S1 has an effective diameter of barely 5 inches. Its vented enclosure, which fits easily under one arm, has a prominent but very small circular port. Altogether, it hardly promises great things, but it can achieve au-

thentically flabbergasting results, and the amazement doesn't wear off even after some of its limitations have been uncovered.

A technical description of the Active Servo Technology, or AST, concept of amplifier/speaker interaction is available from Yamaha, but I don't find it especially illuminating. It has a good deal to say about modeling loudspeakers with electronic circuit analogs, a technique that has proven useful over the years without quite having become a precise science.

In essence, what Yamaha has aimed at is the neutralization of certain components of loudspeaker impedance, including static voice-coil resistance and, to some degree, back electromotive force, by application of what might be called a sort of “anti-drive” originating within the amplifier via feedback and servo circuits. If you find all this a little difficult to grasp, I can sympathize. If you find it suspiciously similar to the long-familiar motional-feedback techniques used in many past and a few present speaker systems, it isn't quite. The operation of the Yamaha AST system is totally electronic, with no sensing transducers employed, and it attempts to go somewhat beyond the mere adjustment of amplifier gain.

Theory aside, what are the benefits Yamaha claims to reap? They all have to do with improving the drive characteristics of the associated speaker. First, nullifying the voice-coil resistance is said to offset some of the thermal and other losses heretofore inevitable in amplifier-loudspeaker energy transfers. Second, it greatly increases the damping factor of the system, allowing the amplifier to act as a much more effective electronic brake on the voice coil.

It is the second benefit that receives most of Yamaha's emphasis, and it is tied in quite interestingly with the choice of a vented speaker design. The idea is that vented speakers have never realized their full potential because energy from the port has been deficient—deficient because the driver itself has been lossy, passing acoustical energy out through its diaphragm (which is more or less acoustically

transparent at low frequencies) before the port has had a chance to get involved with it. With an increase in damping factor, however, the diaphragm is commensurately stiffened, passing less energy out prematurely. Yamaha states that with AST, the woofer actually approaches the stiffness of the speaker's particle-board enclosure walls.

Truly there is much to marvel at here, but words are cheap. Only performance counts. When I first set up the AST system, being a thoroughly civilized audiophile, I promptly attempted to break it. I almost did, but I came nearer to breaking myself and sending my wife back to mother as well. Yet as I contemplated various bass-drum and pipe-organ cataclysms, awaiting God's certain punishment for this berserk behavior, I began to feel that the special character of each individual instrument was being preserved in a rather distinct way and that a subtle muddling effect was conspicuous by its relative absence. This impression carried over to more reasonable sound levels, where the virile, singing thrum of string-bass choirs seemed to adhere more strictly to the written musical lines than I was used to, and individual beats of the timpani were less lost in the general acoustical clutter of crescendos.

Good news all. A few informal measurements made later, however, altered the picture a bit. At 30 Hz, where the output of the little AST-S1 was certainly usable, the second harmonic was down only 6 dB relative to the fundamental (commendably, it did not appear to increase at somewhat higher levels). In several response curves the classic double hump of a vented enclosure seemed to emerge. What did not emerge was a fleeting coloration at a somewhat higher frequency that I had become convinced was real. It may have corresponded to the frequencies at which the AST process is phased out (it only functions up to about 200 Hz), or it may not have.

These slapdash tests notwithstanding, I remained generally pleased when I went back to listening. The system is agreeable, extraordinarily potent, and probably destined to solve many more problems than it causes. □

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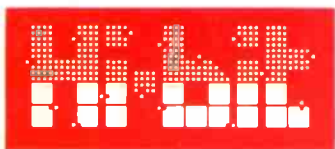
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