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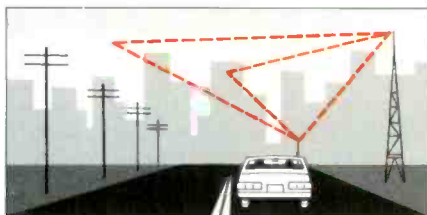
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HIGH FIDELITY™

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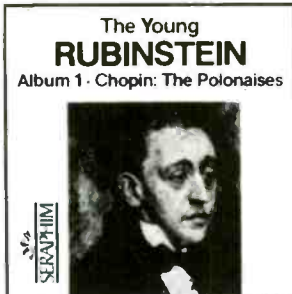
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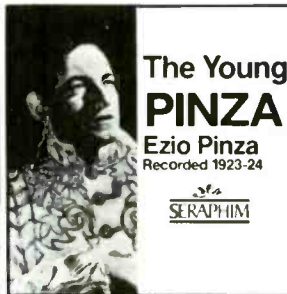
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There are still more features that help the Technics SL-6 perform so impeccably. A precision direct-drive motor. Sensors that automatically select the correct playing speed.

Our patented P-Mcun: plug-in cartridge system delivers optimum tonearm/cartridge compatibility along with simplified cartridge installation.

And all of this technology has been neatly placed in a turntable about the size of a record jacket.

Accuracy, control and musical pleasure beyond the conventional. The Technics SL-6 Programmable Linear Tracking Turntable. Just one of the sophisticated and "intelligent" turntables from Technics.

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About This Issue

Inside the pages of November's High Fidelity

QUALITY REPRODUCTION OF MUSIC.

That's what high fidelity systems are all about, and this month we're focusing on several areas where new technologies are bringing us continually closer to this elusive goal.

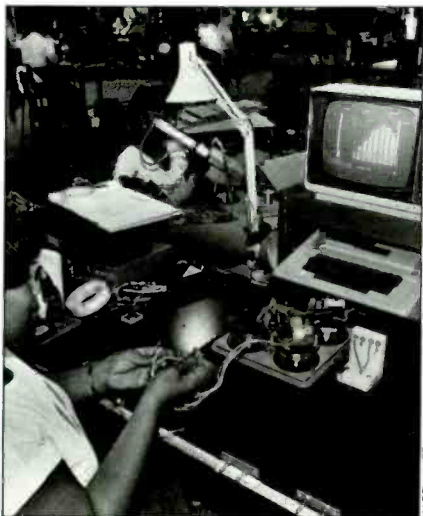
Many of us come into contact with computers almost daily. In industry, computer-aided design and manufacture (CAD/CAM) are becoming commonplace. So it should be no surprise that many of today's best-sounding speakers have benefited from the involvement of a computer along the way.

For example, in the design stage, a computer's ability to perform very complicated calculations quickly has made feasible a procedure called impulse-response analysis, which is particularly revealing of how speakers will perform with music. And on the assembly line, a device called a real-time analyzer makes it possible to check key components for accuracy. Peter Mitchell spells out this process in "Loudspeakers and Computers: The Quiet Revolution." You'll also find test reports on several computer-designed models.

If you've ever been to a movie theater that uses Dolby surround-sound, you may have wondered if you could get a similar effect from your video setup. In fact, many videodiscs and prerecorded videocassettes do contain the necessary encoded signals for the surround channel, which can be extracted with one of the special decoders now available. Or, as Ralph Hodges points out in "A New Dimension for Video Sound," you can make your own simple, inexpensive decoder.

Video is becoming increasingly involved with music; now there is even video programming with stereo sound being transmitted via satellite. These transmissions, as well as those of almost two dozen FM stations, can be received by backyard satellite dishes, a process described by William Mowrer in "Satellite Stereo Now!" He also points out that four different encoding methods are used, so you'll need the correct decoder as well. Also in the NEW TECHNOLOGIES we report on the first portable Beta Hi-Fi videocassette recorder.

Our classical music coverage this month centers on David Hamilton's comprehensive treatment of recent reissues of historic Wagner recordings. In BACKBEAT, Steven X. Rea talks with Carly Simon about her new album, "Hello Big Man."—W.T.



Computer testing at Polk Audio



COVER DESIGN: Skip Johnston

Cover Photo: Ronald G. Harris

ON THE COVER: Laser Interferometry and computer processing enabled the designers at Celestion to produce this visualization of the diaphragm movement of the SL-6's bass/midrange driver.

Carly Simon: Photo by Walter McBride/Retna

audio-talk from
audio-technica

Number 9 in a Series

Two is Perfect!

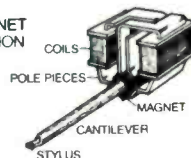
Two is Perfect!

Getting two signals from the single groove of a stereo record is the job of the magnet/coil structure inside the stereo phono cartridge. The stereo signals are recorded at 90° to each other, and at 45° to the surface of the record. Each groove wall has its own recorded pattern intended to be sensed independently of the other.

The Crowded Single Magnet

In ordinary moving magnet cartridges, a single magnet is located at the end of the stylus cantilever. Packed tightly around it are two pairs of pole pieces. Each pair senses the changing magnetic flux as the magnet is moved in response to the stylus motion from "its side" of the record groove. But because the pole pieces must be very close to the magnet to sense the changes, they must also be very close to each other.

SINGLE MAGNET
CONSTRUCTION



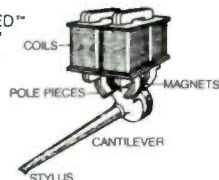
A Problem to be Solved

Audio-Technica engineers noted the crowding, with its danger of electrical crosstalk which could reduce stereo separation. They were also concerned with minimizing magnet size, but a single magnet had to be large enough to accommodate both pairs of pole pieces. And then they found a better way.

The A-T Solution

Their response was to create the unique Vector-Aligned™ magnet structure exclusive to Audio-Technica cartridges. By using two very small magnets, aligned to mirror the geometry of the original recording cutter, they eliminated the crowding, reduced the moving mass, and improved both stereo separation and high frequency response. The magnets could be located just in front of the pivot point, further reducing moving mass and greatly increasing the overall stiffness of the assembly.

VECTOR-ALIGNED™
DUAL MAGNET™
CONSTRUCTION



In our next column we'll discuss in detail why two magnets is the ideal number for stereo reproduction.

Good listening.

Jon R. Kelly
Jon R. Kelly, President

Audio-Technica U.S., Inc.
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—Reese Haggott,
Executive VP/General Manager
Alpine Electronics of America

Anyone who knows audio will tell you there's something special about the way Alpine Car Audio and Luxman High Fidelity products perform. And in the way they look. And even a difference in the way their controls feel when you touch them.

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You see, Alpine Car Audio and Luxman High Fidelity components are available only at a select number of dealers: Audio specialists, whose performance standards are as selective as those which we set for ourselves.

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Which is why your Alpine/Luxman dealer will go out of his way to treat you like a valued client, instead of a customer.

And why he'll work with you to

help design the Alpine Car or Luxman High Fidelity System that's exactly right for your particular listening environment.

And why he'll also go to the time and effort to install your system so that it performs to your expectations.

And why he'll make himself available to answer any question along the way.

If you have a question or an idea you'd like to share, please get in touch with me at 1-800-421-2284.

The way we look at it, we want you to feel good about Alpine/Luxman products.

And those of us who bring them to you.



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Letters

Fix It in the Mix

There has been comment in HF and elsewhere on the limitation of Compact Disc fidelity by deficiencies in microphone response. E. Brad Meyer ["Sound Views," July] says that wholesale replacement of existing microphones isn't cheap, but that the process has begun.

A solution that may be cheaper and readily available suggests itself when one reflects on what Peter Dobbin says in "European Report" [July]: "Even on an hour-long CD . . . there is lots of room left over for additional information." One might hope the "subcode recording standards" now being developed by Philips and Sony will provide for the inclusion of a digitally encoded transfer function for each channel. This could be done by playing a test generator signal from the stage and passing it through the microphones as well as all other elements of the recording system in the same manner as the music.

Retained as part of the subcode information on CD and inaudible to the listener, this transfer function could be used either by the disc manufacturer to flatten the response in the digital domain (so that no distortion is introduced) or by the listener to adjust the response with a digitally controlled equalizer. Such codes could be included at the start of each CD track. Ambience adjustments for dry-sounding studio and multitrack mixes could be handled by the same transfer function, which incidentally would include any preemphasis applied in the recording medium. All automatic adjustments could be overridden by multiplying the recorded transfer function by

a function created by the user, which could be punched or dialed in at the console.

Arthur Setteducati
El Cerrito, Calif.

It seems a little Rube Goldberg-ish to us, but it might do some good on recordings using a few distantly placed microphones. On a multitrack recording, you would need separate transfer functions for every track, which couldn't be carried over to a two-channel CD. And the frequency response of the loudspeaker used for the test signal would have to be known precisely.—Ed.

Finding Four-Channel

George Glowacki's letter ["CrossTalk," June] reminded me of the problems I had finding quad equipment. Good places to look are pawn shops or audio repair shops. Most of my equipment is used, and I can't complain.

A lot depends on your record or tape collection. CD-4 gear is especially hard to find, but well worth the effort. If you have Q-8 tapes, you will do well with a Q-8 recorder, but otherwise I would suggest a four-channel open-reel deck. Models are available from both Teac and Akai. I use an old Sansui QD-5500 for four-channel recording, along with a Technics SA-6000X quad receiver, a Panasonic EPC-4500II CD-4 cartridge, and a Panasonic SE-405H CD-4 demodulator. The receiver decodes SQ, QS, and RM matrix discs. I also have a Sansui QS-100 rear-channel amp with a built-in QS decoder and a JVC 4-DD5 CD-4 demodulator.

A good source for equipment (new and used) and records (new and cutout) is Quad Incorporated Enterprises, P.O. Box 19, Capron,

Va. 23829. It publishes a newsletter and a record catalog. And quad records are still being made, as are quad videodiscs and tapes.

Steve Wudtke
Sarasota, Fla.

See also our review of the Fosgate 101A Tate-II surround-sound decoder on page 36.—Ed.

Change of Address

I am awestruck by the performance of my Pioneer SX-550 receiver and PL-2 turntable. Recently word reached me that Pioneer had merged with another company. Is this true? With whom did it merge, when, and why?

D.J. Kurttila
La Habra, Calif.

About a year and a half ago, Pioneer folded its East Coast home-audio division, U.S. Pioneer Electronics, into its West Coast car-stereo operation, Pioneer Electronics of America, creating Pioneer Electronics (USA), Inc. This was done to streamline the company's U.S. marketing organization. Pioneer Video remains in New Jersey; both are subsidiaries of Pioneer Electronics Corp. of Japan.—Ed.

Low-Profile Clamp

In your March issue ["Letters," page 6], Ed Scheer asked if there were a record clamp he could use on his Yamaha PX-2 turntable with the dust cover closed. He should try a Nagaoaka Discover, which is less than 1/2 inch high. I have found it to be as effective as the Pod.

David Chapman
Brantford, Ont., Canada

Puzzle Solved

I enjoyed Will Crutchfield's "Verdi Performance" article [June] very much, but I'm puzzled by one thing. I would like to read his larger article, which, as noted there, has appeared in the July issue of *19th Century Music*. I have looked through all kinds of reference books for an address for this journal but have turned up nothing. Can you help?

Robert L. Owen
Tulsa, Okla.

19th Century Music is an academic journal published three times a year by the University of California Press. The editorial address is University of California at Davis, Davis, Calif. 95616; the subscription address, University of California Press, Berkeley, Calif. 94720.—Ed.

Digital Radio?

With the growing popularity of digital record and tape equipment, will we ever see (and is there a demand for) a system to transmit and receive digital radio signals?

Daniel Beroff
Bridgewater, N.J.

Possibly. See "A New Era for Radio?" on page 61 of last month's HF.—Ed.

Letters should be addressed to The Editor, HIGH FIDELITY, 825 7th Ave., New York, N.Y. 10019. All letters are subject to editing.

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Discover the incredible accuracy of Sennheiser HD 420 Open-Aire® headphones. By combining exotic materials with advanced electroacoustic technology, we've done for personal listening what our world-famous studio microphones have done for professional recording. In a new ultra lightweight design surpassing even the performance of the HD 420s predecessors (which were also top-rated and rave-reviewed). With improved transient characteristics. Smoother, more extended response. Clarity surpassing even the most expensive speakers. And comfort so great, the only thing you'll feel is the music.

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A feast for the power hungry.

If you're hungry for a sound system with enough power to register on the Richter scale, here's some food for thought. Kenwood introduces the new BASIC series. Components so technologically advanced, they can be appreciated by serious audio enthusiasts, yet afforded by anyone.

Consider. The BASIC M2 stereo power amplifier. At 220 watts per channel min RMS, both channels driven at 8 ohms from 20Hz to 20kHz with no more than 0.004% THD, it has power to spare. However, with Kenwood's unique Dynamic Linear Drive circuitry, you have the option to not use its vast power reserves, without interfering with tonal quality at low volume.

This unit is so sophisticated, it even corrects for problems that originate in the speakers. With Kenwood's Sigma Drive, the M2 compensates for distortion caused by electrical current generated by speaker cone movement. Granted, this distortion is infinitesimal. But, we figure that audiophiles will appreciate absolute precision control of speaker cone excursion.

As a stereo buff, it's important to have your amplifier combined with units that are not only compatible, but equally demanding of sound perfection. Take a look at the BASIC C1, a preamp engineered to match the high standards of the M2 exactly. With tremendous sensitivity to highs and lows, it delivers even the most dynamic source material clearly and smoothly.

Complete your BASIC system with the T1 tuner. At all times, in all conditions, its precision automatic electronic tuning brings in crystal clear reception.

Individually, the BASIC components offer performance,



refinements and engineering exceptional to the field of stereo electronics.

Together, they offer a sound experience that conventional systems haven't begun to approach.

If you're truly serious about your hunger for power, check into the new Kenwood BASIC series.

It will more than satisfy your appetite.



Kenwood's BASIC T1 stereo tuner and C1 preamp are also perfectly compatible with the M1 power amp pictured here.

KENWOOD

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Thanks Koss for the most relaxing part of the day. Because there's nothing quite as soothing and refreshing as listening to your favorite music through Koss stereophones. It's a personal and private listening experience that lets you tune out what you don't want to hear and totally relax to what you do want to hear. And unlike speakers, Koss stereophones mix the music right in your head instead of on the walls of your living room.

Pick up a pair of famous Koss PRO/4X stereophones on the way home tonight. Then put on your

favorite recording, loosen your tie and say: "thanks Koss." With the Koss PRO/4X's remarkable frequency response range of 10 Hz to an incredible 40,000 Hz, everything will sound better and more beautiful than you ever dreamed it could.

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High Fidelity News

New equipment and developments



Getting in Phase

If you're often involved in hooking together complex audio systems, public-address systems, or recording-studio set-ups, you might want to investigate the Model 500 Phase Checker (\$429) from Sounder Electronics. The two-piece system consists of a pulse generator and a polarity detector. In use, the positive-going waveform created by the pulse generator is reproduced through the audio system, and LEDs on the microphone-equipped detector light up to indicate the polarity of the reproduced sound. Since the pulse generator has a built-in speaker as well as line-level outputs, you can also use it to check microphone phasing. For more information, write to Sounder Electronics (21 Madrona St., Mill Valley, Calif. 94941).



A Player for Pros

Though not many of you will want to run out and buy a \$7,000 professional Compact Disc player, we thought you'd like to see the model that Denon is selling to radio stations. The DM-3000F earns its professional status by virtue of a rugged transport mechanism, modular internal components that simplify repair, and a souped-up tracking

mechanism that permits random access to any track in less than four seconds (entering elapsed time information in addition to the track number reduces that to less than two seconds). In addition, a special cueing control (the oversize dial on the center of the unit's top panel) permits note-by-note stepping for ultraprecise cueing. A Denon spokesman says that future versions of the player will have an industry-standard RS-232C computer interface that will provide remote access to all of the player's control and display functions. There's even talk of modifying the interface to allow direct access to the disc's digital information; such capability would enable specially produced CDs to control automated machinery or download data into computers.

AM Stereo Hits a Roadblock

The 71 AM radio stations that have bought stereo broadcasting equipment from the Harris Corporation received the bad news in late August: The FCC had ordered Harris to halt production of its STX-1 exciter and to notify its customers to cease broadcasting with it. According to the FCC, the exciter differed markedly from the unit approved by the commission a year ago and therefore could no longer be considered to have earned type acceptance.

Harris must now reapply for FCC type acceptance, a process that can take as long as three months. If the FCC rules that the company must modify the exciter, the approval process could take much longer. Of the five contenders in the stereo AM race, only Harris and Kahn have actually shipped transmitting equipment.



Utterly Deluxe from Revox

You can spend less for a tuner—a lot less, in fact—but if you have \$1,500 to spare, Revox's B-261 might well prove hard to pass up. The unit's 20 FM presets will store

the desired reception mode (stereo, high blend, or mono) along with station frequency and call letters. And unlike tuners that lose their memorized settings when deprived of power for long periods, the B-261 uses erasable read-only memory chips that hold data indefinitely. The unit has a seven-digit, liquid-crystal display that shows a station's frequency and call letters, and separate controls let you adjust the signal thresholds for stereo reception and muting. Especially nice is the optional remote control, which will operate all tuner functions and switching. The same remote control also works with Revox's matching B-250 integrated amplifier, B-791 and B-795 turntables, and B-710 cassette deck. For more information, write to Studer Revox America, Inc. (1425 Elm Hill Pike, Nashville, Tenn. 37210).



Interplay from Mitsubishi

The latest model in Mitsubishi's new series of Interplay compacts, the Z-40 (\$550), contains a vertically oriented, linear-tracking turntable, a 35-watt (15½-dBW) receiver with seven AM and seven FM station presets, a cassette deck, and two bass-reflex speakers. All switching and control operations can be accomplished via a wireless remote control. In this photo of the Z-40, the turntable is hidden by the front display panel, which folds down to allow access to the platter. For more information, write to Mitsubishi Electric Sales America (3030 E. Victoria St., Rancho Dominguez, Calif. 90221).

Scratch Fixer?

A surface treatment used to reduce friction between metal parts, Microlon has been sold to machine-tool operators and the like for some 20 years. An accident that caused some of the fluid to drip onto a much abused old LP, however, suggested still another application for the lubricant. The chairman

AUDIOPHILE FILE™ XL-S

GREATER DYNAMIC RANGE

Maxell XL I-S and XL II-S are the ultimate ferric oxide cassette tapes. Precision engineered to bring you a significant improvement in dynamic range.

XL I-S provides exceptionally smooth linear performance characteristics with high resolution of sound and lower distortion.

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How did we achieve this?

IMPROVED EPITAXIAL PARTICLES.

Maxell engineers have managed to improve the Epitaxial magnetic particles used on both tapes.

By developing a crystallization process that produces a more compact, smoother cobalt ferrite layer on the gamma ferric oxide core, they've been able to pack the particles more densely and with greater uniformity on the tape surface.

This increases maximum output level and reduces AC bias noise which in turn expands the dynamic range.

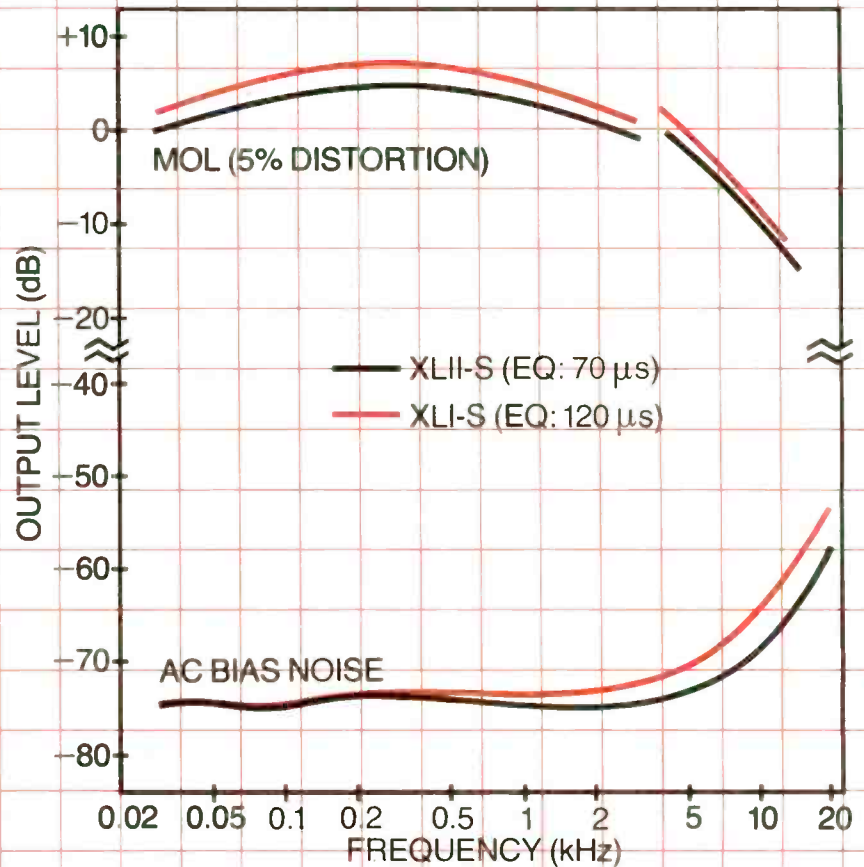
IMPROVED EPITAXIAL PARTICLE CHARACTERISTICS:

MORE UNIFORM COBALT-FERRITE LAYER | SMOOTHER PARTICLE SURFACE

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COATING THICKNESS: 10-11A (1A = 1/10,000,000 mm)



So you get a better signal to noise ratio, greater resolution of sound and higher output levels.

Of course, greater dynamic range isn't the only reason to buy Maxell high bias XL II-S or our normal bias equivalent XL I-S.

Both tapes have more precise tape travel and greatly reduced distortion levels.

You'll see both these improvements covered in detail in future Audiophile

Files. In the meantime, we suggest you listen to them.

For technical specification sheets on the XL-S series, write to:

Audiophile File, Maxell Corporation of America, 60 Oxford Drive, Moonachie, New Jersey 07074.



IT'S WORTH IT.

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of Microton claims that the stuff made the record sound like new. Marketed under the name Scratch Fixer, a two-ounce bottle of the fluid costs \$7.95. You can write to Microton for more information (P.O. Box 1529, San Marcos, Tex. 78666).



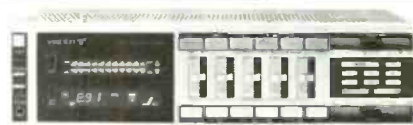
Have Speaker, Will Travel

Designed for the professional musician who needs a relatively lightweight speaker that can roll with the punches, the 36-pound S-200 from Electro-Voice is said to be virtually indestructible thanks to its molded plastic cabinet. E-V says the two-way system can produce sound-pressure levels in excess of 120 dB (measured at 1 meter on axis). It uses the company's proprietary Controlled Directivity loading system for broad audi-

ence coverage (100 degrees horizontal and vertical) from 500 Hz to 10 kHz. The system has a rated frequency response of 90 Hz to 18 kHz, ± 3 dB, and low-frequency output can be increased with an optional external equalizer. E-V offers two S-200 loudspeakers and the equalizer at a system price of \$1,300; purchased individually, each speaker costs \$590; the equalizer, \$150. For more information, write to Electro-Voice, Inc. (600 Cecil St., Buchanan, Mich. 49107).

Cables for Connoisseurs

While the debate over the sonic advantages of specially designed speaker and interconnect cables rages, manufacturers such as Monster Cable continue to refine their unapologetically expensive wares. A one-meter pair of Interlink Reference connecting cables, for example, sells for \$80, but offers—according to Monster Cable—“absolute coherency of frequency and phase response over the entire musical spectrum.” The cables have a thick conductive core surrounded by four intermediate-size conductors and hair-thin tightly-woven stranded wires. Write to Monster Cable Products (101 Townsend St., San Francisco, Calif. 94107).



Scott's Top Receiver

H.H. Scott's 379RS receiver seems loaded for bear. The unit offers 14 station presets (seven AM and seven FM), signal-strength, power-output, and center-tuning displays, as well as switching for two pairs of speakers and two tape decks. The \$470 receiver is also equipped with a five-band graphic equalizer and has a rated power output of 70 watts (18½ dBW) per channel. For more information, write to H. H. Scott, Inc. (20 Commerce Way, Woburn, Mass. 01888).

A Plus for Dishwasher

With the introduction of D4+ fluid, Discwasher continues its tradition of constantly improving its highly regarded record-cleaning system. Discwasher says that the new formulation was designed with the new high-quality vinyls in mind, but that the fluid remains as effective as ever in cleaning and preserving garden-variety LPs. D4+ is available in 1¼-, 6-, and 16-ounce bottles for \$2.50, \$10, and \$17, respectively.

THE 600 SERIES STATE-OF-THE-MIND TECHNOLOGY

30 years ago Harman Kardon introduced the world's first high fidelity receiver. It was built on the philosophy that quality audio must evolve from quality state-of-the-mind thinking.

Today, the 600 Series Integrated Amplifiers and Tuners represent the highest level of state-of-the-mind thinking. This is typified by the fact that the 600 Series Amplifiers have been designed with as much as 60 Amps of High instantaneous Current Capability (HCC). HCC eliminates dynamic distortions by providing the current needed to properly drive your loudspeakers. The 600 Series also combines low negative feedback for immeasurable TIM distortion, Ultrawideband frequency response for the elimination of any audible phase



shift, and a unique active/passive phono circuit for precise transient response. Together, these features deliver louder, cleaner sound than any other integrated amplifier of equal or often greater power ratings.

Any 600 Series Amplifier is a perfect match for either the 600 Series Analog or Digital Tuner.

So, while other manufacturers continue to pile on unnecessary features and gimmicks, Harman Kardon continues to fine tune the basics and develop fundamentally advanced audio equipment.

The 600 Series: Amplifiers — PM660, PM650, PM640 — Tuners — TU615 Digital, TU610 Analog

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What's left behind in your dashboard is the Music Shuttle's AM/FM radio. A radio that delivers high-fidelity stereo even when the cassette player isn't in your car.

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All of which makes the Music Shuttle the first car stereo that, literally, leaves nothing to be desired.

SONY
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CrossTalk

Practical answers to your audio and video questions by Robert Long

Dolby C Dilemma

The following statement appeared in the audio column of a Chicago newspaper: "The biggest earache of the year was Dolby C, a terrific noise-reduction system that manufacturers couldn't seem to make compatible between machines, even though it was designed that way." Is this true? Will tapes that I make on my present Dolby C deck be compatible with Dolby C decks that I may buy in the future? Would I be better off recording in Dolby B?—Alan D. Goldberg, Brookfield, Ill.

As far as I've been able to determine, Dolby C is compatible, deck to deck, in all current models (assuming that their playback responses and head azimuths match, which isn't always the case—a circumstance that can compromise Dolby B compatibility, as well). The reason is that single-chip ICs for the purpose are now readily available.

Initially, Dolby Laboratories condoned the use of paired Dolby B chips to achieve Dolby C operation. This proved a serious mistake because the differences between chip designs led to anomalies in their behavior when used beyond their intended operating ranges, as they must be in this two-chip scheme. As soon as the single-chip ICs were available, Dolby Laboratories announced that it no longer would approve dual-chip Dolby C designs. Perhaps it now regrets ever permitting the interim arrangement: Because of opinions like the one expressed in your quotation, Dolby C has achieved a somewhat equivocal reputation in some quarters.

If you play tapes made on early Dolby C decks on other early Dolby C decks there may be audible compatibility problems. In playing such tapes on today's single-chip models, however, I seldom hear anything to complain about—though in most cases I no longer have the original source material for A/B comparison.

Head Replacement

My Sony CS-300 quarter-track stereo open-reel recorder serves my purpose (saving talking-head TV and radio shows for later listening) to perfection. But the head is badly worn, and Sony says it can't supply replacement parts. What about Nortronics? It used to advertise replacement heads, but it seems to have

disappeared.—D. L. Bonham, Tarzana, Calif.

Nortronics offers accessory products for all sorts of magnetic-recording needs, including a variety of replacement heads. If you want to learn which dealer in your area carries Nortronics products and whether the company makes a direct replacement for the Sony heads, call or write Nortronics, 8101 Tenth Ave. N., Minneapolis, Minn. 55427, (612) 545-0401. Even if there's no direct replacement, you may be able to find a head that requires only minor electronic modification of your deck.

Heavy Metal Speaker Cables

I'm installing a stereo system in a friend's new house. I've run 12-gauge speaker wire through the walls to six rooms. Each room will have a pair of 8-ohm speakers—different sizes and sensitivities from room to room—controlled by a 50-watt, 8-ohm stereo L-pad built into the wall. All six pairs will terminate at a six-way selector box next to the amplifier. Do you foresee any major amplifier impedance problems, and can you recommend the size and type of amplifier to buy for such a system?—Rick Henderson, Los Angeles, Calif.

The L-pads (impedance-compensated level-adjustment rheostats) will look to the speakers like the output of an amplifier with an extremely low (poor) damping factor. Many not-so-purist audiophiles would consider them appropriate for background-music systems—but not high fidelity. The choice of amp will depend more than anything on the musical tastes of your friends—how much clean level they will need from how many speaker pairs simultaneously. If they really do want nothing more than background music, the choice is relatively unimportant; if they want to be awash in decibels, perhaps the approach is wrong.

Brush Up

I need a record brush such as Watts used to sell to clean some old records before putting them on tape. I'm not looking for a carbon-fiber antistatic brush, but one

with nylon bristles to remove dirt from the grooves when washing the record with a detergent solution, for a more thorough wash than is provided by Discwasher or similar pile brushes.—José C. Lenz, Rio Piedras, P.R.

Though it's considered heresy among some modern audiophiles, I agree that a proper detergent washing is the best therapy for severely soiled discs. (The fastidious never let their records get that bad.) It may do some damage to the vinyl, but playing records with grit in the grooves is far worse. A dilute solution of Ivory Liquid and tap water has removed even mildew from some of my records—but not the damage that the mildew had already done to the grooves. A scrub brush, however, is not the right tool: You have to rely on the detergent to do most of the work and use the brush (I prefer a sponge) just to nudge things along. An old Discwasher brush (save your new one for your good discs) probably would be great for the purpose because its very fine fibers will reach deep into the grooves with low pressure.

Time Remembered

Many years ago we recorded family activities with a Webcor open-reel recorder on two- and four-track tapes at 1 7/8, 3 3/4, and 7 1/2 ips. The recorder no longer works, and parts aren't available. Is there a current model that would enable us to play back these tapes?—Thomas J. Aylward, Melrose, Mass.

The only ones I know of with all three of these speeds are the Tandberg Series 15 and the Sony TC-399. Most decks these days are two-speed quarter-track models, though half-track units are widely used in professional work. If by "two-track" you mean "half-track," you should find that these tapes will play back on a quarter-track deck. The right channel will be somewhat lower in level than the left under these circumstances; and when you boost it to restore the balance, it will be somewhat noisier and possibly somewhat more distorted. But unless the recordings were of high quality to begin with (and your description suggests that they weren't), you may find the reproduction adequate for your purposes.

We regret that the volume of reader mail is too great for us to answer all questions individually.

Basically Speaking

Audio concepts and terms explained by Michael Riggs

How HF Tests Preamps: Part 2

LAST MONTH I BEGAN an overview of how we test preamplifiers, whether separate or incorporated in an integrated amplifier or receiver. In that column I outlined some of the ways in which the tests differ for the two categories and explained the specifics of how we measure output, distortion, and frequency response. This month, I will explain the remaining measurements, including those for sensitivity and noise, input and output impedance, and separation.

Sensitivity, as we report it, is the amount of input signal required to obtain a 0.5-volt (or, in integrated amps and receivers, 0-dBW) output with the volume control

sets the volume control for a 0.5-volt (or 0-dBW) output from a 1-kHz input of 0.5 volt (500 millivolts) at the aux input, of 5 millivolts (mV) at the fixed-coil phono input, or of 0.5 millivolts (500 microvolts) at the moving-coil phono input. The aux measurements are made with a 1,000-ohm resistive source, and the moving-coil measurements are taken with a 10-ohm source impedance. These are reasonable approximations of the output impedances of the sources to which these will be connected. Moving-magnet and moving-iron cartridges typically have rather high output impedances. DSL therefore terminates fixed-coil phono inputs with the IHF standard cartridge load when measuring noise. You should expect to see figures of 80 dB or higher for the aux input and of 75 dB or better for the fixed-coil phono input. The

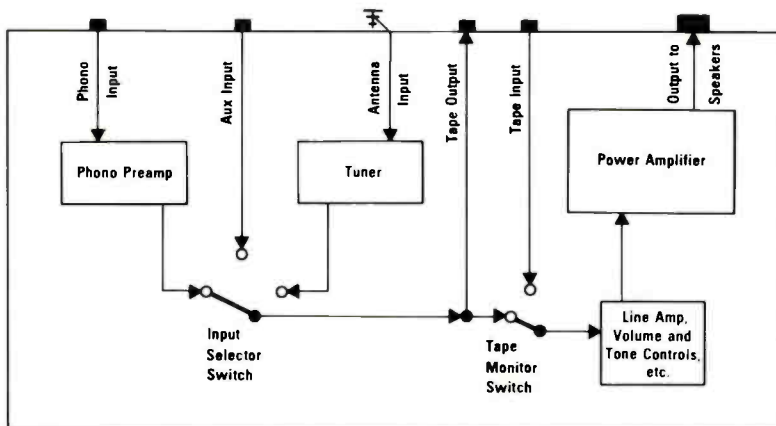
frequency responses are sensitive to capacitive loading. (Many amps and preamps now include input-capacitance switches for this purpose.) Provided the moving-coil input has an impedance of 100 ohms or more, there should be no problem with any low-output moving-coil pickup currently available. Likewise, if the aux input impedance is 10,000 (10k) ohms or higher, it will provide a good load for any reasonably low source impedance. We like to see 20,000 ohms or more, however, just for insurance.

The other side of the coin is output impedance, which DSL measures at the tape outputs from the aux, phono, and (where appropriate) tuner inputs and at the main outputs as well on separate preamps. Generally speaking, the lower the output impedance the better, but a few thousand ohms or less usually will do. We prefer, however, to see less than 1,000 ohms.

We report phono overload as the input, in millivolts, required to cause clipping at 1 kHz through the phono input. For a fixed-coil input, 100 millivolts is adequate; more than that is fine, but it's not necessary. The moving-coil overload point is usually a function of the additional gain provided by the pre-preamp stage and the fixed-coil input's overload margin. So unless the moving-coil input is extremely sensitive or the fixed-coil input has a low overload point, you should have adequate headroom.

The last of the routine measurements is separation, which DSL checks at 100 Hz, 1 kHz, and 10 kHz. About 30 dB is all that is necessary for stereo reproduction. DSL also plots the characteristics of the tone controls, loudness compensation, and filters of preamps that have them. For the filters, we report the cutoff (the frequency at which response is 3 dB down from the level at 1 kHz) and the slope in decibels per octave above or below the cutoff. What you want in the way of a high (low-pass) filter will depend mainly on your tastes and the kind of hiss problems you normally encounter. For an infrasonic (high-pass) filter, we recommend a cutoff no higher than 30 Hz, with 15 Hz being about optimum, and a slope of at least 12 dB per octave. Loudness compensation and tone control characteristics are, again, pretty much a matter of taste and can be difficult to interpret when presented graphically, so we normally discuss them in the text of the report, rather than putting them in the data column.

Next month, I'll discuss how HF tests power amplifiers. **HF**



Simplified Signal Path for One Channel of a Typical Receiver

Receivers (and integrated amplifiers) have preamps built into them; in fact, as the diagram above shows, it's probably more to the point to describe a receiver as a preamplifier with a built-in tuner and power amp. Aside from the two added circuit blocks, the signal path is virtually identical to the one for a basic preamp that we illustrated in this column last month. The switching is the same, and except for the replacement of the tuner input jacks with antenna terminals, so are the inputs. On most receivers there is no external access to the preamp's line-level main output, which is instead internally connected to the power-amp input. Output terminals on the receiver's back panel are used to connect speaker leads to the power amplifier.

all the way up. It is measured through the aux input, the fixed-coil phono input, and (if there is one) the moving-coil phono input. All you need in the way of sensitivity is enough to deliver a few volts (or full power) on the highest peaks of the input signal: Beyond that point, there's no advantage to increased sensitivity. It is very, very rare for a preamp or amp not to meet this criterion.

To measure signal-to-noise ratio, DSL

moving-coil input will likely have a S/N ratio several dB lower than that of the regular phono input.

DSL measures the impedances of the aux, fixed-coil phono, and moving-coil phono inputs. The most critical of these is the fixed-coil input impedance, which should be within ± 10 percent of 47,000 (47k) ohms, with a fairly low shunt capacitance (preferably 150 picofarads or less) to facilitate adjustment for cartridges whose

McINTOSH . . . TIMELESS

Like a Stradivarius

Antonio Stradivari (1644-1737) invested his violins with all the historic and contemporary technical knowledge of his day, applied his own research, intelligence and master craftsmanship to produce an instrument that still leads the musical world in performance capability, technology and value. Almost 250 years later, his violins are still . . . the best.

Since its beginning in 1949, McIntosh has been the technological performance and value leader for this industry. Continuous research and development at McIntosh explores the virgin terrain of new performance and value that lies beyond the boundaries of the technological map described by others.

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The Autophile

Going on the road with stereo by Gary Stock

Much Ado About Noise

THERE IS A CERTAIN type of music enthusiast who simply refuses to believe that high fidelity music reproduction is possible in a moving automobile. To his way of thinking, no matter how complex or sophisticated a car stereo system may be, the high level of ambient noise in a car rules out serious listening.

I'm a car buff, and I agree with the aesthetic core of that concern. An unwanted obligato of wind whistling or cam clatter can, in some musical passages, damage the listening experience every bit as much as a rogue violinist running away with the beat. But where the anti-mobile-music types and I take separate exits is on the question of degree—how severely ambient noise degrades the listening experience. I hold the radical view that a properly tuned car is a fine place to enjoy music.

Before looking at ways of quieting ambient noise, let's consider the problem. In a car, noise comes in three basic varieties. First, there are the noises created by the interaction of the car and the outside world: the drone of tires on the highway, the wind whistling past the outside mirror, the boom of a door panel vibrating as you go over a bump. These noises tend to be predominantly low-frequency, although in many cars wind noise at highway speeds closely resembles broadband "white noise"—the acoustician's term for that waterfall-like "shhh" sound that consists of a mixture of many audible frequencies.

Second, there's the noise created by various sound sources *independent* of any interaction between the car and its surroundings: the gearbox, the engine, the kid strutting down the street with a radio blaring. Since almost anything can be a source of sound, we can characterize this noise only in the broadest strokes. Most of it is also fairly low-frequency, both because the gizmos that produce it are more often rumbler than squeakers and because the car isolates the listener more effectively from high frequencies than from low ones.

The third kind of noise is created by interference from the car's electrical system and is reproduced through the speakers. These whines, gurgles, and buzzes are usually high pitched and exceptionally unpleasant. Luckily, they're also the easiest for a good installer to eliminate, though a detailed account of such "debugging" procedures demands more exclusive coverage

than is possible in this column.

All in all, it might seem that the plethora of noise sources we've described would kill the whole idea of mobile music outright. As it happens, though, almost everything we've talked about is easily handled by the listener with no conscious effort.

The human hearing mechanism has adapted to the world by developing a number of specific ways of coping with noise. One of them is often referred to as the cocktail-party phenomenon, which is the ear's ability to more or less reject unwanted sounds in favor of chosen ones—as at a party where you quickly filter out the hum of conversation around you and focus on the voice of the person you want to hear. The other psychoacoustic phenomenon is called masking. When the ear-brain system is presented with two sounds fairly close in pitch, it will tend to ignore the softer one. Generally speaking, it takes about 10 dB of level difference for masking to occur, and the two tones cannot be further than two octaves apart in pitch.

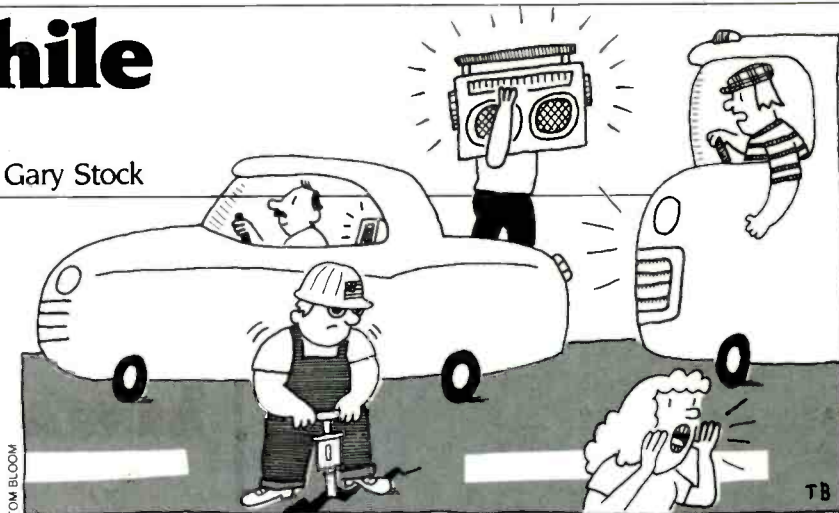
Both these psychoacoustic phenomena act to reduce the perception of noise in a moving car. The cocktail-party phenomenon enables you to tune out a lot of noise right off. And since most of it is composed of fairly steady, low-frequency sounds, masking will take care of much of the problem if the bass is sufficiently boosted. And, fortunately, the easiest frequency range to boost in a car is the low end: The sealed-chamber environment of the car interior and the placement of speakers in a rear deck provide an ideal acoustic loading for increased bass output. And turning up the volume is often all it takes to mask the broadband noise created by wind rushing by the car at highway speeds.

For the serious mobile-music buff, there are a number of steps that can be taken to lower noise levels when psychoacoustic fixes aren't enough. In cases where the car maker has left out most soundproofing materials, as in an econobox like the Chevette, it may help to add soundproofing

material in strategic places. The best soundproofing, pound for pound, is dense felt of about 1/2-inch thickness, available at industrial supply houses. It's pricey and not always easy to find. Second best is "eggcrate," or rippled urethane foam about an inch thick; or you could try the bonded acetate batting found at sewing shops and used to make quilts. Whatever material you use, glue it directly to the panels between you and the noise sources—the firewall, the doors, the luggage compartment panel—after first removing any carpeting, outer upholstery, etc. A little experimentation with the material taped into place in various locations may help to define the source of noise.

The most irritating noises are often caused by pieces of interior trim rubbing or bumping against one another. If a rattle or squeak has found its way into your car, have an assistant drive while, with a cardboard tube to your ear, you check various locations in the car's interior until the culprit is found. Then tighten down the offending piece, or deaden it by making a gasket of silicone rubber adhesive between it and whatever it's rubbing against. Noisy plastic pieces can sometimes be quieted with a coat of a slippery protectant spray like Armorall or Blue Coral.

Speaker placement can substantially affect your battle against noise. Since the ear's ability to disregard noise in favor of music is partly based on directionality, it helps to have the musical sound sources in places different from those of the noise sources. For front-engine cars, front-kick-panel and firewall speaker mounting are bad ideas; rear-deck and door mounting are better. The closer the loudspeakers are to the listener, the more easily the ear will be able to lock onto the music, so dashboard or high door mounting may help as well. A coherent stereo image also assists the brain in distinguishing music from noise, so choices of left and right speaker placements that maintain a rough symmetry relative to the driver are beneficial. **HF**



Virtuoso

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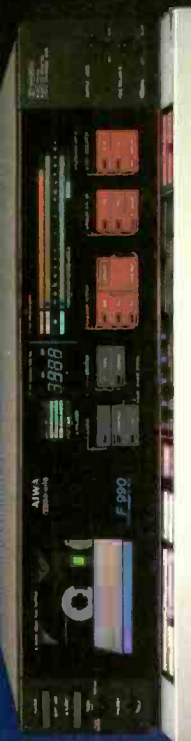
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New Equipment Reports

Preparation supervised by Michael Riggs, Peter Dobbin, Robert Long, and Edward J. Foster. Laboratory data (unless otherwise noted) supplied by Diversified Science Laboratories.

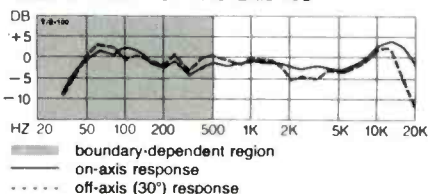


STEVEN MARK NEEDHAM

Computer Design Pays Off for EPI

EPI T/E-100 loudspeaker, in chipboard enclosure with walnut-grain vinyl finish. Dimensions: 12 by 20½ inches (front), 8¾ inches deep. Price: \$125 each. Warranty: "limited," five years parts and labor. Manufacturer: Epicure Products, Inc., 25 Hale St., Newburyport, Mass. 01950.

ROOM RESPONSE CHARACTERISTICS



SENSITIVITY (at 1 meter; 2.8-volt pink noise, 250 Hz to 6 kHz) 88 dB SPL

AVERAGE IMPEDANCE (250 Hz to 6 kHz) 10½ ohms

EVERYBODY SEEMS TO BE getting into computer design (see "Loudspeaker Design: The Quiet Revolution," page 41), and when the results are as worthy as they have been for Epicure Products, the trend can only be applauded. The company says that over a period of a year and a half it pursued a computer-analysis program designed to investigate driver diaphragm materials and shapes with a view to minimizing stored-energy effects without increasing driver cost. The effort was dubbed the Time/Energy research project—hence the T/E prefix in the model numbers of the speakers that emerged from it.

Stored energy turns driver parts into "springs" that, like a coiled serpent, can release their energy at times and in ways that are highly undesirable. According to Epicure, steady-state testing doesn't reveal these effects because the directly converted energy produces sound that obscures the

temporarily stored by-products, but modern impulse testing (used by many loudspeaker manufacturers) can yield a great deal of relevant information. One traditional response to such information has been to use arcane materials (beryllium, for instance) to increase a diaphragm's stiffness or damping and thus control its tendency to store energy. But EPI specifically wanted to keep cost low, which ruled out such "heroic" methods.

What they finally came up with is a new series of drivers based on composite diaphragm materials. The woofers and midranges have stiff plastic cones laminated to a damping layer of the same foam used to make the surround (the compliant front suspension that supports the diaphragm from the driver's metal frame). This forms a single, permanently bonded cone/surround subassembly whose weight, stiffness, curvature, and so on are tailored to the

Report Policy: Equipment reports are based on laboratory measurements and controlled listening tests. Unless otherwise noted, test data and measurements are obtained by Diversified Science Laboratories. The choice of equipment to be tested rests with the editors of HIGH FIDELITY. Samples normally are supplied on loan from the manufacturer. Manufacturers are not permitted to read

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Romantic piano music by Liszt, Chopin, Schumann and Rachmaninoff. The great ballet music of Stravinsky and Tchaikovsky. The lilting waltzes of Johann Strauss.

Dramatic music—Beethoven's *Fifth Symphony* ... Sibelius' *Finlandia* ... Handel's *Messiah*. Music that evokes cherished memories—Brahms' *Lullaby* ... the *Skaters' Waltz*. And music as haunting as Gershwin's *Rhapsody in Blue* and Pachelbel's *Canon*.

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Our distinguished panel has also chosen the specific recording for each work in

the collection. From 25 recordings of Beethoven's *Moonlight Sonata*, they selected the outstanding performance by Artur Schnabel. From 35 recordings of *Bolero*—Sir Georg Solti conducting the Chicago Symphony Orchestra. And from 20 recordings of the *William Tell Overture*—Arthur Fiedler and the Boston Pops.

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other physical and electromagnetic properties of the specific driver design.

The tweeter uses a thin, rigid base material with a layer of damping material sprayed onto it. Unfortunately, this composite exhibits poor high-frequency response when used in EPI's traditional inverted-dome configuration; the company had to develop a new diaphragm shape to flatten the frequency response without sacrificing the material's superior transient response. The new tweeter's inner section looks like a conventional (if shallow) dome some 3/4 inch in diameter. But instead of being attached directly at the dome's outer edge, the 1-inch voice coil drives the outer edge of a narrow, encircling "gully." The surround suspension, too, is a concave roll.

The T/E series comprises six models priced from \$92 to \$350. All but the top two (which are floor-standing three-way designs) are two-way "bookshelf" systems. Of these, we chose to test the next-to-bottom T/E-100, which replaces EPI's venerable Model 100 (test report, January 1970). Like its predecessor, the T/E-100 has an 8-inch woofer, with the tweeter offset somewhat to the right of the vertical axis, in an acoustic suspension enclosure shallow and narrow enough that it really could fit (horizontally) on many bookshelves. (The very similar T/E-100 Plus, at a suggested retail \$15 above the T/E-100's, also has an 8-inch woofer and the same 8 3/4-inch depth, but its other dimensions are slightly larger and its drivers are vertically aligned.)

Diversified Science Laboratories took its response curves with the speaker standing on the floor and just in front of the back wall. In that position, on-axis response is within about $\pm 4\frac{1}{4}$ dB from 40 Hz up and almost that flat off-axis, where there is little evidence of beaming below extremely high frequencies (in the 16- and 20-kHz bands). On-axis response, in particular, is remarkably smooth throughout the range.

The impedance curve is the sort most amplifiers like to see. Except at bass resonance, where it approaches 30 ohms, it lies between 12.7 and 4.6 ohms—the latter at

about 140 Hz and representing the conventional nominal-impedance rating point. EPI lists an impedance of 8 ohms, which is virtually identical to DSL's broadband average-impedance measurement and quite close to its music-band figure of 10 1/2 ohms.

Sensitivity is fairly typical of today's speakers, and the test sample accepted the full output of DSL's amplifier (equivalent to 26 3/4 dBW, or 475 watts, peak into 8 ohms) in the 300-Hz pulse test without flinching, for a calculated sound pressure level of almost 115 dB, attesting to good dynamic range. Distortion, from the 50-Hz band up, is moderate (an average of about 1/2 percent) at 85 dB SPL, but accumulates somewhat more rapidly than usual as drive level is increased, averaging about 1 percent at 90 dB, 2 percent at 95 dB, and 4 percent at 100 dB.

Physically, the T/E-100 is so typical of today's compact bookshelf speakers that it is hard to tell it from its peers if you remove the EPI logo from its dark brown stretch grille. (We are, however, impressed by the quality of its vinyl finish, which is indistinguishable from walnut veneer to the untrained eye.) There are no controls; the spring clips for lead attachment are in a shallow recess at the back.

We carried out our listening tests with the speakers raised above the floor to put the tweeters at approximately ear height, which in theory should have shaved a bit off the bass response vis-à-vis the measurement position. The tonal balance was still very good, however. And, keeping in mind that these are quite inexpensive speakers, we consider them an excellent value—which is just the way EPI intended it to be. In listening to demanding, digitally recorded material, some harshness was apparent on strong transients (sometimes exaggerated by the inherent brightness, or even brittleness, of some CDs), but the overall sound and imaging strike us as better than you could have bought for a comparable price even a few years ago. And that qualifies the T/E-100 as the best value we've yet encountered from EPI.

Acoustat's Hybrid Electrostatic

DESPITE THEIR MANY difficulties and limitations, electrostatic loudspeakers have always held a certain fascination, and almost every serious audiophile has wanted, at one time or another, to own a pair. Acoustat has made its mark in the world by clearing away some of the obstacles to the satisfaction of the craving. The example that springs first to mind is the company's Model Two (test report, June 1981), which was attractively styled, reasonably sized, capable of playing very loud (given enough power), and (for the genre) relatively inexpensive. And it sounded very, very good.

But it was not without its problems: It was a tough load for an amplifier, a little weak in the deep bass, and extremely directional ("beamy") at high frequencies. Acoustat's answer is the Two/MH, which is one of two revised versions. The other is the Two/M (for "modular"), which differs from the original in appearance (but not by much) and in its two electrostatic panels, which have been improved and mounted in their tall, slender frame at a slightly shallower angle relative to each other to reduce interference between their outputs, thus broadening the effective listening area.

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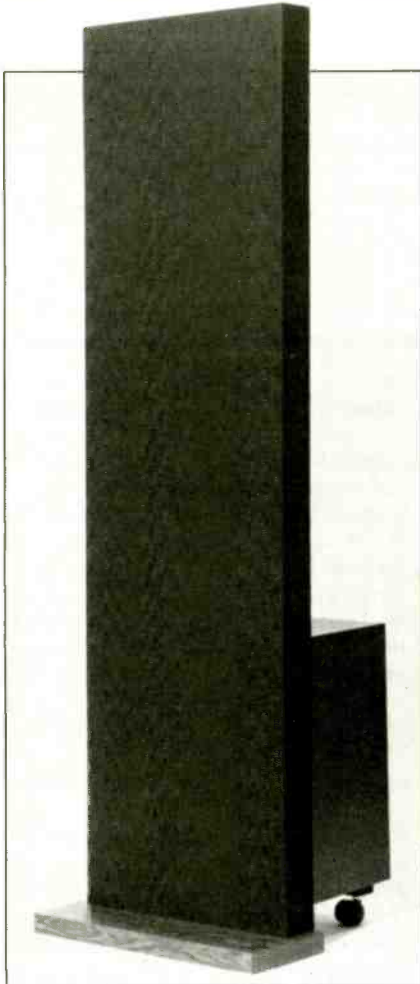
"That night
I was listening to
the bass player cook.
As his hands went
spidering up and down
the strings
his thum-thum-thum
became the group's
heartbeat – and mine too.
In my living room, I had
traveled once again to that
smokey little jazz club long ago."
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time and place, with components
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kinds of distortion down to inaudible.
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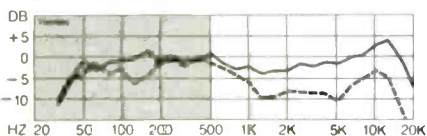
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JVC COMPANY OF AMERICA, High Fidelity Division, 41 Slater Drive, Elmwood Park, NJ 07407 JVC CANADA INC., Scarborough, Ont.



Acoustat Model Two/MH floor-standing hybrid electrostatic loudspeaker with MK-131 dynamic woofer module. Dimensions: 22 by 71 $\frac{3}{4}$ inches (front), 18 $\frac{3}{4}$ inches deep plus clearance for controls and connections. Price: \$1,295 per pair. Warranty: "limited," five years parts and labor with automatic extension for the owner's lifetime so long as the speaker is not abused. Manufacturer: Acoustat Corp., 3101 S.W. First Terrace, Fort Lauderdale, Fla. 33315.

ROOM RESPONSE CHARACTERISTICS



— boundary-dependent region
 - - - on-axis response
 off-axis (30°) response

SENSITIVITY (at 1 meter; 2.8-volt pink noise,
 250 Hz to 6 kHz) 82 dB SPL

AVERAGE IMPEDANCE (250 Hz to 6 kHz)
 5.7-10 ohms

APPROX. HIGH-FREQUENCY CONTROL RANGE*
 = 2½ dB, 300 Hz to 6 kHz;
 = 4½ dB, 600 Hz to 2.5 kHz;
 = 8 dB above 10 kHz

*See text.

The Two/MH (for "modular hybrid") is exactly the same as the Two/M, except that the standard MK-121 Magne-Kinetic "biformer" amplifier interface is replaced by the new MK-131 bass module. This converts the system from a full-range cross-overless electrostatic to a two-way hybrid with a 10-inch polypropylene woofer in an acoustic suspension enclosure. Also included in the bass module are a 100-Hz cross-over network and a biformer for stepping the output from an amplifier up to the high voltages required to drive the electrostatic panels.

The MK-131 connects to the panels with three wires: two for the signal (positive and ground) and one for the polarizing voltage that charges the conductive mylar diaphragms. Once these connections are made, you slip the box into a recess in the back of the upright frame holding the electrostatic panels and bolt it into place. (The procedure is straightforward, but it helps to have two people.) The assembled speaker is supported at the front by a flat wooden base—which is available in black, rosewood, teak, walnut, or oak—and at the rear by a pair of wheels attached to the underside of the MK-131 module. The wheels make it easy to move the speaker around, and they hold the bottom of the module above the floor, to give the down-firing woofer breathing room. On the back of the MK-131 are a pair of color-coded binding posts for amplifier connections, a fuse holder, a high-frequency level control, and an AC power cord (necessary to supply the polarizing voltage to the electrostatic diaphragms). The panels are hidden behind a grille cloth (available in black or white) that wraps around the entire frame.

Because the electrostatic elements are dipole radiators, they must be operated away from the back wall. So for both the laboratory and listening tests, we placed the speakers about four feet out into the room. So positioned, the Two/MH's on-axis response is within ± 4 dB from the 50-Hz band to beyond 16 kHz, the main irregularities being a shallow trough between 600 Hz and 5 kHz and a peak at 12.5 kHz. Off-axis response is considerably more ragged and drops off sharply at high frequencies because of the large radiating area of the electrostatic panels.

Sensitivity is 1½ dB higher than that of the original Model Two, but that's still about 6 dB lower than average, which means that it will need about four times as much power as a typical dynamic loudspeaker to achieve the same output level. Average impedance is also somewhat higher, although it varies considerably according to the setting of the high-frequency level control. With the control at the nominally flat position ("0"), the curve drops to a local minimum of 3.3 ohms at 100 Hz before rising to about 6 ohms between 300 Hz and 3 kHz and then to a peak of about 12 ohms at 6 kHz. Above that frequency the

load becomes highly capacitive, bringing the impedance down to 2.3 ohms above 15 kHz. Fortunately, there is little musical information at very high frequencies. Even so, the Two/MH will be a difficult load for some amplifiers, and under no circumstances would we advise running a pair in parallel with another set of speakers. With the high-frequency level control set to maximum, the impedance drops to 0.6 ohms at 18 kHz. For this reason, Diversified Science Laboratories did not measure the response variation over the control's entire range. The values for maximum boost in our data are therefore extrapolations from the effect obtained with the control set to +2. Although Acoustat indicates that the control is intended for adjusting the speaker's balance in the top octave (above 10 kHz), it also has considerable effect in the midrange and lower treble, between 300 Hz and 6 kHz.

Despite its relatively low sensitivity, the Two/MH is capable of playing very loud if fed enough power. In DSL's 300-Hz pulse test, it accepted the amp's full 65-volt peak output (equivalent to 27¼ dBW, or 530 watts, into 8 ohms) for a calculated peak sound pressure level (SPL) of 109¼ dB at 1 meter. This high power-handling capacity is confirmed by the lab's distortion measurements: From 50 Hz up, total harmonic distortion (THD) averages less than ½ percent at a moderately loud 85 dB SPL and just ¼ percent more at 90 dB. At 95 dB, the average distortion rises to about 2½ percent. This comes mainly from the woofer, however. Above 100 Hz, where the electrostatic elements take over, THD still averages less than ½ percent.

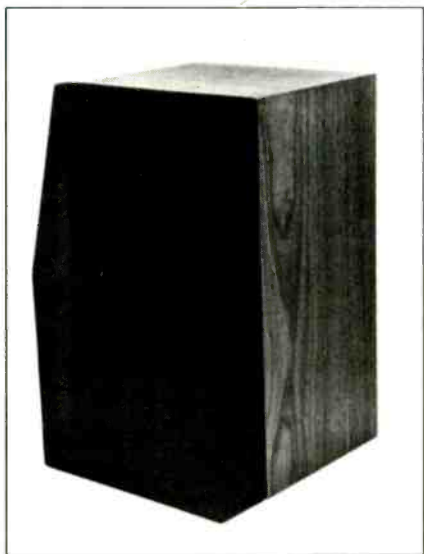
In the listening room, we were immediately and consistently impressed. The Two/MH has a very smooth, open sound with deep, solid bass and superb stereo imaging. Time and again we were startled by its transparency, as small details obscured by most other loudspeakers emerged with utter clarity. And we were happy to find that although the Two/MH is more directional at high frequencies than comparable dynamic loudspeakers, its sound holds up well over a fairly wide area, both horizontally and vertically, making your exact listening position far less critical than it was with the earlier Model Two. On some material, however, the speaker sounds a little bass-heavy. This is especially noticeable on male vocals, which can take on a slight thickness, and on guitar. We found that we could virtually eliminate this effect by turning up the high-frequency level control, but at the expense of putting a sometimes annoying glare on the sound, particularly on female vocals and high percussion instruments, such as cymbals.

Over the years, many manufacturers of electrostatic loudspeakers have resorted to dynamic woofers to fill out the bottom octave or two and increase sensitivity. But we have seldom heard it done as success-

fully as in the Acoustat Two/MH. Given a stable, high-current, high-power amplifier, such as Acoustat's own TNT-200 (test report, November 1982), it can produce very satisfying sound. (In the past, Acoustat has also mentioned Hafler amplifiers as

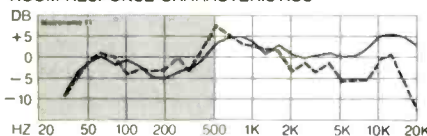
good mates for its speakers; we used an Apt Model One for our listening and encountered no problems whatever.) If you have an electrostatic itch that you'd like to scratch, we certainly suggest that you consider the Two/MH and its brethren.

The Mystery of the Pyramids



Pyramid Metronome 11 loudspeaker, in particle-board enclosure with walnut or oak veneer finish. Dimensions: 11½ by 18¾ inches (front), 13 inches deep including grille; S-11 base, 11½ by 9½ inches (base), 12 inches high. Price: \$500 per pair; S-11 stands, \$75 per pair. Warranty: "limited," three years parts and labor. Manufacturer: Pyramid Loudspeaker Corp., 131-15 Fowler Ave., Flushing, N.Y. 11355.

ROOM RESPONSE CHARACTERISTICS



— boundary-dependent region
 — on-axis response
 - - - - off-axis (30°) response

SENSITIVITY (at 1 meter; 2.8-volt pink noise, 250 Hz to 6 kHz) 89¾ dB SPL

AVERAGE IMPEDANCE (250 Hz to 6 kHz) 7½–8¼ ohms

APPROX. TWEETER CONTROL RANGE (re min.) +5 dB above 2.5 kHz

WHEN YOU UNPACK the Metronome 11, which comes with the grille removed, several aspects of its design will strike you as unusual. First is the driver placement. The tweeters are mounted flush with the front panel, but the midrange and woofer protrude from it on turrets so that the acoustical centers of all the drivers are in the same plane. Second are the drivers themselves, which have solid metal protruberances in place of the usual dust caps. These are extensions of the inner pole pieces, forming part of what Pyramid calls "sheer drivers"—vent slits between the pole pieces and the inner edges of the cones that the company credits with extending the drivers' effective frequency ranges. And then there is the driver complement itself: an 8-inch woofer, a 5-inch midrange, and a pair of 2-inch cone tweeters mounted side by side.

The Met 11's appearance also is somewhat unusual, because of the way the grille bellies out to accommodate the protruding drivers. Recessed into the back panel are a fuse holder (with a 6-amp slow-blow fuse), a tweeter level control, and a pair of color-coded heavy-duty binding posts for the power leads. As on most loudspeakers that use them, the binding posts are inset so far and their holes are so inconsistently oriented that making bare-wire connections is a little difficult, but this was the only problem we encountered in setting the speakers up.

Pyramid offers several add-on options to the Metronome 11s. First are the S-11 stands, which are designed to enhance the speakers' performance and complement their styling. Since Pyramid recommends using these, we included them in both the measurement tests at Diversified Science Laboratories and in our listening tests. The next "step-up" is the Metronome 8W-LC subwoofer, with a built-in crossover and dual voice coils; the final touch is a pair of Metronome T-9 ribbon tweeters. These refinements are not essential and add substantially to the system's cost, so we chose not to use them in our evaluation.

In both the measurement and listening rooms, the speakers (on the S-11 stands) were kept well away from the side walls, following Pyramid's recommendation, to minimize early reflections. The curves in our graph were taken with the speaker's back against the wall, which seemed to give the best overall response. But at all the measurement positions, the Metronome 11 delivered rising on-axis response curves—

generally to a marked degree—so DSL measured the speaker with its tweeter control turned to its minimum setting. Although the resulting curves are not outstandingly smooth, the on-axis data fall within a respectable $\pm 5\frac{1}{4}$ -dB spread from the 40-Hz band up. And the irregularity between 125 Hz and 1.25 kHz—a dip followed by a peak—is very likely caused at least partially by interference from a reflection off the floor, which would be less audible on music than the curves suggest. There is a marked divergence between the on-axis and off-axis curves, however, indicative of high-frequency beaming. This is to be expected with the Metronome's relatively large tweeters, particularly when mounted in a horizontal array. The lab specifically commented on the change in tonal color, moving off-axis, in its pink-noise tests.

In view of these results, we were somewhat surprised at what we heard in our listening tests. The Metronome 11 is a bright loudspeaker, and we preferred to listen with the tweeter control at minimum and our preamp's tone controls set to provide some bass boost (suggesting the virtue of investigating the subwoofer). But it sounds decidedly smoother than the response curves would seem to predict, and the tweeter beaminess, though discernible on musical signals, is not nearly as apparent as both theory and measurement led us to expect. One reason for our unexpected enthusiasm, surely, is the Metronome's very fine imaging, which lends depth and verisimilitude to all well-recorded signals. Pyramid clearly has taken great care to preserve this subtle and elusive quality.

Pyramid calls the Metronome 11 a 4-ohm speaker, even labeling it as such next to the back-panel terminals. It's true that the impedance curve is down in 4-ohm territory throughout the midbass—say from about 70 Hz to 1 kHz—where most musical energy occurs, and that the conventional minimum impedance rating would be 3.8 ohms by DSL's figures. But though the impedance maxima are not particularly high (less than 15 ohms at bass resonance and less than 20 ohms in the upper treble for any setting of the tweeter control), the average is about 8 ohms. (The tweeter control produces the highest impedance at its minimum setting and vice versa.) So the 4-ohm "warning" need not concern you unless your amp is really finicky about loading.

The speaker passed DSL's 300-Hz pulse test undaunted, taking the lab ampli-

REDEFINITION.

THE CARVER RECEIVER

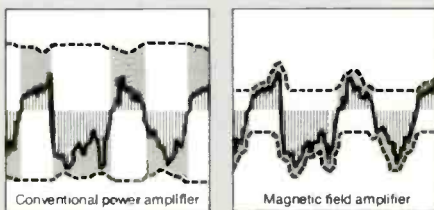
Redefines your expectations of receiver performance with the power you need for Digital Audio Discs plus virtually noise-free stereo FM reception. A receiver with astonishing performance incorporating two highly significant technological breakthroughs: Bob Carver's Magnetic Field Power Amplifier and his Asymmetrical Charge Coupled FM Detector.

ESSENTIAL POWER: Your system needs an abundance of power to reproduce, without distortion, the dynamic range of music on Digital Audio Discs and fine analog recordings.

The Magnetic Field Amplifier in the CARVER Receiver gives you 130 watts per channel* of pure, clean power with superbly defined, high fidelity reproduction.

The Magnetic Field Amplifier produces large amounts of power (absolutely necessary for the accurate reproduction of music at realistic listening levels) without the need for heavy heat sinks, massive transformers, and enormous power capacitors required by conventional amplifier design.

Unlike conventional amplifiers which produce a constant, high voltage level at all times, irrespective of the demands of the ever-changing audio signal (Even when there is no audio signal in the circuit at all!), the Magnetic Field Amplifier's power supply is signal responsive. Highly efficient, it produces *exactly and only* the power needed to carry the signal with complete accuracy and fidelity.



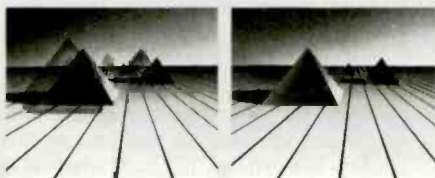
Solid line: audio output signal. Broken line: power supply voltage. Shaded area: wasted power. Vertical lines: power to speakers.

The 130 watts-per-channel* CARVER Receiver is about the same size and weight of conventional receivers having merely 30 watts per channel!

NOISE-FREE RECEPTION: The AM-FM CARVER Receiver gives you FM stereo performance unmatched by that of any other receiver.

As it is transmitted from the station, the stereo FM signal is extremely vulnerable to distortion, noise, hiss and multipath interference.

However, when you engage CARVER's Asymmetrical Charge Coupled FM Detector circuit, the stereo signal arrives at your ears virtually noise-free. You hear fully separated stereo with space, depth and ambience!



Reflected multi-path signals cause audible distortion.

Asymmetrical Charge Coupled FM Detector gives your ears a true sonic image.

The Asymmetrical Charge Coupled FM Detector was first introduced in CARVER's TX-11 Stereo Tuner, receiving unparalleled critical acclaim:

"A major advance ... Its noise reduction for stereo reception ranged from appreciable to tremendous. It makes the majority of stereo signals sound virtually as quiet as mono signals, yet it does not dilute the stereo effect."

Julian D. Hirsch, STEREO REVIEW
(December, 1982)

"Separation was still there; only the background noise had been diminished, and with it, much of the sibilance and hissy edginess so characteristic of multipath interference."

Leonard Feldman, AUDIO
(December, 1982)

"What distinguishes the TX-11 is its ability to pull clean, noise-free sound out of weak or multipath ridden signals that would have you lunging for the mono switch on any other tuner we know of."

HIGH FIDELITY (January, 1983)

The CARVER Receiver has been designed for fidelity, accuracy and musicality. You will want to visit your CARVER dealer for a personal audition of this remarkable instrument.

*130 watts per channel RMS into 8 ohms, 20 Hz to 20 kHz with no more than 0.05% total harmonic distortion.



CARVER Powerful Musical Accurate

Carver Corporation P.O. Box 664, Woodinville, WA 98072

Distributed in Canada by Evolution Audio, Ltd.

fier's full output for a calculated sound pressure level of 117½ dB with no sign of strain. We have no doubt that the Metronome can handle without difficulty a really clean 400-watt input, as the operating instructions suggest. Distortion at more typical drive levels is reasonably low, though not exceptional. From the 50-Hz band up, it averages about ½ percent at 85 dB SPL, rising to a little more than 1 percent at 95 dB and about 2½ percent at 100 dB.

The Metronome 11's strongest point is its excellent stereo imaging, which tends to

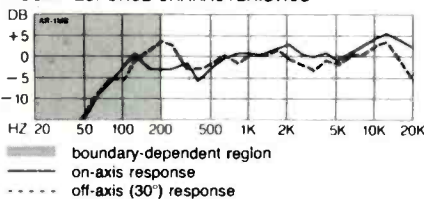
obscure other factors, both pro and con, by making the music seem unusually "real." Woodwinds, in particular, can be uncanny in their clarity of tone and unequivocal of location, so that you almost expect to see a spare reed sitting atop one of the speakers. But this is not a model for everyone: For some, its directionality at high frequencies and tendency to brightness will more than offset its virtues. Perhaps that is why Pyramid created its add-on subwoofer and tweeters. But even without them, the Metronome 11 is doing something very right to project such a convincing stereo image.

The Littlest AR



Acoustic Research AR-1MS loudspeaker in aluminum enclosure with scratch-resistant gray finish. Dimensions: 4¾ by 7½ inches (front), 5 inches deep. Price: \$110 each. Warranty: "full," five years parts and labor. Manufacturer: Teledyne Acoustic Research, 10 American Dr., Norwood, Mass. 02062.

ROOM RESPONSE CHARACTERISTICS



SENSITIVITY (at 1 meter; 2.8-volt pink noise, 250 Hz to 6 kHz) 91¼ dB SPL

AVERAGE IMPEDANCE (250 Hz to 6 kHz) 10½ ohms

FOR MANY YEARS, Acoustic Research manufactured only "bookshelf" loudspeakers, all based on the acoustic suspension principle invented by the company's founding father Edgar Villchur. This woofer-loading technique made good sound possible from much smaller enclosures than formerly had been required for comparable bass performance, and AR has used it to make some very small speaker systems. But until now, the company never offered a true mini.

This apparent tardiness (minispeakers having been popular for some years now) may just reflect a realistically conservative engineering assessment of the genre's limitations. In loudspeaker design (and just about everything else, for that matter), the laws of physics are painfully inflexible. Miniaturization requires sacrifice: Low distortion, extended bass response, wide dynamic range, and high sensitivity can't all be maintained at once. Somebody has to go overboard if the shrinking lifeboat is to stay afloat, to use a grim metaphor.

The "miracle" of the minis therefore isn't that they somehow circumvent scientific necessity, but that the best of them almost seem to do so. It is particularly in the last-mentioned respect that the AR-1MS astonishes: Sensitivity actually measured a couple of dB higher than average in Diversified Science Laboratories' tests. And the speaker's impedance curve represents a relatively easy load for most solid-state amplifiers: Minima of about 4 ohms occur in the extreme bass, at about 350 Hz in the midrange (which would yield a conventional impedance rating of 3.5 ohms), and again at 10 kHz in the high treble. With peaks of about 20 ohms in the bass (150 Hz) and lower treble (2 kHz), the average comes to a little more than 8 ohms across the audio band or just over 10 ohms in the "music band" used for our rating.

The response graph shown here represents the performance of the speaker mounted approximately at ear level (32 inches above the floor) and against a wall. DSL also measured it moved down to floor level and tilted against the wall to angle the

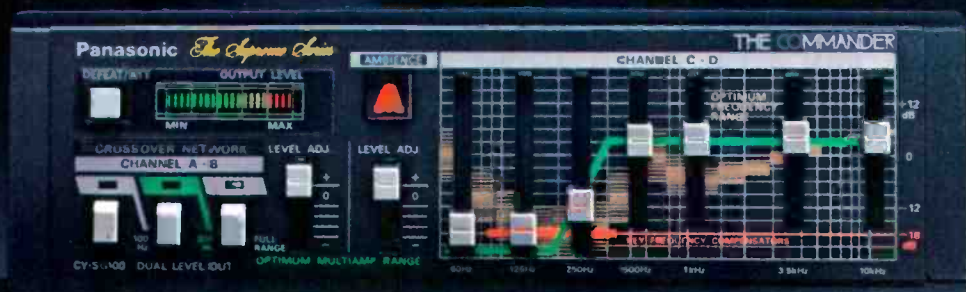
tweeter toward the mike's "listening position." Both sets of curves show quite smooth results, with a prominence around 10 kHz and a 12-dB-per-octave rolloff below 100 Hz. In the graphed position, response is within about ±5½ dB from the 80-Hz band upward on-axis and somewhat smoother still (especially through the midrange and lower treble) off-axis. In the floor position, which raises the entire bass end of the curve by 2 dB or so, the on-axis response is similarly smooth, while the off-axis curve is the craggiest of the four.

At a sound pressure level of 85 dB, which is moderately loud, harmonic distortion averages about ½ percent above 100 Hz, creeping up to more than 1 percent at 95 dB and about 3 percent at 100 dB. In DSL's 300-Hz pulse test, an audible change in the waveform occurred at a calculated output level of 107¼ dB SPL, with an input of 19 volts peak—the equivalent of some 16½ dBW, or almost 50 watts, peak. This represents very respectable dynamic range for a mini. AR suggests that the speaker be used with amplifiers rated at between 7 and 75 watts (8½ to 18¾ dBW), which seems sensible in light of DSL's data as long as the lower end of that range is reserved for very small rooms or background music—again following the recommendation of the owner's manual.

AR's down-to-earth installation instructions suggest placement against a wall—or with the grille flush with the book spines if you nest it in a bookcase—and brackets are supplied for mounting the speaker either vertically or (where space is too limited to permit ideal driver orientation) horizontally. Input wiring is attached to spring clips in a shallow recess on the back panel. There are no controls. The case is aluminum with a matte gray finish on the enclosure and a black finish on the grille. The driver complement consists of a 4-inch woofer in a sealed (acoustic suspension) enclosure and a ¾-inch liquid-cooled dome tweeter that, as the response curves show, minimizes beaming.

For listening, we stood the speakers on

Introducing the car audio system that can raise your standard of listening: Panasonic Supreme Elite.



Panasonic introduces a new stereo component system for your car: the Supreme Elite. Each component was engineered with advanced sound technology. Technology that provides this car audio system with some of the most sophisticated features on the road today.

The Supreme Elite Cassette/Stereo Receiver (CQ-S958) features the Panasonic Hypertuner that nearly doubles FM sensitivity — allowing you to enjoy greater reception range than conventional FM tuners. Other features include electronic tuning with digital display for station frequency and time of day as well as an auto-reverse cassette player with locking fast forward/rewind.

If you're looking for a more compact unit, most of

these advanced features are also offered in the Bantam mini-chassis Supreme Elite Cassette/Stereo Receiver (CQ-S818).

To shape the performance of a Supreme Elite Cassette/Receiver to your own car, you can integrate either unit with the 100 Watt* Panasonic Commander Equalizer/Amplifier (CY-SG100). This component also features Ambience. To virtually surround you with sound.

So, if conventional car audio has been your standard of listening, now you can raise that standard with Panasonic Supreme Elite.

Panasonic car audio
The driving force

* Maximum Power Output: 100W (4 x 25W) at 1 kHz.



CONCORD. THE DIFFERENCE IS WORTH THE DIFFERENCE.

Despite the fact that the Concord HPL-532 is ingeniously designed to fit everybody's car, it's definitely not for everybody. As Stereo Review said, Concord "...is truly an audiophile's car stereo."

And what makes it so different?

4-GANG FM TUNER

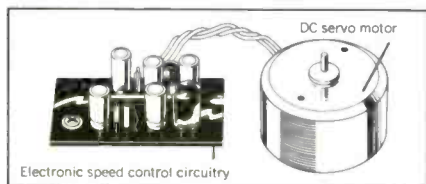
For extraordinarily clear FM reception, the Concord HPL-532 has an exclusive 4-gang digital tuner that provides exceptional station sensitivity & selectivity.

And to make selecting your favorite stations even easier it has a 10-station preset memory.

But, as Concord's 22 years of innovative stereo design would lead you to expect, that is only the beginning.

DC SERVO DRIVE MOTOR

We've designed an exclusive electronically controlled DC servo tape transport drive.

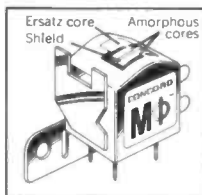


The result? Superior speed, accuracy, lower wow and flutter, and over double the motor life.

AMORPHOUS CORE TAPE HEAD

We've also engineered a new match-phased amorphous core tape head design, which means a revolutionary improvement in tape frequency response out to 20,000 Hz.

It's an improvement you'll have to hear to believe.



TWO WAY/FOUR WAY AMPLIFIERS

And wait until you hear the authentic high fidelity sound reproduction of the HPL-532. It delivers an impressive 12 watts per channel into 4 ohms 30-20,000 Hz with less than 0.8% THD.

In addition, it can deliver 5 watts per channel into each speaker of a four speaker system, because of an ingenious two way/four way configuration and a front/rear low level fader.

All in all it's the greatest full bandwidth power at low distortion

you can get in a car stereo without add-on amplifiers.

OTHER IMPORTANT DIFFERENCES

With its exclusive signal processor circuitry the HPL-532 will easily handle anything you want to plug into it.

Like Concord's Dolby* C. Or dbx** adaptors.

Even imagers or equalizers.

And with lighted switches and function indicators the Concord HPL-532 is as easy to play at night as it is to play in the daytime.

And because of its front load mechanism, it's even easier to load.

All things considered the Concord HPL-532 is an extraordinary car stereo.

Of course at around \$600 it's not inexpensive.

But when you add up all its features you might say this.

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*Dolby is the registered trademark of Dolby Labs.

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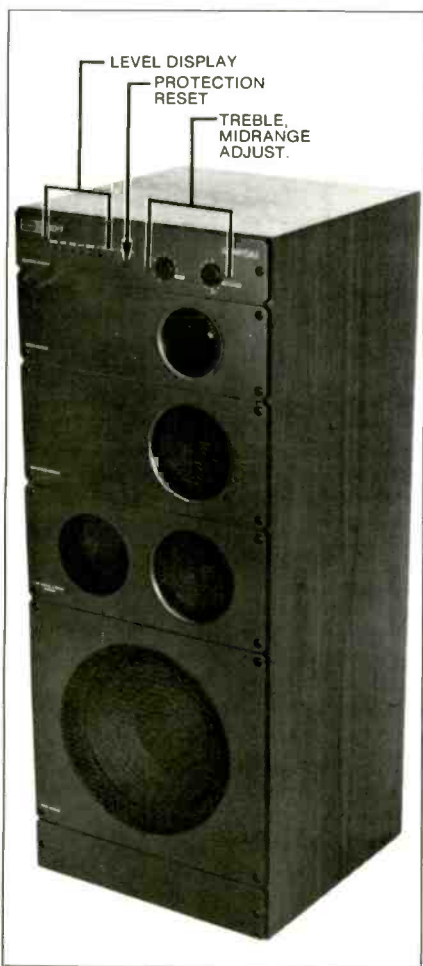
SPECIFICATIONS: Tuner Section Sensitivity: 30dB Quieting 1.0 Microvolts 11.2dBf, Stereo separation: min. 35dB, Frequency responses: ± 2 dB, 30-16,000 Hz Tape Section Frequency response: ± 2 dB, Standard tape: 30-15,000 Hz, Metal tape: 30-20,000 Hz, Wow & flutter: 0.08% WRMS Amplifier Section Maximum power: 25 watts/ch, Two-way power: 12 watts min. RMS per channel into 4 ohms, 30-20,000 Hz with 0.8 THD max, Four-way power: 5 watts min. RMS per channel into 4 ohms, 30-20,000 Hz with 0.8 THD max

a shallow table with their backs against the wall, following AR's recommendation. The table surface presumably offered more bass reinforcement than the measurement position did, but we still found the speakers a bit on the bright side and shy of deep bass. The sound is quite smooth, however, and a bit of bass boost at the tone controls produces very listenable sound. It's something of a cliché to observe that these little ARs sound like much bigger speakers (that's true of all really good minis), but they do. Stereo imaging is satisfactory, but the important element is the smoothness of the sound. Among other things (including the fact that the bass rolloff is *below* 100

Hz), it means that the ARs should do very well in combination with a separate subwoofer, if you choose to go that route.

No mini we know of will sound good trying to fill a very large room or to belt out "concert hall" levels (rock or symphonic) even in smaller ones. But the AR-1MS need not be confined to background-music levels, either. They might be an excellent choice for a den, for instance, particularly if your taste runs to relatively intimate musical fare. In that context, they can compete with just about any speaker in their price class and may be much easier to position for good sound than their bulkier competitors.

Super Sonics from Wharfedale



IT USED TO BE that most loudspeakers that were high in fidelity were also low in sensitivity. In recent years, however, manufacturers have become increasingly concerned about the dynamic-range requirements that the Compact Disc and other digital sources can impose and have worked to raise both the sensitivity and power-handling capacity of their designs without sacrificing sound quality. Among these companies is Wharfedale, one of England's oldest and largest manufacturers of high-quality loudspeakers. And if the model under consideration here (the top of its new Mach series) is representative, it has succeeded astonishingly well.

The Mach 9 has a conventional internally damped bass-reflex enclosure, computer-designed for optimum loading of its 10-inch woofer, with walnut veneer on all four sides. Its baffle, however, is distinctly out of the ordinary. Instead of all the drivers being attached to a single continuous sheet of particle board, each one has its own baffle strip, made of structural foam, which is bolted to the front of the cabinet in the proper position. This modularity enables Wharfedale to pursue a mix-and-match design strategy: For example, the Mach 7 is essentially identical to the Mach 9, except that it is shorter, lacks the upper of the 9's two midrange modules, and has a slightly different crossover. The baffle modules come in dark gray, as shown here, or silver.

At the top of the stack is a special module with level controls for the high-frequency and midrange drivers and an LED power display that registers input power in 6-dB steps from -24 dB to "max." One step beyond that is a red (instead of orange) "overload" LED that lights when the speaker's protection circuit comes on to save the speaker from dangerously high signal levels. Sound is restored by turning down the volume on your amp and pressing the reset button to the right of the overload LED. You can defeat the display by removing a jumper connecting a pair of jacks inset

into the back panel; inserting the jumper into a second set of jacks defeats the protection circuit, as well. Between these are the usual color-coded spring clips for amplifier connections.

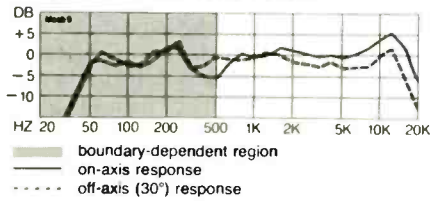
The high-range drivers—two 4-inch midranges and a 1-inch horn tweeter—are in a vertical array (to promote good imaging) offset toward the right side of the cabinet. Wharfedale says that all the drivers were designed with the aid of laser interferometry and computer analysis techniques, so that their individual responses would be smooth enough not to require extensive equalization in the crossover network. This permits the use of relatively simple, low-cost filter circuits made up of just six components. The actual crossover points are at 1 and 5 kHz.

Each driver is covered by a protective steel-mesh grille. If the total effect seems, as it does to us, a little stark, you can conceal all but a small strip of the front panel behind an opaque black grille cloth. This cloth can be positioned either to expose or to hide the control module. The latter arrangement is a little inconvenient if you make frequent adjustments on the driver level controls (and out of the question if you want to watch the lights), but we find it the more appealing visually.

Diversified Science Laboratories measured the Mach 9's response both with the speaker standing against the back wall and with it placed about four feet out into the room. The former position yielded the smoother curves (which are the ones shown in our graph), so this position was used for all of the remaining lab tests. On-axis response is within $\pm 5\frac{1}{2}$ dB from the 50-Hz band almost to 20 kHz. The curve is somewhat smoother than this figure suggests, however, since much of the irregularity is contributed by a sharp peak centered on the 12.5-kHz band and a narrow dip in the octave between 300 and 600 Hz. The off-axis curve (the more important of the two given the way this speaker normally will be

Wharfedale Mach 9 floor-standing loudspeaker, in particle-board enclosure with walnut veneer finish. Dimensions: 13¼ by 32½ inches (front), 13¼ inches deep. Price: \$755 each. Warranty: "limited," five years parts and labor. Manufacturer: Wharfedale, Ltd., England; U.S. distributor: Wharfedale Loudspeakers, 2224 S. Fairview, Santa Ana, Calif. 92704.

ROOM RESPONSE CHARACTERISTICS



SENSITIVITY (at 1 meter; 2.8-volt pink noise, 250 Hz to 6 kHz) 94½ dB SPL
 AVERAGE IMPEDANCE (250 Hz to 6 kHz) 14½-16 ohms
 APPROX. TWEETER CONTROL RANGE (re "flat") ±4 dB above 8 kHz
 APPROX. MIDRANGE CONTROL RANGE (re "flat") -4 dB, 2 to 4 kHz

set up) is smoother still, remaining within ±4¼ dB from the 50-Hz band to the 16-kHz band, and is notably flat through the midrange and lower treble. Both curves roll off swiftly below 50 Hz, but since very little music contains any information in the bottom octave, this will seldom have any audible effect.

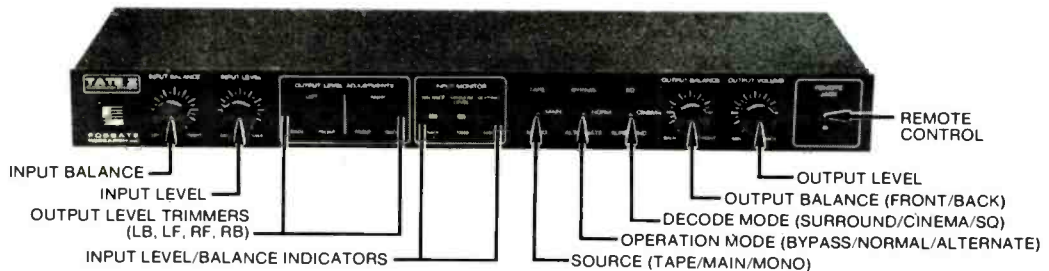
The Mach 9's impedance curve is fairly irregular, but it lies high enough that the speaker should constitute an easy load for any good amplifier or receiver. (The minimum value is between 6 and 7 ohms, depending on the settings of the driver level controls, while the maximum is in the vicinity of 24 ohms.) What's really impressive, though, is the speaker's sensitivity, which is about 6 dB higher than average. In other words, a typical speaker would require about four times as much power to deliver the same maximum loudness as the Mach 9.

That this thoroughly modern Wharfedale is truly "digital-ready" (maybe even disco-ready) is confirmed by its excellent power-handling ability. On our 300-Hz pulse test, it accepted the full 66-volt peak output of the lab's amplifier (equivalent to more than 27¼ dBW, or 530 watts, into 8 ohms), for a calculated peak sound pressure level of 122 dB at 1 meter on-axis. At a moderately loud sound pressure level (SPL)

of 85 dB, total harmonic distortion (THD) averages less than ½ percent from 50 Hz to 10 kHz. And the distortion rises only very gradually at higher SPLs, to ½ percent at 90 dB, ¾ percent at 95 dB, and still just 1 percent at a very loud 100 dB.

Our listening tests reinforced the laboratory measurements. Pulled out into the room and toed in slightly, the Mach 9s sounded clean, but rather hollow and chesty and somewhat constricted in their stereo imaging. But backing them up flat against the wall literally transformed their sound. Despite a lingering hint of chestiness, they sounded very smooth, extended, and uncolored. (We did sometimes note a tendency to excessive presence on female vocals, but this can be tamed simply by backing off a little on the midrange driver-level control.) Stereo imaging was very open and natural, with stable and reasonably precise placement of voices and instruments.

That such good sound should come from such a sensitive loudspeaker is a welcome surprise, particularly at a time when we find ourselves more and more often turning down the volume of our amplifiers to avoid clipping the uncompressed peaks on the best Compact Discs. For anyone who loves music—and especially for those who like to play it loud—the Wharfedale Mach 9 deserves a serious listen.



A Four-Channel Revival from Fosgate Research

Fosgate Model 101A Tate II Surround Stereo decoder, with black or silver faceplate. Dimensions: 17¼ by 13¼ inches (front panel), 6 inches deep plus clearance for controls and connections; rack-mount adapters (included) increase width to 19 inches. Price: \$500; optional 101AR wired remote control, \$75. Warranty: "limited," one year parts and labor. Manufacturer: Fosgate Research, Inc., 714 Clubhouse Dr., Prescott, Ariz. 86301.

DESPITE THE QUAD FIASCO of the '70s, four-channel diehards have kept the concept alive. Many audiophiles dread the day when their cherished quadriphonic receivers give up the ghost: They have become so accustomed to sonic immersion that the thought of returning to "straight" stereo is disconcerting, to say the least. But they need fear no more. Fosgate Research has come to the rescue with the Model 101A Tate II Surround Stereo System.

The Fosgate 101A is light-years ahead of the simple matrix systems of yesteryear; had such a decoder been available in quad's heyday (and had the industry standardized on one encoding system), quad might not have collapsed under its own confusion. But this is today, and to serve today's sound sources, the Model 101A not only has set-

tings for SQ (the CBS four-channel encoding system), but cinema and surround modes as well.

The cinema setting is intended to recover the rear-channel information encoded in Dolby Stereo sound tracks. (See "A New Dimension for Video Sound," page 49.) Because a solid center-front image is essential to keep the voices on the screen, the cinema setting seems to be the least aggressive of the decoding options. The surround mode immerses you in the sound field more totally by placing the left stereo channel in the left rear and the right channel in the right rear. In all cases, Diversified Science Laboratories' tests indicate that mono signals remain solidly in the front center.

In addition to the SQ/CINEMA/SUR-



THE LONGER YOU OWN IT, THE LESS OBSOLETE IT WILL BECOME.

A lot of stereo equipment starts becoming outdated as soon as you lift it out of the box.

But not Pioneer's SX-60 Receiver. It's been planned for the future, not for obsolescence.

Because it's not just designed to be a stereo receiver, but the control center for the home entertainment system of the future.

The SX-60 has both the performance and features necessary to interface with the video and digital recording hardware and software you will certainly be buying over the next two decades.

To begin with, the SX-60 has the ability to accurately reproduce the wide dynamic range of digital recordings because of its revolutionary Non-Switching, low distortion amp (80 watts per channel

into 8 ohms, 20-20,000 Hz with no more than 0.005% THD). Its incredible 95dB signal-to-noise ratio can easily handle the 90dB digital range.

And when the video/audio marriage is consummated, you'll have a receiver that will remain compatible. A video input in the SX-60 enables you to listen to VCR or video disc programs through your stereo system. And a simulated stereo circuit transforms the mono output of video (and AM) broadcasts to create theatre-quality, stereo-like imaging.

The SX-60 features Quartz-PLL digital synthesized tuning that locks in stations and prevents any drift. Plus there are 10 FM and 10 AM electronic station pre-sets and precise digital readout.

As for ease and accuracy of operation, all of the SX-60's circuits are completely microcomputer controlled.

Finally, a fluorescent pictographic display provides visual reference to the receiver's vital operating mode.

While this display may give the SX-60 a futuristic appearance today, you can rest assured that 10 or 15 years from now, it will fit right in.



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sound, Hitachi gives you a choice — vertical or front load players. With 10 key or two key programmability and visible or hidden disc design. Both offer advanced features like forward and reverse, cue, repeat and auto search for a unique sound experience. Now you can

“be there” for the live performance without ever leaving your living room.

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AUDIO New Equipment Reports

Except where otherwise indicated, data were taken with the unit set for normal cinema matrix operation.

MAXIMUM OUTPUT LEVEL (1 kHz)	
normal cinema (clipping)	2.4 volts*
bypass (1% THD)	6.4 volts
MAXIMUM INPUT LEVEL (1 kHz)	5.8 volts
SENSITIVITY (re 0.5 volt)	60 mV
S/N RATIO (re 0.5 volt; A-weighted)	
matrix (any setting)	73¼ dB
bypass	106 dB
DISTORTION (THD at 0.5-volt input; 100 Hz to 20 kHz)	≤ 0.26%*
FREQUENCY RESPONSE (bypass)	
	+0, -¼ dB, <10 Hz to 65.7 kHz;
	+0, -3 dB, <10 Hz to 254 kHz
CHANNEL SEPARATION	
	≧ 30 dB, 300 Hz to 20 kHz;
	≧ 18 dB, 100 Hz to 20 kHz
INPUT IMPEDANCE	72k ohms
OUTPUT IMPEDANCE	480 ohms

*See text.

ROUND matrix selector, the Fosgate 101A has a switch that enables you to choose between "normal" and "alternate" time constants or to bypass the decoder altogether. This switch affects how rapidly the logic circuits react to differences between the left and right signals and redirect the in- and out-of-phase components to the four outputs. According to the manufacturer, NORMAL provides the most perfect decoding, but ALTERNATE may produce lower rear-channel distortion with less than ideal program sources.

Given so many possible permutations, we had to choose one primary group of settings for measuring distortion, maximum output level, output impedance, and so forth. Because we think it is the combination that will be used most often, we selected NORMAL CINEMA. DSL fed a mono input to both channels and took the data at the front left-channel output. Frequency response and noise were measured for all combinations (including BYPASS), to see if these factors are greatly influenced by the matrix circuitry.

Considering the amount of signal processing going on in the 101A, the signal-to-noise (S/N) ratio is very impressive in all modes. DSL generated so many response curves—from both mono and left-channel inputs and to each of the four outputs—that it would be pointless to reproduce them all here. Suffice it to say that response is ruler flat from below 10 Hz to above 50 kHz in BYPASS and essentially flat from 100 Hz to above 20 kHz in any matrix setting. In the matrix modes, response to the desired output shelves off by about 4 to 5 dB below 100 Hz, but there is a good deal more crosstalk to the other three outputs at those frequencies, which suggests that total bass output into the listening room is considerably flatter than the individual response curves would indicate. (Above 100 Hz, channel separation—measured on a steady-state basis—is more than adequate to direct the image to any single speaker.)

The 101A has several setup controls and indicators designed to help you mate it with your system. Because the system's control circuitry functions by determining the dynamic amplitude and phase differences between the stereo channels, input balance is critical. Correct adjustment is achieved by setting the input-balance control for brightest illumination of a yellow LED with a mono signal. DSL found this system to be very accurate. Input level is adjusted (to maximize dynamic range) with the help of green and red LEDs that bracket a 10-dB window whose upper boundary—indicated by the red LED—lies 2 dB below the system clipping point. Measurement revealed that the overload threshold declines with frequency, so DSL adjusted the input level using a 20-kHz test signal. In addition to front/back output balance and output volume controls, the 101A has screwdriver-adjusted output level trimmers

that enable you to compensate for differences in front and rear power-amplifier sensitivities.

Fosgate's drawings suggest that the 101A be hooked into a tape monitor loop (substitute input and output jacks are provided on the 101A to replace the ones it then occupies), presumably to get the best possible signal-to-noise ratio and to avoid interchannel response and phase differences that might be introduced by mistracking of the preamp's own controls. (The Fosgate's are said to track very accurately.) The 101A's input clipping level seems adequate for such a connection, and its output should be sufficient provided you set your preamp's volume control to midscale or a bit higher and use the Fosgate's output level control to adjust volume. This is probably the most convenient arrangement, since the 101A's matrix selector, output level control, and left/right and front/rear balance controls are duplicated on a wired remote control.

The 101A overloaded at high frequencies at the customary 2-volt output, so DSL measured distortion at a 0.5-volt input and output level. Above 200 Hz, total harmonic distortion (THD) is well under 0.1 percent, rising to 0.26 percent at 100 Hz. At very low frequencies there is substantial distortion, probably caused by the logic circuitry "tracking" the waveform, which undoubtedly vanishes in the bypass mode.

Measurements on a device such as this merely scratch the surface: The real test is in the listening. Fosgate suggests that the front and rear speakers have similar, if not identical, characteristics, so we used a pair of Allison Ones in front and Allison 110s in the back. For source material, we used a variety of Compact Discs, stereo and SQ records, video sound tracks, and demonstration cassettes supplied by Fosgate.

It soon became apparent that the markings on the matrix switch are fine starting points, but that experimentation is still in order. Some sources respond best to the SQ matrix, others to SURROUND, and some to CINEMA. (To keep sound tracks stable in the front, CINEMA is usually the best choice.) The effect created varies from program to program, and occasionally the image seemed to pump back and forth from front to rear. (Choosing the "alternate" time constants often helped reduce this anomaly.) On synthesized rock, the surround effect can be quite spectacular: Sounds and instruments whirl about in space with abandon. The classical-music lover, however, may prefer his orchestra more securely placed. Experimenting with back-speaker placement (and matrix parameters) will help to achieve this.

What the Fosgate Model 101A does depends entirely upon the source material, so don't expect it to work wonders with "stereo" discs that are really almost mono. And remember that experimentation is the key to success.

NEW ZEALAND HITS LEXINGTON AVE.



(New Zealand?)

When the people from Perreaux said they'd drop off their new amplifier, we didn't realize they meant it literally. But they knew how to get our attention...as if the first audio component to reach the U.S. from New Zealand weren't newsworthy enough. Yes, New Zealand.

The short trip from truck to sidewalk would have meant the end of most amplifiers. But inside the store, the Perreaux was removed from its carton and dropped on our solid brick floor.

Next, the top and bottom panels were removed, and we were asked to run our fingers over the metal edges and corners. That was to let us appreciate the smooth results of the hand-finishing, inside and out.

Finally, we were able to treat the Perreaux like any other amplifier, by auditioning it with a variety of speakers that present widely varying loads to amplifiers.

We liked what we heard. The Perreaux met all our musical standards, not to mention our insistence on reliability. And we were pleased to be among the limited number of audio specialists approached to carry Perreaux.

If you live in our area, we cordially invite you to visit us for a demonstration. Or, like many of our nation-wide and world-wide patrons, you may order the Perreaux by phone or mail. All major credit cards are accepted.

The delivery, we assure you, will be very conventional.



The Perreaux PMF 2150B hybrid class A power amplifier.

Price \$1,550 (subject to change)

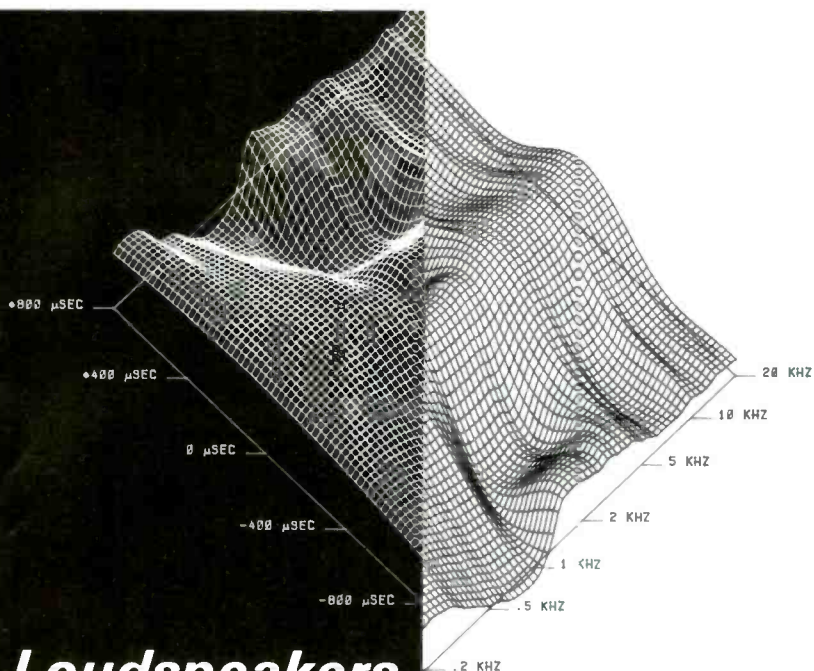
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Loudspeakers & Computers: *The Quiet Revolution*

ASSESSING THE IMPACT OF COMPUTERS ON SPEAKER DESIGN AND MANUFACTURE

Simply put, loudspeakers nowadays sound better than those of even a few years ago. Much of the credit for this derives from the intervention of the computer in loudspeaker design and manufacture. In fact, of all the traditional components in an audio system, the loudspeaker has benefited the most from the computer revolution.

As you might well expect, there is nothing magic about how the computer has accomplished this. In fact, it has been so successful precisely because it has removed some of the mumbo-jumbo and mystery from the design and engineering process, replacing intuition and guesswork with a powerful scientific tool. For music lovers and technophiles alike, an examination of the several aspects of the computer-loudspeaker connection provides both revealing insights into the state of the art in loudspeaker design and manufacture and a practical overview of the complexities inherent in the re-creation of sound.

Peter W. Mitchell is president of the Boston Audio Society and a frequent contributor to these pages.

REAL-TIME SPECTRUM ANALYSIS

Of all the new digital tools, the one that has achieved the most widespread use is the spectrum analyzer, an instrument that displays the strength of an audio signal in a series of 30 adjacent bands spanning the audio frequency spectrum, each one-third of an octave wide. It's sometimes called a real-time analyzer (RTA) because it provides a continuous, simultaneous display of the levels in all 30 bands, changing as the sound does.

Thirty-band RTAs are available in several forms. There's an Eventide plug-in board and program for the Apple II, TRS-80, and Commodore PET personal computers, and a similar product for the IBM PC from Ariel; there are all-in-one RTA consoles from Crown and B&K that, like the Eventide/computer system, display the measured spectrum on a video screen; and, in the most popular variant, there are compact portables that display the spectrum on 30 columns of LEDs.

The special virtue of the RTA is its speed and convenience. When a speaker is fed pink noise (a signal with equal energy in each octave or fraction of an octave), the RTA displays an immediate map of the speaker's frequency response, providing the designer with a continuous graphic display of the effect of a change in crossover design or driver mounting. A speaker's off-axis frequency response, which significantly affects its imaging, can be assessed quickly while the measuring microphone is moved about—accomplishing in a few minutes a study that used to take hours.

Though an RTA speeds up the design process, it is even more valuable on the production line, where it provides a rapid and precise means of testing every speaker element for accuracy. As recently as a decade ago, sample-to-sample variations of several dB were accepted as normal by many manufacturers because it was impractically time-consuming to measure every driver or finished system. Only the largest companies (such as Bose, with its Syncom analyzer) could afford to install automatic high-speed testing equipment. The advent of the portable Ivie analyzer at only \$3,000 (one-third the price of earlier RTAs) brought this measuring capability within the reach of small companies as well.

At Polk Audio, an Apple computer equipped with the Eventide RTA adapter is used to measure the response of every assembled crossover,

BY

PETER W. MITCHELL

FROM START TO FINISH AT POLK



POLK AUDIO cofounder Matthew Polk uses an Apple-based real-time spectrum analyzer in his design work (above), while Matt Richards (below) tests crossover networks on the production floor with a program he wrote.



FINALLY, MOLLY JONES, a quality-control technician, evaluates finished systems with an Apple-based program that performs impulse-response analysis, one-third-octave frequency response measurements, and driver-phasing and system-impedance checks.

comparing it against a reference unit. If a crossover is out of tolerance, the computer tells the operator which component needs to be replaced. Another RTA system is used to test every finished speaker, checking whether its frequency response and impedance curve are within tolerance; a final pulse test determines whether its drivers have been wired in the correct phase. By relying on the equipment to catch these major defects, Polk's human testers are free to find and correct less obvious flaws before a speaker leaves the factory.

IMPULSE RESPONSE ANALYSIS

Traditional methods of loudspeaker measurement are steady-state, involving the use of a single sine-wave tone whose amplitude remains constant during the measurement. In a typical steady-state measurement, the test-tone frequency is slowly varied from 20 Hz to 20 kHz while the loudspeaker's acoustic output is drawn by a pen on a chart recorder. But musical waveforms are not steady: They are mostly transient, often changing on a time scale of a few thousandths of a second.

Measurements of a loudspeaker's transient or impulse response are, therefore, very revealing of how the speakers will perform with music. The theoretical background for this form of analysis was provided a dozen years ago in a series of technical papers written by engineer Richard Heyser of Cal Tech's Jet Propulsion Laboratory.

THE METHOD is based on the French mathematician Fourier's more than century-old theorem, which states that within certain limitations any waveform can be shown to be the sum of a variety of tones at different frequencies. In particular, a very brief pulse contains energy at every frequency. (The impulse used in these tests sounds like a tick from a poorly pressed LP.) Mathematical analysis of a loudspeaker's impulse response reveals not only its traditional frequency response (the amplitude of its output at each frequency), but also its phase response—i.e., the timing of its output at each frequency.

An ideal speaker would produce all of a pulse's frequency components simultaneously. But in practical

loudspeakers, the various frequencies in a transient sound emerge at slightly different times. Although some disagreement exists among designers about the subjective importance of temporal spreads smaller than one millisecond, there is no doubt that a derived phase curve is an informative tool, both in the design stage and as a quality-control check. At its most obvious level, the phase curve provides quick identification of a backward-wired midrange or tweeter (a more common production-line fault than you may think). And it is well-known that the two speakers in a stereo pair must have very similar time-dispersion characteristics for precise imaging. (See "The Great Phase Coherency Bandwagon," October 1977.)

The mathematical procedures involved in Fourier analysis are extraordinarily laborious. They are, in fact, virtually impossible to do by hand and were extremely time-consuming even on a computer until programmers developed a computational technique called the Fast Fourier Transform (FFT). When Heyser began his work, the FFT was available only on the

largest laboratory computers or on very expensive dedicated processors. (Now it can be, and often is, done on a microcomputer.) To make impulse-response analysis affordable and practical, he developed a system called Time Delay Spectrometry (TDS), using a clever combination of analog lab gear and a tone that sweeps rapidly through the audio spectrum. Signal processing of the output yields a display of both the frequency and phase response on an oscilloscope screen. More recently, TDS measuring systems have been manufactured and sold by Bruel & Kjaer, and Crown makes one called the TEF (time-energy-frequency) analyzer.

A MAJOR ADVANTAGE of both TDS-type and digital FFT analyzers is that the measurement can be "gated." In effect, the measuring microphone is switched on just before the sound of the pulse arrives from the loudspeaker, is kept on long enough to capture the pulse, and is switched off just before reflections of the pulse start to arrive at the microphone from the room's floor and walls. Thus a manufacturer can make quasi-anechoic measurements of speaker behavior from a few hundred Hertz up in a normal room.

A further refinement of the technique involves opening the measuring gate during only part of the arriving pulse, or during the next few hundredths of a second after the arrival of the pulse from the speaker. In this way, it is possible to build up a complete map of the speaker's transient behavior, showing which frequencies arrive first, which are delayed, and so forth. This type of three-dimensional projection or contour map is a particularly powerful tool for identifying resonances and "hangover"—the tendency of the drivers or the cabinet to continue generating sound at certain frequencies after the driving signal has stopped.

One of the first loudspeaker manufacturers to make substantial use of a digital computer, beginning about a decade ago, was KEF in England. KEF technical director Laurie Fincham developed and refined methods for using a Hewlett-Packard digital Fourier-transform analyzer to map the transient behavior of loudspeakers in intimate detail. From these studies, KEF developed a series of plastic-cone woofers less prone to resonance and cone breakup than traditional felted-paper cones and identified sonic colorations that turned out to be due to wood-panel cabinet resonances, which were then damped by the addition of

IN THE BOSE RESEARCH LAB



COMPUTERS ALLOW quasi-anechoic and other types of "gated" measurements to be made in reflective environments. A Bose engineer examines the frequency response over time of a loudspeaker measured in a real listening room.



WITH DIFFERENT programs, a computer can become a variety of different test instruments. Here a Bose researcher examines a computer-generated polar plot of a loudspeaker in an anechoic environment. The plot shows the distribution of the loudspeaker's energy over a full 360 degrees.

bituminous padding.

In the U.S., the research department of Acoustic Research, under Robert Berkovitz, adapted these methods for efficient use on a general-purpose computer—first on a Digital Equipment PDP-11 and later on smaller machines as they gained the required computing power. Ultimately, AR developed an FFT analysis system for the Apple II, and many of today's under-\$3,000 personal computers are equally able to do high-accuracy FFT processing of impulse data.

AR uses FFT analyzers throughout the factory. For instance, every 1¼-inch tweeter is FFT-tested to measure its frequency response and distortion, and a pattern-recognition algorithm examines each response curve for small peaks that can indicate potential problems even when the overall response curve is within specified tolerances.

Polk Audio uses a Cromemco System Three computer for FFT analysis in its design work. The program enables the operator to identify and reject false peaks due to room reflections and to select the time

scale of the measurements. Since sound waves travel at a constant speed through the air, the time scale of the analysis depends on the dimensions of the phenomena that you want to analyze. With a very short time scale, it is even possible to detect tiny, brief reflections from the screw-heads on a tweeter mounting plate!

In England, B&W and Celestion have combined laser interferometry with FFT impulse-response analysis to develop and refine their drivers. A laser beam is reflected off the moving cone and combined with a stable reference beam. As the path length to the moving cone varies, the reflected beam will return either in phase with the reference beam or out of phase; the pattern of the resulting reinforcements or cancellations in the summing process provides very sensitive detection of the smallest departures from uniform motion. As the laser beam scans over the cone's surface, however, an enormous number of calculations are required to convert the raw data to a useful form, a chore made practical and efficient by computer processing.

In one application of this technique, B&W learned that a resin-bonded polyamide-fiber cone had better transient performance than a well-regarded Bextrene unit (less mechanical energy was being stored in the material during the impulse and released later). An unexplained response peak, however, was found to be arising in the rubber surround at the edge of the soft cone. Surprisingly, a narrower surround gave much smoother performance.

Today a loudspeaker maker

SYSTEM SYNTHESIS

After drivers with excellent transient behavior have been designed and tested, there remains the problem of assembling the speaker system. Here, too, computers are yielding important refinements, especially in mating the woofer to the cabinet and in designing the crossover network.

In principle, it's not hard to design an acoustic suspension speaker, and good ones abound. But when you try to make use of the woofer's back wave in a bass-reflex, drone-cone, or other

formulas to describe those relationships.

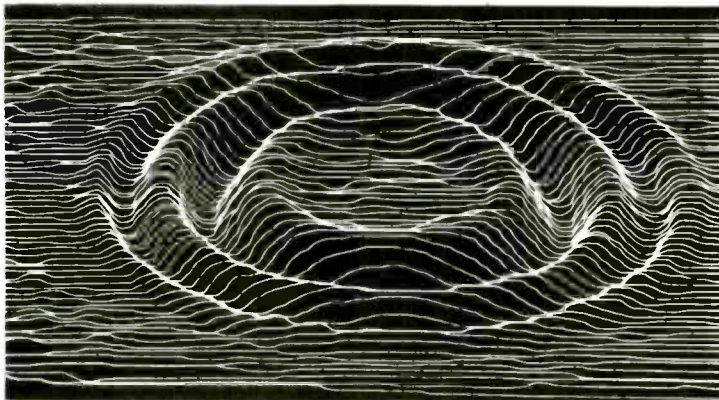
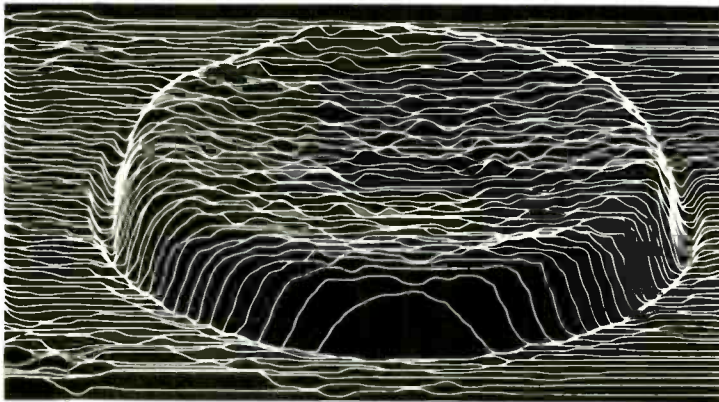
The Thiele-Small formulas are now readily handled by a programmable calculator, and David Weem's book, *Designing, Building, & Testing Your Own Speaker System* (TAB 1364), contains a TRS-80 BASIC program for designing correct bass-reflex enclosures. Thus, even garage-shop speaker makers no longer have any excuse for sloppy design; electronic assistance is available to everyone.

Computers are also helping to make crossover design an efficient science. As a filter circuit that channels the lows to the woofer and the highs to the tweeter, a crossover network may seem easy to design, but in fact it is very complicated. Because the drivers don't present a constant-impedance load to the crossover network, textbook filter calculations are not very helpful. The woofer's voice-coil inductance produces a rising impedance at midrange frequencies, while the tweeter's suspension resonance produces a complex impedance peak in the midrange. Furthermore, the drivers themselves seldom have ideally flat response, so the crossover network must also serve as an equalizer to contour the overall response. And if you decide to add a midrange driver to make a three-way speaker, the crossover becomes more than twice as complicated (because the various filter networks interact, upsetting each other's response). As a result, crossover design has traditionally been as much an art as a science, involving a lot of trial and error to see what works.

It is possible, however, to write equations that describe the filtering effect of each part of a crossover network, including its interactions with the non-uniform impedances of the drivers, and FFT analysis provides the response of each driver in mathematical terms. Given the desired final result, a computer can do a complex division to obtain a mathematical description of the required crossover response and then determine the actual component values needed to produce that result.

The processes involved are numerical integration and iteration: You start with a rough guess at what the answers may be, use these approximate values in order to calculate all of the interactions, solve the resulting equations to find better answers, then plug these values in at the beginning to recompute the interactions. You must repeat the cycle

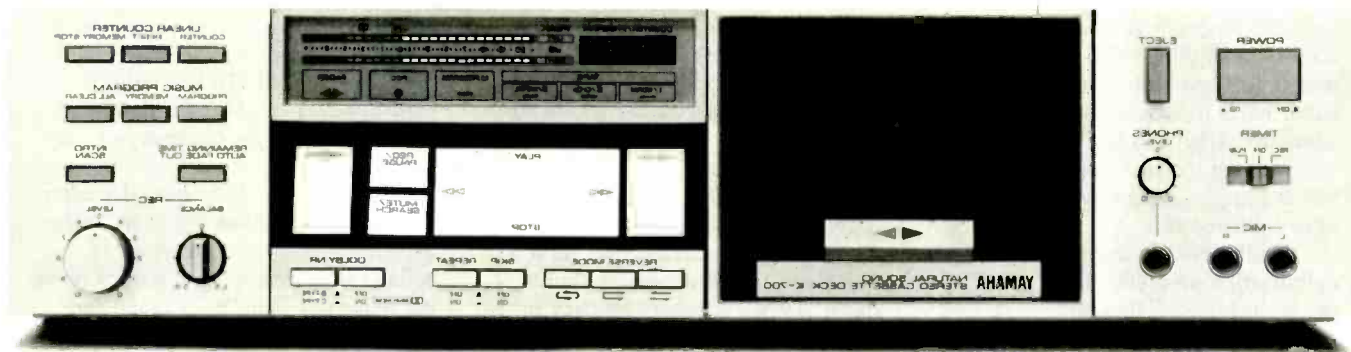
INTERFEROMETRY AT CELESTION



COMPUTER PROCESSING of data gathered using laser interferometry enables Celestion's design team to visualize diaphragm motion at various frequencies. The top plot shows perfect piston motion of the SL-6 speaker's bass/midrange driver reproducing a 900-Hz tone; at 4 kHz (bottom), the same driver's effective radiating area decreases to match the system's tweeter output.

doesn't even have to hire a staff of computer programmers to get into FFT analysis. IQS, Inc., sells a complete FFT impulse-response spectrum-analyzer package for about \$800. It comes in the form of a plug-in electronic interface and floppy-disk program for the Apple II personal computer.

"vented" system, the design becomes complex in both theory and practice. A mismatch between the woofer, the port, and the cabinet can produce boomy, thin, or distorted low-frequency output. Australian engineers Neville Thiele and Richard Small put bass-reflex design on a solid scientific footing by constructing mathematical



THE REVERSE IS ALSO TRUE.

Most audio manufacturers don't provide for automatic azimuth adjustment in their auto reverse cassette decks. So side B never sounds as good as side A. Yamaha doesn't do things like most audio manufacturers. Introducing the K-700 auto reverse cassette deck. The only one that sounds as good as a Yamaha – in both directions.

To insure reproduction accuracy, we developed a special high-precision rotating head mechanism that permits precise, independent adjustment of head azimuth in both directions. And the head itself is the same pure Sendust type used in our top-of-the-line deck. The result is uncompromised sound quality with auto reverse convenience.

But that's just the beginning of the K-700's convenience. During recording, the K-700 counts down remaining tape time, automatically fades out at the end of the tape, then automatically fades back in after the tape is reversed and continues recording. Another fader button allows professional sounding fade-ins or fade-outs at any point during recording. You can also preprogram up to 15 selections to be recorded or played back in any order.

Then there's Intro Scan, Search, Blank Skip, Repeat, Auto Source Change, Auto Tape Selector, Dolby* B and C, Real-time Digital Counter, and an optional remote control unit.

How much for all this? Much less than you'd expect to pay for this much deck. The K-700. It's all true. Find out at your Yamaha dealer. Or write for complete information: Yamaha Electronics Corporation, USA, P.O. Box 6660, Buena Park, CA 90622.

*Dolby is a registered trademark of Dolby Labs, Inc.

until the process converges on a consistent solution. This procedure would be impossibly laborious by hand, but it's duck soup for a computer. KEF and B&W in England were among the first manufacturers to use this approach, and several others have followed suit.

Until recently, crossover optimization programs have (necessarily) used flatness of response as their basic criterion of quality. Other factors that the ear may be sensitive to simply never entered the equation. For

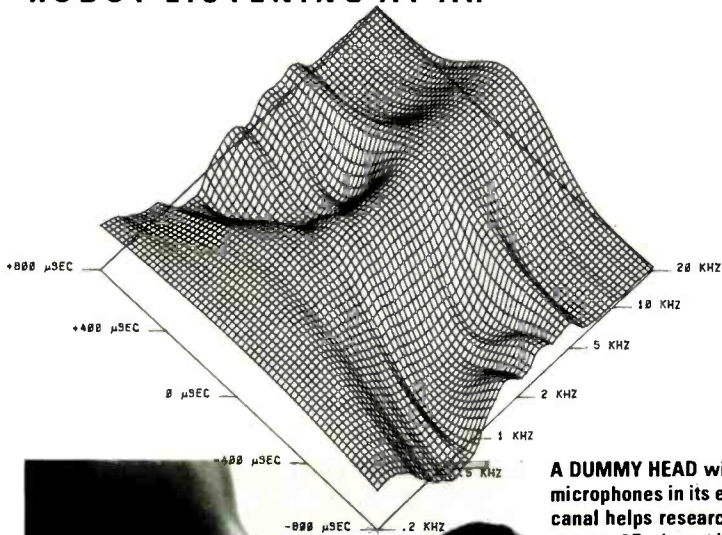
Society's fall convention last year, designer Dean Jensen described the new Comtran circuit-design program that runs on the Hewlett-Packard 9845 computer. It has since been modified to include parameters for time-delay and the geometric offset for drivers, as well as compensation for their impedance curves and phase shifts, making it a remarkably powerful design tool. Spica, a small speaker company in Santa Fe, New Mexico, developed its new TC-50 speaker with Comtran, and the computer found a novel design

equalization networks). Then a bit of music is fed into the computer and digitally encoded. To test out this mathematical speaker, the designer simply instructs the computer to play back the musical input.

This facility was especially useful during the development of the Delco/Bose car stereo system, which is equalized to match the acoustics of the car that the system is designed for. Bose engineers used portable data-acquisition systems to measure the internal acoustics at many positions within many different cars, and then used the computer to listen at will to the effects of various possible equalization circuits.

Of course, car interiors are more nearly standardized than living rooms, and it would be much more difficult to custom-equalize loudspeakers for every listening room. But with digital filter-synthesis technology, that will soon be practical. This, in fact, is one of the goals of AR's Adaptive Digital Signal Processor (ADSP), which uses a 16-bit Texas Instruments microprocessor to measure and then correct the performance of a speaker in a real listening room. (For a complete description of the ADSP, see "Signal Processing Enters the Digital Age," June.) With today's technology, the ADSP is still too costly to be a consumer product, but you may not have long to wait.

ROBOT LISTENING AT AR



A DUMMY HEAD with microphones in its ear canal helps researchers at AR determine the imaging characteristics of a pair of loudspeakers. The head "listens" to sounds and then feeds data to a computer equipped with a model of the human auditory system. The resulting three-dimensional plots depict the difference in arrival time at the two ears at various frequencies.

instance, drivers are rarely as flat off-axis as they are on-axis, and designers sometimes must compromise the on-axis response in order to obtain an acceptably smooth off-axis sound. And as noted earlier, there are time-of-arrival differences and phase-shift in the output of a system's drivers that may subtly influence the sound. B&O took account of these in the computer optimization program that it used in developing its Phase Link speakers a few years ago.

And at the Audio Engineering

solution that might never have been attempted otherwise—a fourth-order Bessel filter for the woofer, a simple first-order filter for the tweeter, and a compensating time-delay offset produced by a pyramidal cabinet shape.

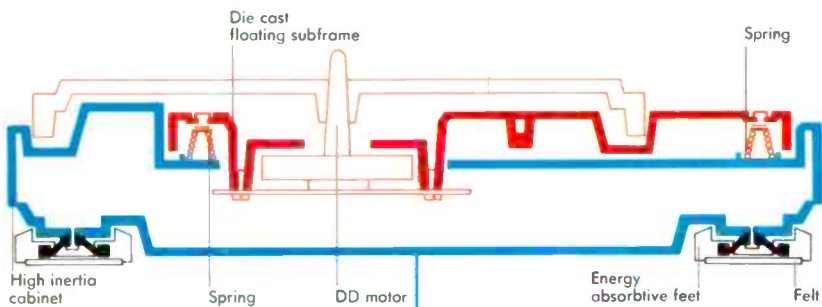
Bose Corporation's large Prime 400 computer provides such powerful signal-processing capabilities that it isn't even necessary to build a speaker in order to test it. To use this system, the designers model a speaker's response characteristics in the computer (including any desired crossover or

FINALLY, READY access to computers is enabling engineers to conduct pure research tasks that may one day bear fruit in the form of loudspeakers designed with more insight into the nature of loudspeaker/room interactions and the human hearing system. AR, for instance, has been using a robot listener to audition a variety of loudspeakers. The robot—really just a dummy head with microphones in its ear canals—is wired to a PDP-11 computer programmed with a model of the human auditory system. The computer cross-correlates the signals from the dummy head's mikes the way the ear/brain system is believed to do and produces charts that indicate how the loudspeaker's sound is perceived by the ears. So far, the robot listener's plots have shown what many speaker designers already understood: that speakers with vertically aligned drivers produce more precise stereo imaging than speakers with side-by-side drivers. Further studies, however, may illuminate aspects of the loudspeaker listening experience that have heretofore remained elusive.

HF

Perfect Playing

(Even when your guests get a little out of hand).



Onkyo's Triple Stage Isolation System

When the joint is jumpin' around you, it's nice to know your turntable isn't. That's because Onkyo's new turntables, like our CP-1044F, all feature our patented Triple Stage Isolation System.

Until now, there were only two basic approaches to prevent unwanted tonearm movement and turntable feedback. One took advantage of a solid, heavy construction, while the other used a

spring suspension to damp vibrations. Neither was totally effective.

Onkyo engineers solved this problem by combining these ideas. As the drawing illustrates, our Triple Stage System uses both massive construction

and a spring suspended floating subframe. The entire system then rests on four energy absorbing feet. The result? The most effective protection against turntable feedback you can buy—in any price range.

And, that's another nice thing about all our new turntables, they're very affordable. Onkyo was one of the first audio companies to introduce the straight tonearm back in 1977, and we've spent the succeeding years refining our turntables.

So remember, when your guests get a little out of hand, it's good to have an Onkyo turntable handy.



Nobody knows more about audio than Onkyo.

ONKYO®

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The Triple Stage Isolation System is available on our new CP-1044F, CP-1033A, CP-1022A and Integra Series CP-1055 turntables. For complete literature, please write directly to Onkyo.

SELECTAVISION



A VCR WITH A SPLIT PERSONALITY. IT'S A TABLE MODEL THAT'S INSTANTLY PORTABLE.

Take a moment to study the photograph above. What it reveals is an unparalleled achievement in video cassette recorder engineering.

The RCA 900 Convertible.

On the one hand, it's the first instantly portable VCR. The first without cables joining the recording deck to the tuner-timer. Just push to connect, pull to disconnect.

It immediately converts to a lightweight, compact, complete movie outfit, when you add a camera like RCA's astonishing CC030 (battery not included).

On the other hand, it's the first table model to offer a recording/playback system with five heads instead of four. You get amazingly clear, jitter-free special effects at both SP and SLP speeds.

There's more. More than a dozen other outstanding features. Up to 21-day programming, eight-hour recording capability, 133-channel capability, stereo playback, frequency-synthesized tuning that locates and locks incoming signals precisely on track, and full-function, infrared remote control.

All of which can only lead to one conclusion: The RCA 900 Convertible.

There is no equal.

WE'LL OPEN YOUR EYES.

RCA



For the complete line of SelectaVision VCR models and a free copy of the "Living with Videc" book (\$2.50 retail value), write: RCA Consumer Electronics, Department 32-312S, P.O. Box 1976, Indianapolis, Indiana 46206.

One federal court has ruled that in-home recording of copyrighted television programs is copyright infringement. Such recordings should not be made.

900 CONVERTIBLE

NEW TECHNOLOGIES

Digital Audio
Video
Computers
Software Reviews

A New Dimension for

video

sound

 DOLBY STEREO

BY

RALPH HODGES

WITH AN OUTBOARD DECODER, DOLBY STEREO FILMS ON VIDEO
SPRING TO LIFE WITH SURROUND-SOUND REALISM.

THE SONIC EFFECTS offered by today's major motion pictures are nothing short of amazing. The Dolby Stereo logo on theater marquees and film ads tells you that sound will be an integral part of the on- and off-screen action. Much of the impact of a Dolby Stereo film derives from the surround-sound information it contains, which creates aurally what the various 3-D processes try to do visually—that is,

Ralph Hodges, a San Francisco-based writer, has been covering the audio scene for many years.

add realism and dimension to a flat, illusionary world.

The good news is that you can recreate this extra dimension at home—provided that the film was originally produced in Dolby Stereo and that your copy (on either videocassette or videodisc) has a stereo soundtrack. I'll explain what hardware you need and comment on my own experience with Dolby Stereo at home, but first you should understand the nature and limitations of the technique itself.

The Dolby Stereo optical print (referred to in the trade as Dolby

Stereo Variable Area, or SVA) really has only two audio tracks—left and right—from which both a center and a rear "surround" channel must be derived. The center channel is easy: It can be created by summing the left and right channels. The fourth channel presents more of a challenge. It is decoded from information encoded in the two basic tracks with a matrixing scheme similar to the SQ and QS techniques used in the old quadriphonic days.

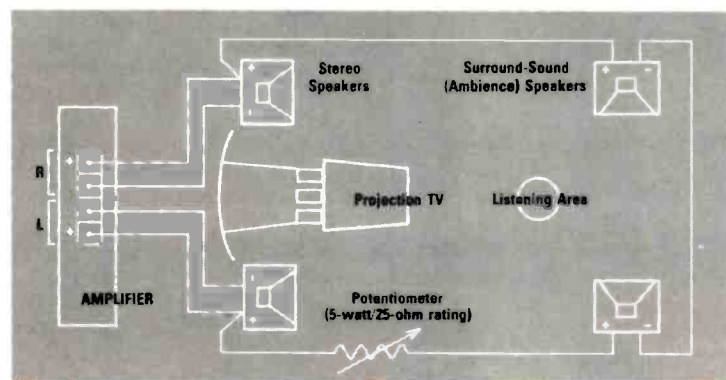
The soundtrack you get when you buy a stereo videocassette or videodisc of a Dolby Stereo film is exactly the same as that carried by a Dolby SVA release print—that is, it contains all the information you need to extract the surround channel. The hardware necessary to reproduce it is quite straightforward: a stereo VCR or videodisc player, a decoder such as the Fosgate Research 101A or the

Surround Sound M-360, an extra channel of amplification, and a rear speaker. You can even make your own matrix decoder with some wire and a potentiometer (see box).

The Fosgate 101A incorporates the latest evolution of the technology developed for the SQ four-channel matrix system and, fittingly, has a

SURROUND-SOUND FOR LESS THAN \$5

A DEDICATED DOLBY STEREO DECODER is not essential for demonstrating to yourself that there is surround-sound information on many *stereo* video films. (See list of recent Dolby Stereo films on video.) If you have a four-channel matrix processor (SQ or QS) left over from the '70s, try it as a decoder. The sound may not be exactly right,



but it will be close enough to make you sorry that you hadn't tried it before.

If you don't have an old quad decoder but can scare up a second pair of loudspeakers, a simple homemade *Maf*ler dematrixing circuit—consisting of a length of lamp cord and a potentiometer to control the level of the rear speakers—will put you in business. Total parts cost well under \$5. The diagram shows you how to wire everything together. Note that you do not need an extra amplifier for the rear speakers: The out-of-phase surround information and the power necessary to drive the rear speakers are obtained by tapping the amplifier's positive speaker outputs and wiring the rear speakers' ground terminals together.

switch position for SQ as well as for cinema surround sound. The unit's decoding circuits are logic-steered and rather complex. (See test report, page 36.) SSI's M-360 is a somewhat different animal that conforms closely to the reproduction scheme used by Dolby in theaters to decode surrounds.

The decoding circuitry in Dolby cinema processors is not very complex; it basically detects out-of-phase information and throws it into the surround channel. The M-360 uses a similar dematrixing circuit. However, the M-360 also includes Dolby B decoding for the surround channel. The reason for this is that the surround information on Dolby Stereo films receives B-type noise reduction in

addition to the A-type encoding used for the whole soundtrack. (The soundtrack goes through a Dolby-A decoder before being put on videocassette or videodisc, so you don't have to worry about that part of it.) The M-360 also includes a variable delay line for the rear channel, as do the cinema processors. In fact, the SSI device adheres so closely to all the strictures necessary for accurate Dolby Stereo decoding that it is entitled to bear the new Dolby MP Matrix logo. (Video material suitable for this sort of processing at home may start appearing with this logo.) Finally, there's even a 10-watt mono amplifier built into the unit to drive a rear speaker.

The centerpiece of the surround-sound system I assembled was a Kloss Novabeam Two video projector. The Novabeam provides a considerably bigger picture than most people have access to at home; but having viewed films with stereo and surround-sound on conventional TV sets, I was curious to see how much difference a large-screen presentation would make. The difference turned out to be dramatic, but the increased realism it offers does not invalidate the use of stereo/surround techniques with smaller screens. Although a foot-wide picture of a symphony orchestra with a 12-foot-wide stereo-sound image makes little sense, the situation with motion pictures is quite different. In most films, dialogue and the sounds from on-screen action are panned dead center (or close to it) in the mix so that they will "fit" almost any screen. If music and off-screen action are heard as coming from off-screen, then that's probably how it's supposed to be.

Although Dolby SVA film prints provide just one channel of surround, I chose to use two rear loudspeakers to reproduce it. A single speaker, particularly if it's close behind you, yields too much localization for surround effects that are intended to be diffuse. The two front speakers were positioned about five feet apart, which put them just to the sides of the Novabeam screen. Here is where a large picture did prove advantageous: Some of the source material at my disposal turned out to have dialogue and on-screen effects that were panned from side to side. Positioning the speakers right at the edges of the video image caused the sound to track the screen action perfectly and yet

provided enough spacing for a satisfactory stereo effect.

For source material, I depended on Beta Hi-Fi tapes of *The Road Warrior* (*Mad Max 2*, outside of the U.S.) and *Creepshow*, both Warner releases. I chose Beta Hi-Fi (reproduced on a Sony SL-2700 VCR) because I was curious to see it up close and suspected that its remarkable audio reproduction would suit the needs of surround-sound decoding. There have been reports that conventional stereo videocassettes weave as they pass over the stationary playback head, causing enough intertrack phase shift to impair Dolby Stereo decoding. Beta Hi-Fi's FM audio recording system is fairly resistant to such problems. (See "How Beta Hi-Fi Works," August.) The LV or CED videodisc formats should be just as good for this purpose.

HOW IT SOUNDS

I can sum up the experience of surround-sound movies at home in one word: involving. *The Road Warrior*, despite its on-screen visual excesses, turns out to have an effective, but fairly conservative surround track. There are some quiet scenes with the wind sighing its way across the Australian Outback, splendid flyovers and flash-bys of motorized contraptions in the air and on the ground, and several explosions in which debris falls around and behind you. Overall, the surround effects add punch and realism to the film without distracting from the on-screen action. *Creepshow*, on the other hand, has a rather flamboyant surround track. Especially during ugly and violent moments, much of the music drifts from the front toward the back, getting very big and loud in the transition. This effect, which for lack of a better term I've dubbed "audio zoom," gives you the sense of being forcibly pushed into the often gruesome on-screen action.

I was generally happy with the performance of both the Fosgate and SSI decoders. The SSI's delay line was not much of an asset in my room, and I ended up setting it for minimum delay. (In cinema processors, the surround sounds are passed through the delay line so that people in the back of the theater won't hear the surround information before the on-screen sounds.) In fact, I couldn't understand why SSI bothered to include it at all. A Dolby spokesman explained that it

could alleviate the effects of tape weave on some VCRs.

The Fosgate decoder produced a bigger and somewhat less stable sound field. At first I wondered whether the lack of Dolby B decoding for the surround channel was causing the sound to pump dynamically. Further investigation, however, suggested that

A DOLBY STEREO SAMPLER

STEREO VIDEOCASSETTE and videodisc versions of these recent Dolby Stereo films will yield their surround-sound information at home when properly decoded. In the photo below, Adrienne Barbeau gets the squeeze from Hal Holbrook in a scene from *Creepshow*, a film with a gruesomely effective surround track.



- ALIEN
- ANNIE
- THE BLACK STALLION
- CAN'T STOP THE MUSIC
- CAT PEOPLE
- CHARIOTS OF FIRE
- CLASH OF THE TITANS
- AS BOOT

THE DEER HUNTER

DOGS OF WAR

DRAGONSLAYER

ELEPHANT MAN

FAME

FIREFOX

FLASH GORDON

FOR YOUR EYES ONLY

THE GREAT MUPPET CAPER

HALLOWEEN II

THE ISLAND

LORD OF THE RINGS

MOONRAKER

OUTLAND

STAR WARS

STAR TREK II

SUPERMAN I & II

the unit's decoding logic circuits may not match the Dolby encoding scheme precisely. The Fosgate's sound, however, is in no way objectionable, just different from that produced by the SSI decoder.

After living with my video/ surround system for several weeks, I don't think I could happily return to "flat" stereo or—shudder—mono. Don't confuse the video surround sound with the quadriphonic music of the mid-Seventies. The music industry never really got the hang of quad before the whole four-channel edifice tumbled. Hollywood, however, has been using one form or another of surround sound for decades and knows how to use it effectively. Indeed, if enough of you become interested in video surround and hear for yourself how exciting it really is, then perhaps a case could be made for the return of four-channel audio—this time done the right way. HF

WARNER

STEREO

TV

Now



BY

WILLIAM MOWRER

AFFORDABLE DECODERS LET YOU RECEIVE SATELLITE STEREO BROADCASTS WITH YOUR BACKYARD DISH ANTENNA.

OVER THE PAST YEAR or so, many of the television programs available to owners of backyard dish antennas have acquired stereo voices. The Movie Channel, MTV, Spotlight, Home Theatre Network (HTN), Bravo, the Disney Channel, and the Nashville Network are now broadcast with stereo soundtracks. And, if you're disappointed with the quality of the FM programming in your area, you'll be pleased to know that some 22 FM stations—including Chicago's much admired classical music station, WFMT—are accessible via satellite.

If you own a backyard dish antenna, then presumably you've already wrestled with the legality of tapping satellite-relayed broadcasts. But if the possibility of obtaining stereo audio via satellite is the incentive you

need to invest in a complete earth station, then you should be aware of the legal implications of owning and operating a satellite dish. Is it legal to receive broadcasts that your neighbor down the road is paying upwards of \$20 a month to "buy" from a cable company? The answer, at least for the moment, is yes.

No law on the books states that private reception of satellite signals is a crime, and no lawsuit has ever been brought against a home-earth-station owner. However, new legislation or an adverse court ruling could in the future make it illegal to receive such broadcasts without permission. Bills to accomplish just that have been introduced in Congress over the past few years, but they have been defeated each time. One such bill even recommended that private ownership of an earth station be made unlawful.

But for now the coast is clear for the reception of satellite-relayed

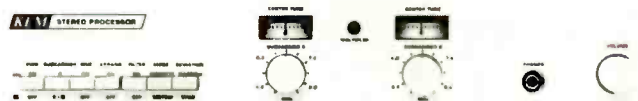
television and audio programs. And for those of us who live in rural areas not serviced by a cable operator or a decent-quality FM station, the backyard earth station has become somewhat of a necessity. I wouldn't part with mine without a fight.

WHAT YOU NEED to tune into satellite stereo transmissions is a special decoder capable of dealing with the four incompatible stereo encoding systems currently in use. Hooking up the decoder is simple: You route the output of your satellite receiver through the decoder and out to the aux inputs on your stereo amplifier. I evaluated two of the most popular and affordable of these devices—Channel Master's Model 6140 (\$340) and KLM's Stereo Processor (\$465)—and found both welcome additions to my satellite antenna/receiver setup.

The diversity of audio programming available on satellite is remarkable. If you have a teenager in the house and are a cable-TV subscriber, you have probably already heard the offerings on MTV—pop-music videos with a stereo soundtrack simulcast over an unused FM frequency. Warner Amex, the producer of MTV, supplies this program as well as The Movie Channel to local cable operators via a satellite feed complete with a matrixed stereo soundtrack; the cable company decodes the stereo information and usually charges an extra fee to deliver the simulcast to subscribers via a hookup to an FM tuner. Both the Channel Master and KLM processors scored high marks in decoding these matrixed broadcasts. With the pop material, the sound was about what you'd expect from a quality-conscious FM station, while the movie soundtracks had that crisp, full-range quality you usually hear only in a first-run movie theater.

Spotlight, another movie channel, broadcasts its stereo information on discrete carriers. The Channel Master and KLM processors are equipped to handle such transmissions, and the results are terrific. Both Home Theatre Network, which broadcasts family-oriented feature films and travel programs, and Bravo, which specializes in foreign films and the fine arts, use a multiplex system developed by the Leaming Corp. Again, both processors are equipped with the proper decoding circuits, and the stereo audio

William Mowrer lives in rural Massachusetts and has owned his own earth station for three years.



PICKING UP SATELLITE stereo broadcasts often involves tuning in two subcarriers. Meters on the KLM (top) and presets on the Channel Master simplify the process.

they produce is first-rate.

And then there's the Wegener system, first selected by WFMT and since adopted by the Disney Channel, the Nashville Network, the Satellite Radio Network, Moody Broadcasting, and others. In fact, the Wegener system is by far the most popular of the four stereo-transmission techniques. The Wegener approach uses separate carriers for the left and right channels and lots of compression to arrive at a specified signal-to-noise ratio of 63 dB—provided, of course, that you apply the correct expansion at the receiving end.

I conducted two listening tests of the processors in decoding Wegener-encoded broadcasts—the first on the now defunct Entertainment Channel and the second on WFMT. In an A/B trial using the Entertainment Channel, it was impossible to tell which processor was in use. The sound was good overall; but the real test for audiophiles must be the reception of WFMT, and I would be less than candid if I didn't admit that both the KLM and Channel Master decoders leave a great deal to be desired here. They both produced stereo sound from the broadcast, but with far more noise than I could tolerate. The Channel Master's reception was worse than the KLM's, but even the better of the two reminded me of FM reception in deep-fringe areas. Also rather disappointing was the broadcast's tonal balance: The outputs from both processors lacked bass while emphasizing the treble. The processors' DNR circuits made some dent in the noise, but were, of course, powerless to correct the frequency imbalance.

A phone call to WFMT shed some

light on the situation. In fact, Ray Nordstrand, the station's president and general manager, is none too thrilled about the attention his station is getting from the processor makers. "To be received properly in the home, the WFMT broadcast should undergo the appropriate decoding process," he noted. "And to the best of my knowledge, none of these multipurpose satellite signal processors duplicates Wegener's technique sufficiently to deliver a clean signal." Nordstrand said that special home decoders are available from Wegener, and without the right equipment "trying to listen to WFMT via a backyard dish is like listening to an undecoded DBX recording." Unfortunately for those of us who've already sunk anywhere from \$2,000 to \$10,000 for a dish and receiver, the additional \$1,400 for the Wegener decoder may seem a bit taxing.

WFMT aside, both the Channel Master and KLM processors generally produced excellent results. Some of the stereo FM stations share transponders with other audio and TV channels. Transponder 3 on Satcom's F3 satellite, for example, carries not only the audio and video signals of WGN-TV in Chicago, but also seven stereo audio signals (one of which is WFMT's). The number of audio offerings is really staggering, but suffice it to say that they range from channels devoted to nonstop show tunes, country music, and "golden oldies" to big bands and comedy.

But tuning in these broadcasts with these processors can be tricky. In most cases, it's necessary to tune two subcarriers separately. Sometimes one subcarrier contains the sum of the left and right channels, the other the difference, as in FM multiplex broadcasts, while other broadcasts put the left-channel signal on one carrier and the right on the other. There are tuning scales and knobs on each processor for this task, but the process is none too precise on either unit. To simplify matters somewhat, KLM provides two illuminated center-channel tuning meters, while Channel Master includes four presets to store commonly used settings.

Despite these caveats, both the Channel Master 6140 and KLM Stereo Processor do a yeomanlike job of coping with a difficult situation. There are more expensive units available, but you'd be hard pressed to find models capable of similar performance at such attractive prices. **HF**

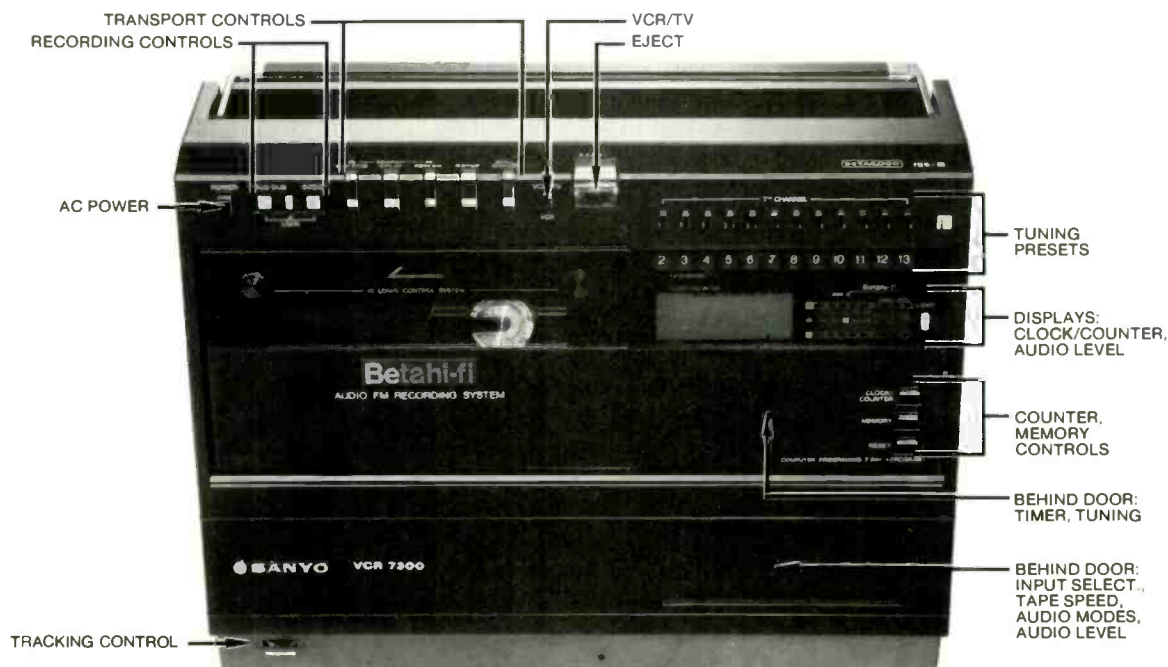
SATELLITE STEREO BROADCASTS*

Program	Service	Satellite	Transponder	Broadcast Method
ARTS	Cultural	Westar 5	12	Wegener Discrete
BRAVO	Cultural	Satcom F4	2	Leaming Multiplex
MTV	Rock Music	Satcom F3	11	Warner Matrix
Nashville Network	Country Entertainment	Westar 5	17	Wegener Discrete
Satellite Jazz Network	Jazz (audio only)	Satcom F4	17	Wegener Discrete
Black Entertainment Network	Variety	Westar 5	24	Wegener Discrete
Star Station	Popular Music (audio only)	Satcom F3	3	Wegener Discrete
Moody Broadcasting	Gospel (audio only)	Satcom F3	3	Wegener Discrete
Movie Channel	Movies	Satcom F3	5	Warner Matrix
WFMT	Classical Music (audio only)	Satcom F3	3	Wegener Discrete
Stardust Network	Big Band Hits (audio only)	Satcom F3	3	Wegener Discrete

*This is only a partial listing of the stereo programs available on satellite. For a more comprehensive list, including each broadcast's subcarrier frequencies, send us your request with a self-addressed envelope and a check for \$2.00 for postage and handling.

SANYO VCR-7300 PORTABLE BETA HI-FI VCR

Sanyo VCR-7300 portable Beta-format videocassette recorder, with Beta Hi-Fi stereo audio and wired remote control. Dimensions: 14½ by 10¾ inches (front panel), 6¼ inches deep. Price: \$1,000. Warranty: "limited," one year parts and labor. Manufacturer: Sanyo Electric Co., Ltd., Japan; U.S. distributor: Sanyo Electric, Inc., 1200 W. Artesia Blvd., Compton, Calif. 90220.



SANYO'S VCR-7300 STANDS out from the current crowd of look-alike videocassette recorders. It's light enough (approximately 15½ pounds) to qualify as portable (or at

least transportable) and can record for about 40 minutes from its optional NP-1 battery pack (or from a car battery via the optional VBF-74 cable), but, unlike other portables, it is an all-

Laboratory data for HIGH FIDELITY's video-equipment reports are supplied by Diversified Science Laboratories. Preparation is supervised by Michael Riggs, Peter Dobbin, and Edward J. Foster. All reports should be construed as applying to the specific samples tested. HIGH FIDELITY and Diversified Science Laboratories assume no responsibility for product performance or quality.

in-one unit whose 12-channel electronic tuner, clock, and timer come along for the ride. And if you want portable Beta Hi-Fi, this unit will provide it.

The VCR-7300 is a bit heavy to carry on a shoulder strap, so Sanyo has thoughtfully provided a carrying handle that makes the system more totable than its weight might suggest. The recorder is designed to be operated vertically with all the controls up front—another difference.

The timer and tuner are nonfunctional when the unit is operated from a battery, but when the included VPA-72 AC power adapter is used, they provide seven-day, one-event programmability over a 105-channel "cable-ready" range. The VPA-72 also serves to recharge the battery via the VBC-70 battery-charging adapter (also included), but, since the VPA-72 must be removed from the VCR for this

to operate PLAY, FAST FORWARD, REWIND, PAUSE/STILL, and STOP, and, through them, STILL FRAME and SEARCH. RECORD is not accessible by remote, perhaps because of the somewhat unusual way in which this mode is entered. Touching LOCK arms the recording electronics for one second. Pressing RECORD or AUDIO DUB within that time starts the recording mode. (AUDIO DUB works only on the "standard" audio track—not in Beta Hi-Fi, which is inextricably interleaved with the video information.)

The VCR-7300 defaults to STOP after about five minutes in PAUSE (to protect the tape), which means you will have to walk over to the deck to rearm the recording mode after an extended pause. A special editing function provides seamless video splicing, albeit at the risk of losing about two seconds of previously recorded material ahead



SECONDARY CONTROLS are in two groups. The ones at top normally are concealed behind a flip-down door and are used for entering the station presets and for setting the clock and timer. The controls at bottom, which are behind a sliding panel, are for setting the recording speed, the audio recording mode and level, etc.

operation, the system is down for the 90 minutes required for a recharge. Some users may prefer to buy a second VPA-72 to use strictly as a recharger.

The soft-touch transport controls provide all the standard functions, plus still-frame and forward and reverse picture-search in Beta III. A wired five-button remote control enables you

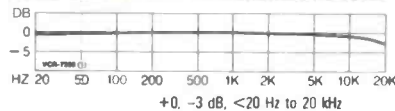
of the "splice."

Because the VCR-7300 is capable of stereo Beta Hi-Fi recording, left and right mike and line inputs and outputs are provided. Choice of the audio recording and playback modes is made with a set of switches and controls behind a sliding door panel. The recording mode switch selects mono,

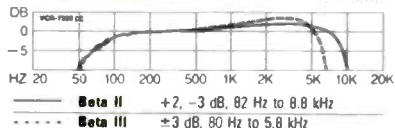
VCR SECTION

Except where otherwise indicated, data are for both speeds—Beta II and Beta III. All measurements were made at the direct audio and video outputs, with test signals applied to the direct audio and video inputs. For Beta Hi-Fi, the 0 dB reference input level is the voltage required to produce 3 percent third harmonic distortion at 315 Hz; for the standard audio recording mode, it is 10 dB above the voltage at which the automatic level control (ALC) produces 3 dB compression at 315 Hz. The 0 dB reference output level is the output voltage from a 0 dB input. Beta Hi-Fi measurements were made with the ALC off and the recording level controls set for meter zero at 500 millivolts; standard audio recording measurements were made with the ALC on.

BETA HI-FI RECORD/PLAY RESPONSE (-20 dB; stereo)



STANDARD RECORD/PLAY RESPONSE (-20 dB; mono)



AUDIO S/N RATIO (re 0 dB output; R/P; A-weighted)

	Beta II	Beta III
Beta Hi-Fi (stereo)	86 dB	84 dB
standard (mono)	44 dB	43 1/4 dB

INDICATOR CALIBRATION (315 Hz; Beta Hi-Fi)

for 0 dB input	> +6 dB
for -10 dB input	-3 dB

DISTORTION (THD at -10 dB input; 50 Hz to 5 kHz)

	Beta II	Beta III
Beta Hi-Fi (stereo)	≤ 0.26%	≤ 0.29%
standard (mono)	≤ 2.01%	≤ 2.71%

CHANNEL SEPARATION (315 Hz)

	70 dB
--	-------

INDICATOR "BALLISTICS"

Response time	0.8 msec
Decay time	≈ 200 msec
Overshoot	0 dB

FLUTTER (ANSI weighted peak; R/P)

	Beta II	Beta III
Beta Hi-Fi (stereo)	< ±0.01%	< ±0.01%
standard (mono)	±0.12% avg.	±0.23% avg.

SENSITIVITY (for 0 dB output, 315 Hz)

	mike	line
Beta Hi-Fi (stereo)	2.65 mV	620 mV
standard (mono)	not measured	290 mV

AUDIO OUTPUT LEVEL (from 0 dB input, 315 Hz)

Beta Hi-Fi (stereo)	1.5 volts
standard (mono)	0.19 volt

AUDIO INPUT IMPEDANCE

line input	21.5k ohms
mike input	12k ohms

VIDEO RECORD/PLAY RESPONSE

at 500 kHz	+3/4 dB
at 1.5 MHz	-3 1/2 dB
at 2.0 MHz	-8 1/2 dB
at 3.0 MHz	*

LUMINANCE LEVEL

	standard
--	----------

GRAY-SCALE NONLINEARITY (worst case)

Beta II	<3%
Beta III	≈5%

CHROMA LEVEL

Beta II	≈3 dB low
Beta III	≈3 3/4 dB low

CHROMA DIFFERENTIAL GAIN

Beta II	≈10%
Beta III	≈15%

CHROMA DIFFERENTIAL PHASE

	≈±5°
--	------

AVERAGE CHROMA PHASE ERROR

Beta II	≈+5°
Beta III	0°

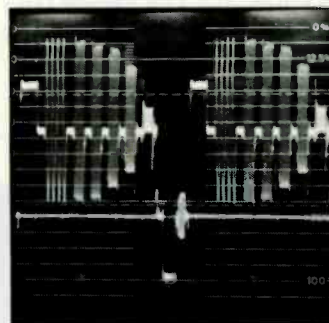
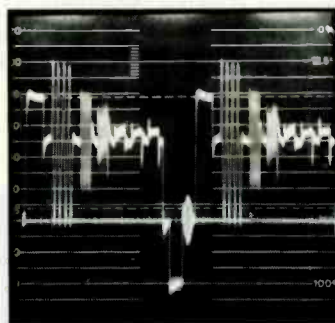
*Too low to measure

Beta Hi-Fi, or "stereo audio" recording. The last option enables you to use the VCR-7300 strictly as an audio recorder, without requiring external video to synchronize the Beta Hi-Fi system.

The input selector chooses tuner, camera, or external audio/video inputs, while a separate external-audio input switch enables you to record video from the TV tuner and audio from a separate source (such as an FM tuner, for simulcast recording). The audio-out switch chooses stereo, left-track-only, right-track-only, or mono playback.

Audio recording level can be set

resolution, holds up well to 2 MHz—very good performance for a VCR. Luminance level is right on target, and the gray scale is almost perfectly linear. Chroma differential gain and phase are very low in both modes, suggesting uniform color saturation and tint at all brightness levels. Chroma level is a trifle low, but not unusually so, and should be easily correctable at the monitor in playback. And chroma phase (tint) accuracy is close to perfect at both recording speeds, although, as is to be expected, chroma noise is slightly higher at the slower recording speed (Beta III).



MULTIBURST RESPONSE for the VCR-7300's recorder section running at Beta II (left) and for its TV tuner (right). (Response in Beta III is virtually identical to that in Beta II, so we have omitted the multiburst photo for the VCR at the slower speed.) No VCR's video response extends appreciably beyond 2.0 MHz (the third of the six bursts), which accounts for the limited resolution of videocassette recordings compared to broadcasts or optical videodiscs. Up to that point, however, the VCR-7300's record/play response holds up very well. The tuner section's response is better, though, remaining unusually flat from 500 kHz (the first burst) to 3.0 MHz (the fourth), with just a slight rolloff at the 3.58-MHz color-carrier frequency followed by a sharp drop in the last band, at the 4.2-MHz upper limit of the NTSC broadcast system. This is excellent performance: Connected directly to a monitor (bypassing the VCR section), it could deliver between 280 and 330 lines of horizontal resolution.

manually (with separate left- and right-channel controls) or automatically (by an automatic-level-control, or ALC, circuit), as determined by the setting of the audio-recording-level switch. (In mono recording, however, the ALC is always active, regardless of the switch position.) Two eight-segment LED recording-level indicators aid in manual recording-level adjustment.

Diversified Science Laboratories' tests on the Sanyo VCR-7300 reveal almost identical video-recording characteristics at both operating speeds. Video record/play response, which determines the recorder's horizontal

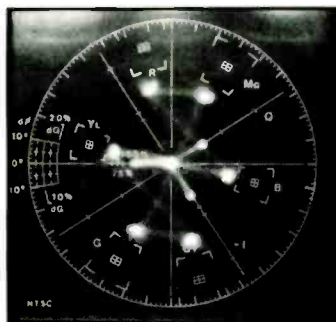
Beta Hi-Fi audio recording is also virtually identical at the two speeds, since, in this mode, the audio information is frequency-modulated onto the video track. (See "How Beta Hi-Fi Works," August, page 49.) DSL used the manual level controls in this mode and adopted as its reference level the input necessary to produce 3 percent third-harmonic distortion at 315 Hz. (Total harmonic distortion at this level is 4.1 percent, because of some second and fourth harmonics in the output.) Output voltage from this input is more than adequate, although line and microphone sensitivities are lower

than we would have expected (and you may not be able to reach our reference level with some relatively low-output sources). The mike-input overload margin is precariously slender for such a low sensitivity, which suggests that you should use a separate microphone preamp feeding the line inputs for serious audio recording in the stereo-audio mode—the one DSL used for all Beta Hi-Fi tests. Input impedance is high enough not to be a problem.

At reference level, the indicator reading is *just* off the scale, so you can rely on it for establishing the maximum recording level. The indicator responds

of the noise-reduction circuitry used in the Beta Hi-Fi system). Both on the bench and in our Beta Hi-Fi listening tests, the VCR-7300 emitted occasional (usually low-level) bursts of staticlike noise, which we suspect were due to uncompensated dropouts. The problem was most apparent when we used a low-quality tape, and was almost eliminated when we switched to a fresh, high-quality cassette.

Standard monophonic edge-track recording characteristics are about on a par with those of other home VCRs. Flutter at the Beta II speed is a trifle worse than that of a good audio



VCR COLOR ACCURACY is very good and nearly the same in Beta II and III. These vectorscope photos are for the Beta II speed, which is a shade better than Beta III in chroma level (color saturation) and a little worse in chroma phase (hue). The uncorrected color is shown in the left-hand photo. A 3-dB increase in chroma gain and a slight clockwise phase rotation brings all six color vectors (the white blobs near the circumference of the grid) right onto the small targets in the right-hand photo. This simulates the best result one could obtain using the color and tint controls on a monitor, which, in this case, is excellent. The correction for Beta III would be simply a 3¼-dB increase in chroma gain (with no change in chroma phase), which would yield equally good results. The diffuseness of the color vectors is caused by chroma noise and is slightly greater in Beta III than is shown in these Beta II photos.

rapidly and without overshoot, although the decay time is a trifle short. We would, however, have appreciated more than eight segments (which span only a 24-dB range) to handle the approximately 85-dB dynamics of which Beta Hi-Fi is capable.

Flutter in Beta Hi-Fi recording is below our measurement limits, and distortion is 1 percent or less (at both speeds) out to 10 kHz. At 20 dB below reference level, response is just 3 dB down at 20 kHz, but at higher recording levels it starts to sag above 10 kHz (perhaps reflecting the action

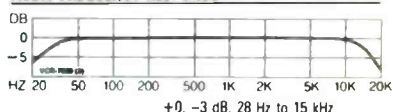
cassette deck, and flutter at the slower Beta III speed is about twice what it is in Beta II.

The ALC prevents tape overload (usually considered to be the 3-percent third-harmonic distortion point), so DSL established an input reference level related to the ALC action. Once the ALC comes into play, it sharply limits the recording level, at least on continuous tones. A 10-dB increase in input above the knee of the ALC curve causes only a ¼-dB increase in output. Fast transients are reasonably well preserved, however, since the ALC does not respond instantaneously. In

TV TUNER SECTION

All audio measurements were made with the automatic level control (ALC) on.

AUDIO FREQUENCY RESPONSE



AUDIO S/N RATIO (A-weighted)

best case (no video signal)	38 dB
worst case (crosshatch pattern)	7¼ dB

RESIDUAL HORIZONTAL SCAN COMPONENT (15.7 kHz)

	-49¾ dB
--	---------

MAXIMUM AUDIO OUTPUT

	0.215 volt
--	------------

AUDIO OUTPUT IMPEDANCE

	2,200 ohms
--	------------

VIDEO FREQUENCY RESPONSE

at 500 kHz	+½ dB
at 1.5 MHz	+¼ dB
at 2.0 MHz	flat
at 3.0 MHz	-¾ dB
at 3.58 MHz	-3 dB
at 4.2 MHz	-15¾ dB

LUMINANCE LEVEL

	11% high
--	----------

GRAY-SCALE NONLINEARITY (worst case)

	≈10%
--	------

CHROMA LEVEL

	≈2¼ dB low
--	------------

CHROMA DIFFERENTIAL GAIN

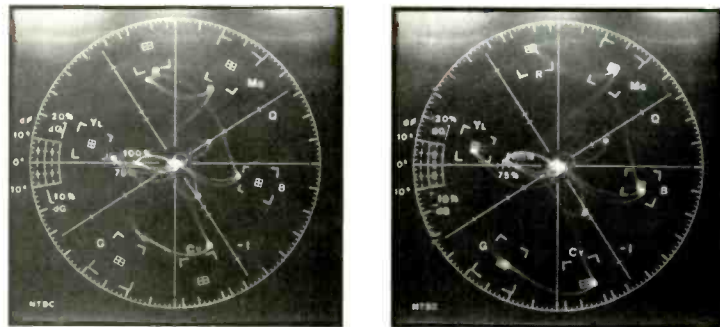
	≈30%
--	------

CHROMA DIFFERENTIAL PHASE

	≈±5°
--	------

CHROMA PHASE ERROR

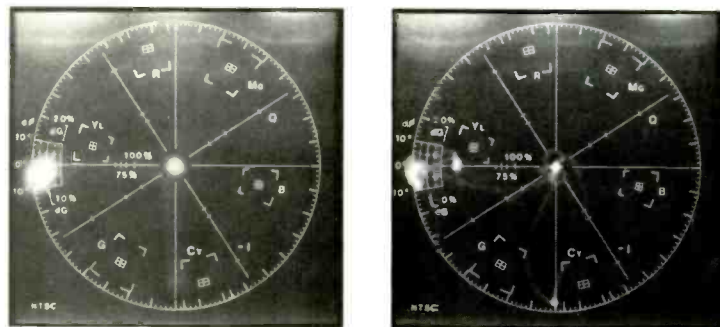
red	+4°
magenta	+5°
blue	+1°
cyan	+9°
green	+7°
yellow	+8°
average error	+5°



TUNER COLOR ACCURACY is very good. The vectorscope photo at left indicates low color saturation (chroma level) and a small amount of hue (chroma-phase) inaccuracy. The photo at right—made with 2½ dB additional chroma gain and approximately 5 degrees of clockwise phase rotation—simulates the best results one could obtain using the color and tint controls on a monitor. This adjustment brings all six color vectors (the white dots toward the circumference of the grid) into or very near the small targets, which is excellent performance.

light of the aggressive ALC action, sensitivity in this mode also is somewhat less than we would have expected, and maximum output voltage is limited accordingly.

Distortion at the knee of the ALC curve ranges from 2 to 3 percent at low frequencies to about half that at midband. Response 10 dB below the knee (20 dB below reference level) peaks at about +2 dB in the upper midrange in Beta II and about 3¼ dB



COLOR CONSISTENCY for the VCR-7300's recorder section running at Beta II (left) and for its TV tuner (right). (The results for the VCR in Beta III are only marginally different from those in Beta II, so we have omitted the vectorscope photo for the slower speed.) In each case, the ideal would be for the cluster of dots toward the left edge of the grid to be a single dot at the intersection of the nine-o'clock axis with the circumference. The radial spread of the dots indicates the chroma differential gain, which is a measure of how much color saturation (chroma level) varies with changes in scene brightness (luminance). The angular spread shows the chroma differential phase, which tells how much hue (chroma phase) shifts with changes in brightness. Both the VCR and the tuner sections perform well on this test.

in Beta III, dropping off to -3 dB at 8.7 kHz and 5 kHz, respectively, at the high end. Signal-to-noise (S/N) ratio at either speed is a little better than average for a VCR, but still only about half that obtained in Beta Hi-Fi.

The tuner noise is respectably low under normal video conditions, although it increases significantly with highly repetitive video signals (such as titling), which can elicit buzzing. The horizontal-scan whistle also is well suppressed. And when there is an actual audio signal, the tuner's performance in these categories may be better than the reported figures indicate. DSL's tests suggest that when the recording-mode switch is set to mono—the normal position for TV viewing and recording—the TV sound is passed through the ALC before it reaches the audio output jacks. In bench tests, such an arrangement would tend to degrade the measured S/N ratio and improve the measured frequency response.

Video frequency response (which determines the tuner's horizontal resolution) is very flat to 3 MHz and down negligibly at the color-burst frequency (3.58 MHz). As in all TV tuners, the response drops off considerably at the upper edge of the NTSC band (4.2 MHz), to minimize interference with the signal on the 4.5-MHz audio subcarrier.

Gray-scale linearity is quite good, and luminance level just a dB higher than it should be. Chroma level is well within the adjustment range of a monitor's color control, and differential phase is very good. Chroma differential gain is considerable, but the error occurs only at the highest luminance level. Color accuracy is good; although all hues cannot be brought into perfect alignment simultaneously, careful adjustment of your monitor's tint control will bring them very close.

The VCR-7300 has its shortcomings, the most notable being the occasional noise bursts in Beta Hi-Fi and the mediocre built-in mike preamps (particularly irksome in a unit designed for portable operation). But these must be balanced against its otherwise excellent audio and video performance and its relatively low price. More money will buy you more features, but you won't necessarily get better value. And if you want a portable Beta Hi-Fi recorder, it's the only game in town.



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merely amplify. Its Audio Signal Processor provides feather-touch controls with extraordinarily low levels of noise and distortion.

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*News and
new equipment*

GRABBING THE SHUTTLE

Large-scale archival storage of important visual information with almost instantaneous access to specific still-frames or motion-picture sequences has always seemed one of the most attractive applications of optical videodiscs. Video Vision Associates was one of the first videodisc producers to realize this, and its Space Disc series (TechFronts, August) documenting the U.S. space program and related cosmic sciences seems an altogether worthwhile and exciting

venture. With their on-board complement of some 10,000 NASA still photos and extensive movie footage, these discs are intended mainly for serious scholarly use and are priced accordingly—\$320 each. Now, however, Video Vision has begun releasing a consumer series priced at just \$40 per disc.

The first release in the popularly priced Space Archives series draws from NASA's files to document missions five, six, and seven of the space shuttle. The disc contains 55

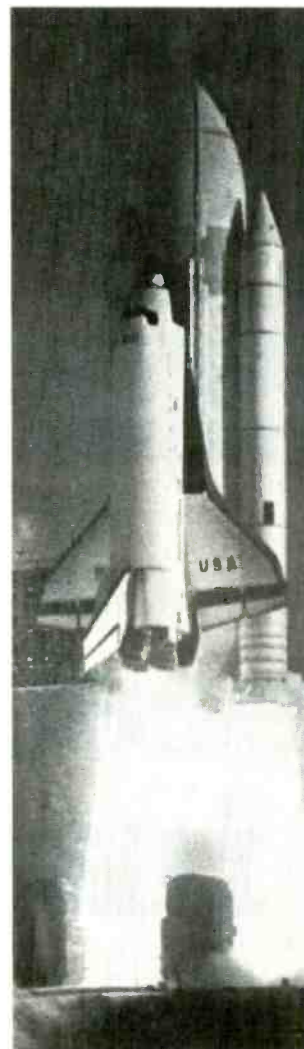
minutes of video transmissions from the shuttle and more than 800 color photographs. All moving-picture segments are accompanied with the appropriate real-time communications between the shuttle and Houston Control, and several sections also have post-mission commentary by crew members. Of course, Sally Ride, America's first woman astronaut to go up in the shuttle, is featured prominently in the coverage of mission seven, as are some extraordinary views

DEDICATED TO MUSIC



As we have been documenting in these pages, digital music synthesis need not be expensive—provided you already own a computer capable of accepting music-synthesis software (see "High Cs from ICs," June, and "The Alpha and the Apple," September). Now Yamaha is bringing dedicated digital synthesizers down to affordable levels, as well. Designed for the musician who needs a flexible performance instrument, the DX-7 and DX-9 (at \$2,600 and \$2,000, respectively) have 61-note polyphonic keyboards, breath-controller inputs, and foot-pedal jacks for volume, sustain, and portamento functions.

Both models make use of digital sine-wave generators, or "operators" (six in the DX-7, four in the DX-9), to create sounds. In this system, the output of one operator acts as a carrier, which is frequency-modulated by the outputs of other operators. Each operator's overall output level can be adjusted for attack, decay, sustain, and release. The DX-7 comes with 32 factory-present sounds (20 in the DX-9), each of which can be changed or updated by reading in additional factory-supplied sounds from electrically erasable programmable read-only memory (EEPROM) cartridges (or from cassettes for the DX-9). One EEPROM cartridge and two ROM cartridges with 128 sounds are supplied with the DX-7. Finally, both units are equipped with a data buss for communication with remote keyboards, computers, and other similarly equipped synthesizers. For a demonstration recording and additional information, write to Yamaha Combo Products (P.O. Box 6600, Buena Park, Calif. 90622).



of the Challenger shuttle taken from a retrievable space platform launched from the ship while in orbit. More information on "Space Shuttle Mission Reports: STS 5, 6 & 7" can be obtained directly from Video Vision Associates (7 Waverly Place, Madison, N.J. 07940). ●

If noise, hum and distortion turn you off, turn on Sansui's new AU-D77X* integrated amplifier for pure, true sound.

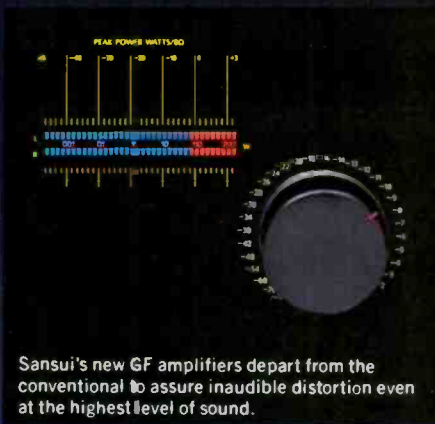
Only Sansui offers a trio of exclusive noise-eliminating innovations.

First, the unique Super Feed-forward DC power amplifier system routs virtually all types of distortion at all frequencies in the power amplifier.

Then, DD/DC circuitry, another Sansui breakthrough, produces high speed response and unmeasurable TIM in the predriver stage of the power amp.

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The result is clean, uncluttered music that's virtually free of noise, hum and distortion. (You also get this impeccable



Sansui's new GF amplifiers depart from the conventional to assure inaudible distortion even at the highest level of sound.

performance with Sansui's 130-watt* top-of-the-line AU-D11 II integrated amp.)

One outstanding performer deserves another. The TU-S77X tuner adds a new dimension to the state-of-the-art. Its new FM multiplex decoder improves channel separation and reduces distortion significantly. Also available is the TU-S77AMX tuner which automatically receives and switches to every approved AM stereo broadcast system.

The AU-D77X and TU-S77X make the perfect tuner/amp combination for people who appreciate great technology as much as they enjoy the silence in great sound. Get the "Silent Treatment" at your Sansui audio specialist, or write for literature.

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DIGITAL DBS: GERMANY SETS ITS AGENDA

Direct reception of satellite-relayed digital radio broadcasts in this country will most probably await full-scale implementation of DBS services for video (see last month's "A New Era for Radio?"), but the situation may be reversed in Europe. According to an announcement by Telefunken, DBS digital radio broadcasts could start in Germany and neighboring countries by 1985. The 16 stereo channels

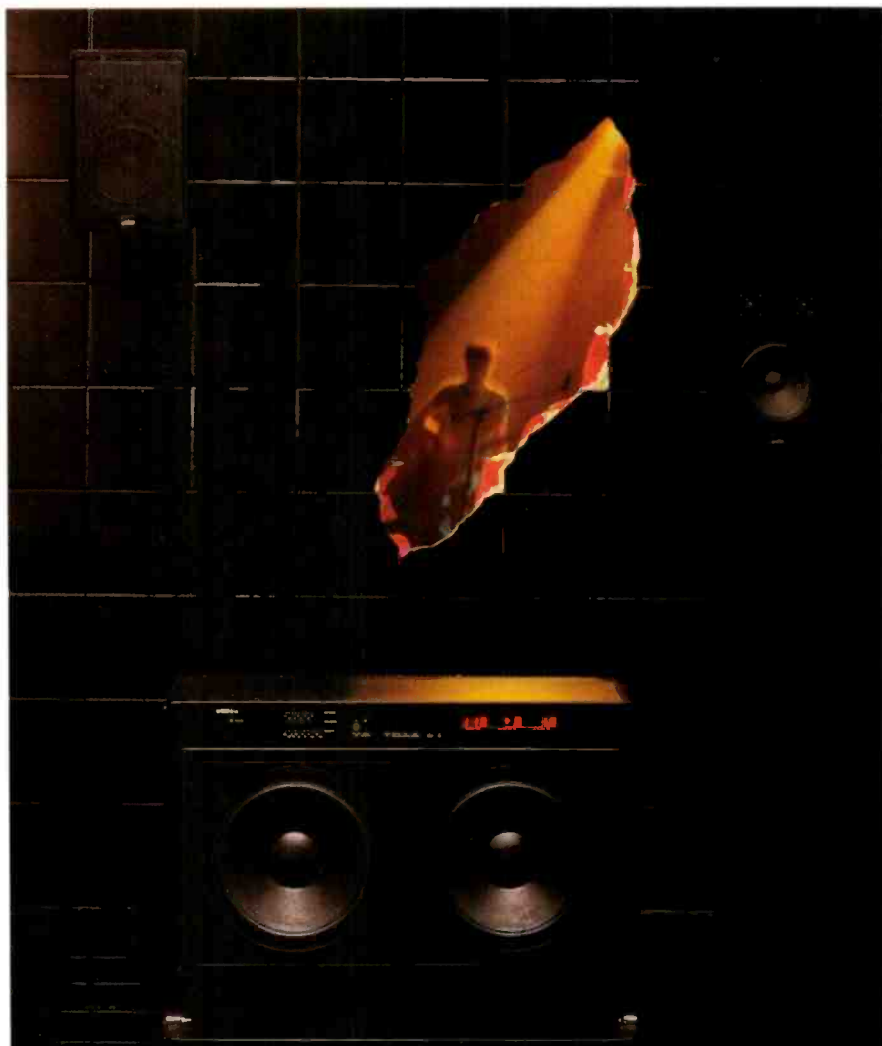
envisioned in the system being planned by Telefunken and the German government would be relayed by a high-power transponder on the TV-Sat 1 satellite; to receive the broadcasts, subscribers would need a rooftop dish antenna only 60 centimeters (24 inches) in diameter.

Decoding hardware would be supplied initially by Telefunken. A prototype receiver/decoder recently demonstrated in Germany automatically adjusts itself to the different digital

encoding schemes to be used for music and speech broadcasts. An alphanumeric display and keypad on the device will also give users direct access to subcode information embedded in the broadcasts, thereby simplifying the tuning process. Should a subscriber want to hear jazz, for instance, he need only key in the word "jazz," leaving it up to the decoder to search each channel for the appropriate descriptive data. No specifications for the system are available yet, except for a claimed 80 dB of stereo separation at high frequencies; this, says Telefunken, will allow some stereo channels to be divided into two separate mono broadcasts. ●

DUAL-PURPOSE MICRO

Designed for both audio and data recording, the two-speed C-100 microcassette recorder (\$122) from Olympus is said to be compatible with all pocket- and lap-sized computers. A remote-control connection on the device lets data save and load operations be initiated by the appropriate commands on the



Pictured above, the Canton "Plus A" digitally controlled super subwoofer, generating 310 watts of bi-amplification, shown with Quinto 520's as satellites. Have it demonstrated at a good audio studio and see how, domesticated, it recreates sound of unsurpassed clarity in listening rooms of ordinary size.

CANTON

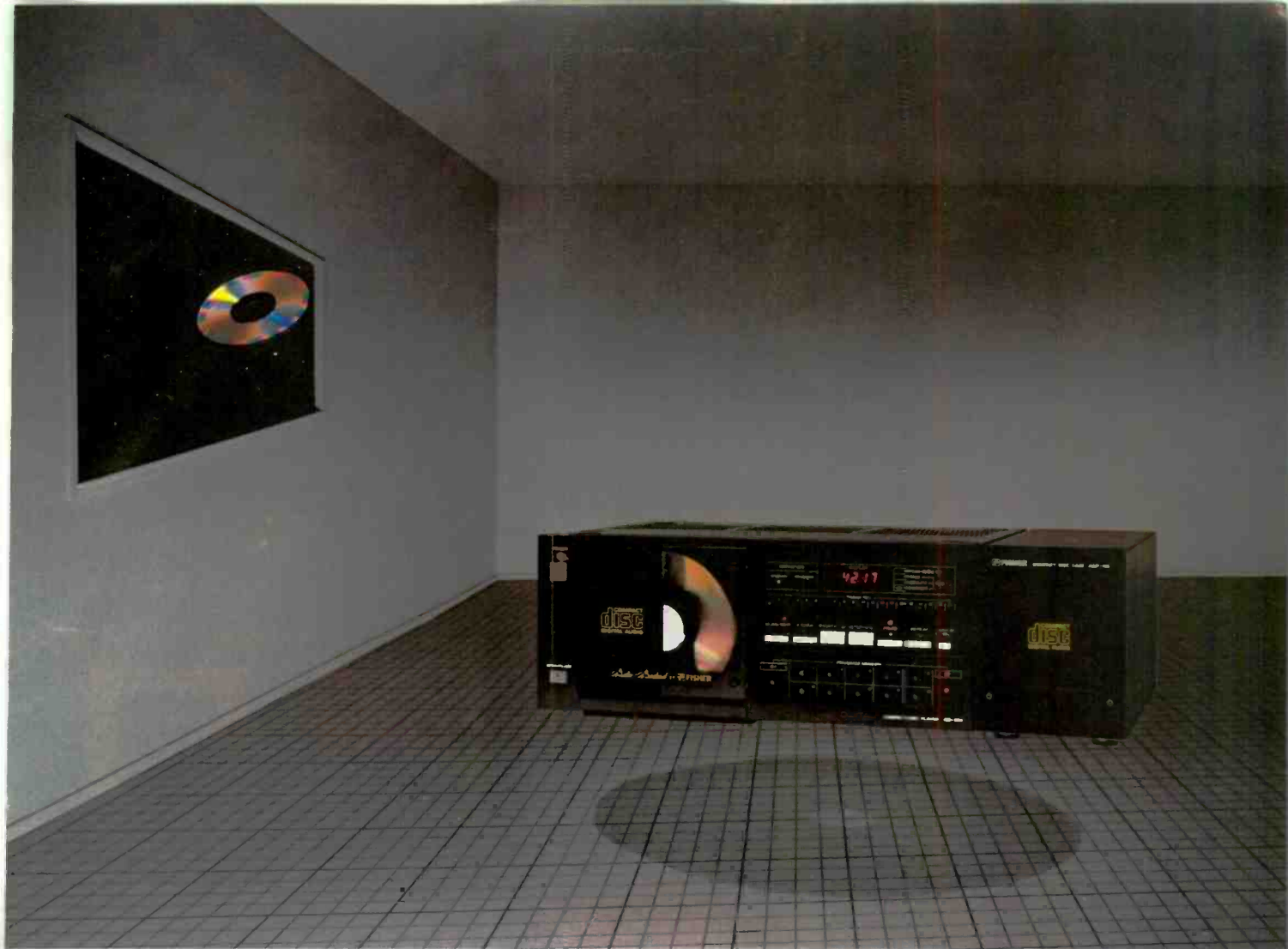
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computer, and a monitor function provides aural confirmation of data recording and playback. To maintain data integrity during recording, the C-100 automatically boosts recording levels when battery power starts to fall. For more information write to Olympus Corp. (Crossways Park, Woodbury, N.Y. 11797). ●



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Wild Heart



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George Benson
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Asia
Alpha



Christopher Cross
Christopher Cross



Tango Project



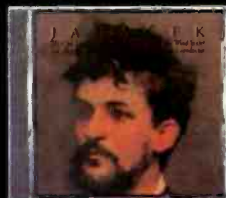
Jarreau
Jarreau



Linda Ronstadt
Greatest Hits Vol. 1



Quarterflash
Take Another Picture



LA Chamber Orch.
Janacek: Mladi



Talking Heads
Speaking In Tongues



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REVIEWS

*Pop and classical
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REVIEWS

NEW RELEASES FROM JESSYE NORMAN, MICHALA PETRI, THE BERLIN STATE ORCHESTRA, THE ISRAEL PHILHARMONIC, ABBA, LINDSEY BUCKINGHAM, ROXY MUSIC, AND BOZ SCAGGS

CLASSICAL

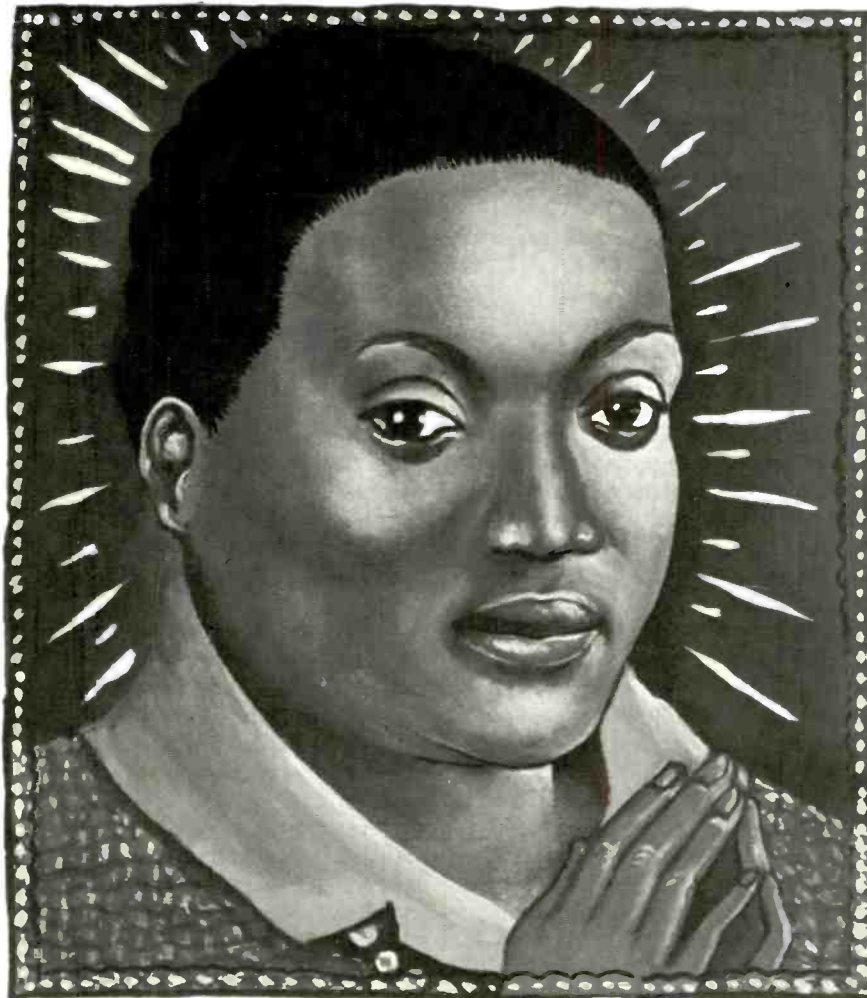
JESSYE NORMAN: Sacred Songs.

Jessye Norman, soprano; Christopher Bowers-Broadbent, organ*; Ambrosian Singers†, Royal Philharmonic Orchestra‡, Alexander Gibson, cond. Philips 400 019 (fully digital Compact Disc) [price at dealer's option]. LP: 6514 151, \$12.98. Cassette: 7337 151, \$12.98.

ADAMS, S.: The Holy City.* FRANCK: Panis angelicus.‡ GDUNOD: Messe solennelle de Ste Cecile: Sanctus.†† O Divine Redeemer (Repentir).‡ MacGIMSEY: Sweet little Jesus boy. SCHUBERT: Ave Maria.* YON: Gesù bambino.†‡ ANON.: Amazing grace‡; I wonder as I wander†; Let us break bread together‡; What child is this.

Jessye Norman's recital of so-called sacred songs is a model of its kind. That its kind also encompasses religious Sunday-morning TV should not detract from the dignity and accomplishment the soprano puts on display here. The selections, in themselves diverse enough to prevent interest from flagging, are imaginatively presented, the stylistic chasms all duly observed. Gounod's operatic effusions, the Victorian uplift of Stephen Adams, the homespun serenity of "Amazing grace," the gospel asceticism of Robert MacGimsey's "Sweet little Jesus boy" (sung without accompaniment)—all appear in apt arrangements, not glazed over with a single all-purpose goo of sanctity. The soloist's radiant instrument, serenity, and expansive phrasing impose all the unity her recital requires.

There are miscalculations. In the



SHEBA ROSS

"Ave Maria," Norman's lovely repose and beautiful dynamic gradations receive scant enhancement from organist Christopher Bowers-Broadbent's buzzing bass and tooting, clacking top. (His far grander part in "Adams's "The Holy City" is, however, perfectly to the point.) "Amazing grace" overcomes (but why should it have to?) an opening wash of Muzak. And "Let us break bread together" suffers from conductor Alexander Gibson's funereal tempo. The singsong cadences of "*Gesù bambino*" are, through no fault of the performers, more or less hopeless.

Perhaps the most touching selection is "I wonder as I wander," for the soloist with chorus a cappella, in which Norman's lines rise cool and fresh against the Ambrosian Singers' shifting, hazy timbres. But "What child is this," the Christmas carol sung to the tune of "Greensleeves," with its discreet string-and-harp introduction, is a pleasure, too, as is Franck's "*Panis angelicus*," loftily declaimed, if not quite a religious experience.

—MATTHEW GUREWITSCH

MICHALA PETRI:

Recorder Concertos (4).

Michala Petri, recorders; Academy of St. Martin-in-the-Fields, Iona Brown, cond. PHILIPS 400 075 (analog recording; digital Compact Disc [price at dealer's option]; LP: 9500 714, \$10.98; Cassette: 7300 808, \$10.98).

HANDEL: Concerto in F. G. SAMMARTINI: Concerto in F. TELEMANN: Concerto in C. VIVALDI: Concerto in C, RV 433.

The Vivaldi and Sammartini concertos are pleasant but lightweight, the Telemann and Handel considerably more urbane. Yet the attraction here is less the program than the extraordinarily agile and pure-toned performance of the young Danish recorder virtuoso Michala Petri. Though even recorder players admit that the instrument is not difficult to master, few discs boast the kind of bright, vibrant playing heard on the several Petri has made. Frans Brüggen's performances, by contrast, are often more subtly phrased and certainly as virtuosic; but his sound is breathier, his playing less energetic and immediately captivating.

The Academy of St. Martin provides sympathetic support—smooth, unobtrusive backings in the lyrical, tastefully ornamented slow movements; tight, enthusiastic collaboration in the fast ones. Its sound is rich and refined, as always, though rarely oversize; Petri, apparently miked closely, is

always well forward.

The delights of the performance aside, this disc also offers plenty of fragile, upper-range passage-work for the CD system to grapple with. The sound, both in those stratospheric reaches and in the comparative depths of the orchestral accompaniment, is ravishing; but then, the high recorder sound hasn't posed any problem on Petri's LPs either. Philips seems to have changed its mind about the access coding somewhere between the printing of the accompanying booklet and the pressing of the disc: While the notes give four index numbers, one for each concerto, the disc coding gives an index number to each of the 13 separate movements. —ALLAN KOZINN

BEETHOVEN:

Symphony No. 7, in A, Op. 92.

Berlin State Orchestra, Otmar Suitner, cond. DENON 38C37 7032, \$19.95 (fully digital Compact Disc).

Suitner's Beethoven cycle proceeds: His *Eroica*, Fifth, and *Pastoral* were reviewed in their LP format (June 1981, May 1982, November 1981). Now the *Eroica* appears on CD (38C37 7011)—and, with it, a new Seventh.

On the whole, this is a reliable, orthodox reading that, despite the ostensibly small orchestra, goes all out for monolithic weight and a deliberation reminiscent of Klemperer and Sanderling. The first-movement introduction, well paced, leads to a Vivace in which the dotted rhythm is scrupulously controlled but not very exhilarating. Parts of the development bog down, although the acute recording picks up some curious detail in the violin figurations (as well as a few imprecise chords and uncertain attacks—there's no faking it in pure digital!). The Allegretto is sternly played—neither too slow nor too fast—but rather tight-lipped in expression. Though the scherzo bounces along admirably in its outer sections, its *Assai meno presto* is unbearably stodgy (or, more crudely, *troppo meno*). The finale has weight but lacks sufficient tautness and momentum: wet clay rather than granite!

Frankly, the most injurious thing about the performance is its obsessive inclusion of repeats: As I have remarked before, the one in the first movement suggests Orpheus's mistake of looking backward at the wrong time, and the same applies to the finale. But

worst of all is the repeat in the trio the second time through: At Suitner's creeping pace, it assumes the tone of a litany. (I *do* begin to appreciate the extra repeat in the scherzo, though.)

There will doubtless be other—and better—Sevenths in the new medium. My advice is to sit tight and wait. —HARRIS GOLDSMITH

PROKOFIEV:

Symphony No. 5, in B flat, Op. 100.

Israel Philharmonic Orchestra, Leonard Bernstein, cond. [John McClure, prod.] CBS MASTERWORKS CD 35877 (fully digital Compact Disc); LP: IM 35877; Cassette: HMT 35877. [Prices at dealer's option.]

The Fifth Symphony has been called Prokofiev's *Eroica*, and Bernstein—assuming the mantle of Koussevitzky and adding some girth of his own—takes a *very* portentous (and, if you like, heroic) view here. Although I have always preferred a blend of sensuous tone and a more animated, even caustic, outlook (as in the old Rodzinski/New York Philharmonic version, which I prefer to the excellent but more amorphous Koussevitzky/Boston Symphony), this is in many ways a worthy and likable account. Increasingly, I come to realize that scansion and rhythmic control are more important than tempo; Bernstein, in all four movements, sets up and maintains a clear pulsation, which gives the performance requisite backbone. The Israelis, while still a bit drab and scruffy of tone, are at their best, with better discipline than in many of their (or Bernstein's) recordings; I even *like* some of the raunchy first-desk playing in this lyrical but sardonic music. The CD sound is detailed and wide-ranging, if not particularly alluring.

—HARRIS GOLDSMITH

POPULAR

ABBA:

Greatest Hits, Vol. 2.

Benny Andersson & Bjorn Ulvaeus, producers. Polydor 800 012-2 (analog recording; digital Compact Disc); LP: Atlantic 16009.

Just as Abba's records have crossed national and linguistic boundaries with aplomb, so this group of 14 of the band's late-Seventies hits translates successfully into Compact Disc. Producers Benny Andersson and Bjorn Ulvaeus have long understood the need to make their rich pop confections durable enough to survive the unforgiving squeeze of AM radio



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STAATSKAPPELLE BERLIN



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Heinz HÖLLIGER, oboe



C37-7002 MOZART STRING QUARTET
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NO. 15 in D Minor, KV 421
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Hans OTTO, organ



38C37-7011 BEETHOVEN: SYMPHONY NO. 3
"EROSICA" in E Flat Major, Op. 55
Otmar SUITNER conducting
STAATSKAPPELLE BERLIN



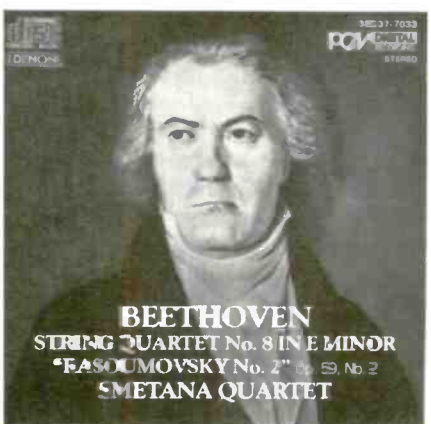
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transmission. They have thus carefully layered their songs' lusty choral harmonies and myriad, often subtle details to survive the indignities of poor playback.

Ironically, that attention to low-fi reproduction pays dividends for these high-tech renderings. The rather dry and overly brilliant sound on many CDs seems to have been prevented by strategies that probably arose from anticipating mono single mixes: The key voices and orchestral textures are generally placed around the center of the stereo array, with far right and far left positions used more for percussive accents.

Thus, while there are a few moments when bold cymbal crashes at the edge of the mix take on a new, heavy-handed prominence, in the main these performances are enhanced. Improved clarity in the vocal yields a corresponding gain in diction, and the often intricate, fugal keyboard textures that were favored by the group during this period are also better defined. Avowed fans who have listened to these tracks countless times will be surprised to hear new, previously submerged instrumental parts, such as the slightly fuzz-toned guitar obbligatos in *The Name of the Game*.

Like a number of discs reviewed during the opening volleys of CD's roll-out here, this English import is yet to be scheduled for American release. With luck, an even stronger, more definitive Abba anthology, "The Singles," might emerge in CD once the quartet's U.S. label maps out its strategy for the new format.

—SAM SUTHERLAND

LINDSEY BUCKINGHAM:

Law and Order.

Lindsey Buckingham & Richard Dashut, producers. Mercury 800 045-2 (analog recording; digital Compact Disc). LP: Asylum 5E 561; reviewed 1/82.

Guitarist Lindsey Buckingham was the acknowledged mastermind of Fleetwood Mac's "Tusk," and the same quirky, impressionistic pop-rock muse behind that LP reappeared on his 1981 solo venture, "Law and Order." In cuts that were alternately hushed and frenzied, Buckingham balanced the delicacy of acoustic pop arrangements against often jarring, up-tempo pieces more bashed-out than played. Throughout, he imbedded the tracks with a variety of instrumental and vocal nuances that reflected his



BUCKINGHAM: sense of adventure

fascination with sound itself; his goal was to achieve an offbeat sonic twist through experimentation with production effects and new instrumental timbres.

That sly sense of adventure is even better conveyed on Compact Disc. Elimination of vinyl and surface noise brings a number of the album's gentler virtues to center stage, starting with the deliberately silly jungle noises that preface the goofy, romping opener, *Bwana. Trouble*, the best-known song here, boasts a trellis of chiming acoustic guitars and cooing background

vocals that shimmer even more luminously in CD. And *I'll Tell You Now*, a mysterious, leisurely acoustic ballad likewise punctuated by bell-like guitar harmonics and softened by gentle brushwork in the drumming, keeps its aura of hesitant emotionalism while reaping considerable improvements in sonic clarity.

The abundance of echo on the original recording afforded palpable ambience on the LP but incurred some muddiness in the lower registers of the otherwise pristine mix. Here, the sonic sludge has been scoured away while leaving enough echo to save Buckingham from the clinical dryness from which some close-miked, multichannel pop recordings suffer when transferred to digital. —S.S.

ROXY MUSIC:

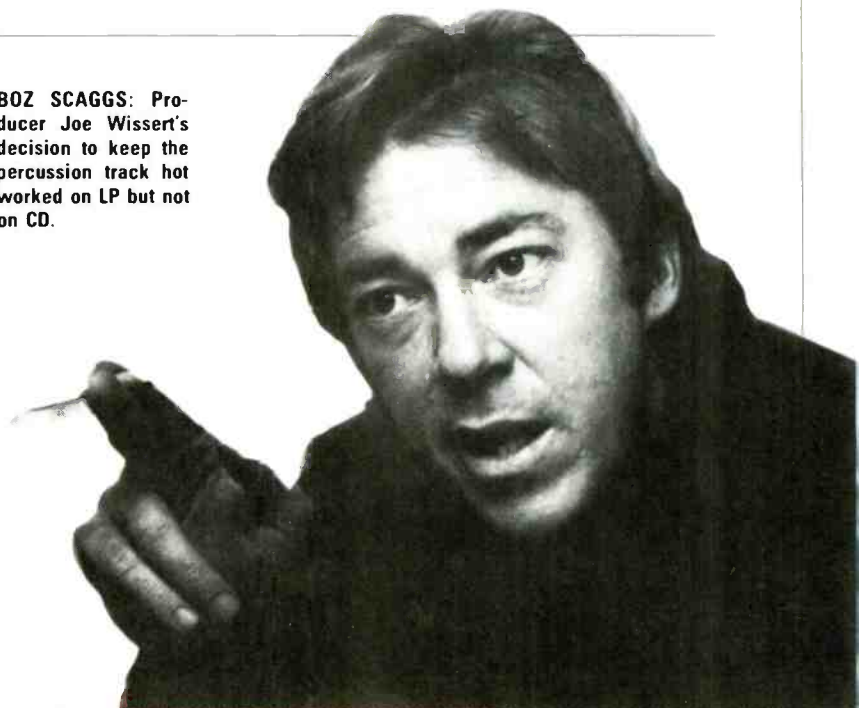
Manifesto.

Roxy Music, producers. Polydor/EG 800 031-2 (analog recording; digital Compact Disc). LP: Atco SD 38114; reviewed 7/79.

In retrospect, this 1979 "comeback" project ended Roxy Music's studio hiatus with a blueprint for the future: In its mood and in the specifics of the playing, the album clearly anticipates the magisterial pop-rock style that reached a zenith with last year's "Avalon," the CD of which was reviewed in October.

Like its classic successor, "Manifesto" is defined more by the atmosphere of the performances than by individual elements. Foraging

BOZ SCAGGS: Producer Joe Wissert's decision to keep the percussion track hot worked on LP but not on CD.



through the tracks may unearth instances of stunning technique or inspired lyrics, but these songs make their point more through ensemble power. Washes of synthesizer, stuttering bass-guitar notes, and the nervous rustle of percussion achieve what full-cry guitar solos or wide-panned tom-tom barrages seldom can on more conventional rock records.

Such subtle touches can loom too boldly when transferred to CD, but this recording emerges from the transformation with enhanced detail while retaining its considerable ambience. In particular, Bryan Ferry's trembling croon acquires more presence, and his sometimes sibilant enunciation is clarified; percussion instruments at times eclipsed on the LP move toward the foreground without going too far to the extreme, reinforcing the music's kinship with the more recent "Avalon" tracks. The stereo image is somewhat flatter, though hardly enough so as to be unwelcome.

In short, where the "Avalon" CD might be chalked up as somewhat of a draw with its LP version, offering modest enhancements but little overall change, "Manifesto" offers a clear-cut example of digital improvement. —S.S.

BOZ SCAGGS:
Silk Degrees.

Joe Wissert, producer. CBS/Sony 35DP 20 (analog recording; digital Compact Disc). LP: Columbia JC 33920.

Although Joe Wissert's sleek, spacious production retains most of its charm, the transition of this landmark mid-1970s album to CD yields mixed blessings. David Hungate's taut bass lines (which, like many elements here, anticipated the pop disco boom) highlight low-end gains, while David Paich's keyboards and various acoustic and electric guitars (by Louis Shelton, Fred Tackett, and others) also benefit from improved presence and timbral detail. Add the subtle enhancement of Boz Scaggs's lissome, soulful vocals, and the CD incarnation of this already superb recording has several points in its favor.

Unfortunately, it poses some problems as well. Although Wissert has crafted a solid, centered stereo array that retains most of its ambience, several tracks suffer where high-frequency percussion tracks have been parked at the edges of the mix. In the

case of *Lowdown*, the album's best-known track, Jeff Porcaro's sizzling, sixteenth-note, high-hat pulse steps forward from the mix, and what was once one of the piece's most hypnotic details becomes an overstatement. One

likely reason is that Wissert anticipated losses during the cutting of the LP master and kept the percussion track intentionally hot. That compensatory move proves a problem in the digital format. —S.S.

Major American manufacturers are beginning to ship their pop Compact Discs to stores as we go to press, but the majority of CDs available at the retail level are still imports from Europe and Japan. Like many of the pop CDs reviewed here in recent months, these discs may appear in domestic catalogs with different catalog numbers, if not on different labels. Readers should also recognize that availability may be limited.



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Remembrance of *Rings* Past



HANS WILD

Flagstad: tremendous authority even at 54

A famous live cycle reissued and other historical Wagneriana, including some high-tech restorations

Reviewed by David Hamilton

IN A SINGLE WEEK last summer, I found myself spanning more than three decades of *Ring* cycles—listening on the radio to the very latest one from Bayreuth, conducted by Georg Solti, and on records to the famous 1950 La Scala performances, conducted by Wilhelm Furtwängler. Strange as it may seem, aside from a 1948 Vienna cycle (with an unglamorous cast led by Rudolf Moralt) cited in some tape lists, no complete *Ring* earlier than the Furtwängler has so far turned up. Authoritative rumors report the survival of some three cycles recorded at London's Covent Garden before the war, conducted by Thomas Beecham and Furtwängler, sung by the likes of Frida Leider, Kirsten Flagstad, Lauritz Melchior, and Rudolf Bockelmann, but only a few portions of these have ever circulated, legitimately or otherwise. Until one surfaces in toto, we have no complete recorded *Ring* from the era of "those fabulous Wagner performances" at the Met, Covent Garden, and elsewhere. (Though the Met broadcast series in those days frequently included *Walküre*, the other three operas turned up rarely, and never in a complete, coherent sequence before 1951. Nor have the German radio archives so far

yielded much from the *Ring*, even by way of excerpts.)

Despite its Italian venue, Furtwängler's Scala cycle was cast from north of the Alps with many familiar names, mostly from the prewar generation of Wagnerians. (The next generation, which would emerge at Bayreuth beginning in 1951, predominates in his other recorded *Ring*, the 1953 Rome concert version once available on Seraphim and now imported by International Book and Record as EMI RLS 702.) The Scala cycle is not a novelty; it has been floating around in one form or another for at least two decades, most conspicuously in a bargain-priced box published about ten years ago on the Murray Hill label (940477, 11 discs—never listed in SCHWANN, but I saw a copy just the other day in a New York bookstore, now priced at \$31); the same mastering was once also packaged as separate operas on Everest.

That publication had substantial drawbacks, as you might infer from the number of discs—after all, the standard dimension for a complete *Ring* recording is 16 to 19 discs. How was it squeezed down to 11? Primarily, by mastering it onto some of the longest-playing sides in history, running up

to 43 minutes. It also helped that Furtwängler made two cuts (of which more later), and that the whole affair was pitched about an eighth of a tone sharp (perhaps accidentally—it saved only about 15 minutes over the course of 14 hours). On top of that, the pressings were hardly of audiophile quality, and no librettos were supplied, only skimpy plot summaries and typewritten cast lists on the back of the unhinged box. At the price, I daresay not many complained: Despite the limitations imposed by the narrow grooves and low-level mastering, the basic sound was reasonably bright, clear, and steady, of AM broadcast quality, and the names of Flagstad and Furtwängler promised much.

That same performance has now appeared in Fonit-Cetra's "Furtwängler Edition," correctly pitched, spread over a more conventional 18 discs, the complete cycle packed in a slipcase, each opera boxed with a booklet containing a libretto (the original German only), an historical essay in Italian and fractured English translation, scenic designs, production photos, and artist portraits—all for a price several times Murray Hill's. No longer the casual purchase the earlier edition represented, this demands more serious consideration, both as a publication and as a performance.

To begin with, let me address those who already know and admire the performance, who will wonder whether the Cetra edition represents a significant improvement in quality. Both publications certainly stem from the same source tape, a bit tight, dry, and shallow in sound but of excellent

quality for its day. The pickup point is evidently very close to the violins, which sometimes mask important material elsewhere in the orchestra. (So do the piccolos, who in the Magic Fire Music achieve the status of concerto soloists.) A great deal of ambient noise—stage sounds, occasional prompting, Milanese late-winter bronchial complaints (a couple of them very close to the mikes) and general restiveness during the slower-moving episodes—also reaches us with alarming clarity.

Most of the time, the Cetra edition is tangibly superior to the Murray Hill, most obviously in the realm of bass response, and of course the normal-length sides allow a better signal-to-noise ratio and will surely better withstand the erosion of repeated playings. If only that were the end of it—but one encounters curious differences. In the second scene of *Rheingold*, after Loge's "Durch Raub!," there is a sudden access of resonance for several pages (not an improving resonance, alas, merely a beclouding one), and the same altered ambience crops up several times during the Nibelheim scene. This doesn't happen in the Murray Hill version, nor do a number of minor tape burbles and dropouts. Worse, important stretches of the first act of *Walküre* evidence a "bubbly" effect, a pronounced rapid fluctuation of level, particularly distracting on sustained wind and brass notes. On Murray Hill, the same passages reveal only a faint suggestion of this effect, which recurs sporadically in Cetra's *Walküre* and occasionally later in the cycle, as do the dropouts and burbles.

The most plausible explanation for these anomalies is that, in the years since the tape that reached Murray Hill was copied, Radio Italiana's master has deteriorated physically, through both "edge damage" resulting from improper winding (which causes the "bubbly" effect) and oxide flaking (the source of Cetra's "new" dropouts and burbles). Apparently some of the damaged portions were replaced from another tape, a version to which, for some reason, resonance had later been added. It's too bad that a better source wasn't located for the patches, and that all the defective portions were not replaced, for the result is an edition superior to the competition for most of its length but seriously compromised in several passages; therefore, the Murray Hill set is not completely superseded.

Whether that qualified improvement is worth the price, you will have to decide for yourself. It should be added that Luigi Bellingardi's historical essays are error-ridden and windy, even in their Italian originals, and the voyage from German via Italian translation into mangled English has made the extensive quotations from Furtwängler's writings about the *Ring* quite worthless. (The errors in cast listings, at least, turn out to have been faithfully copied from the original Scala posters, which are repro-

duced in the booklets.) Although the compiler of Cetra's libretto obviously knows about Furtwängler's cuts—a big chunk from Wotan's narrative in Act II of *Walküre* and most of the Wanderer/Siegfried exchange in the last act of *Siegfried*—Bellingardi never mentions them, much less tenders any explanation. Presumably they were intended to ease the load on, respectively, Wotan and Siegfried, for in Rome, when the cycle was performed an act at a sitting, with rest days between, Furtwängler made no cuts. Both omissions are unfortunate, and the *Siegfried* scene seems particularly foreshortened, moving from bluff humor to menacing confrontation with insufficient transition; it's a shame, too, to lose an important part of Josef Herrmann's impressive Wanderer (what Furtwängler and Ferdinand Frantz do with the *Walküre* passage is at least accessible in two other recordings). Oddly, the conductor himself overlooked these cuts in a letter to Max Brockhaus after the conclusion of the cycle: "It is astounding how the Italian public accepted the uncut performance of this massive work, the text of which the greater part of them could not understand."

Still, the cuts aren't really central here; this recording will probably not be the first, or perhaps even the second, *Ring* in the collections of most purchasers. This set will be bought for the performance rather than the work alone, and in considering it I tried to start from the premise invoked by Conrad L. Osborne when he reviewed the Rome cycle in these pages (December 1972): "Its 'legendary' aspects . . . are strong enough to make a clear-eyed view especially desirable—it is so easy to address the stature of the conductor and the nature of the circumstances, rather than the interesting but extremely uneven presentation that actually exists." In the Scala cycle, there is a second "legendary" factor, the stature of the Brünnhilde: Flagstad was the greatest Wagnerian soprano of the Thirties and Forties, and this is her only available recording of the complete *Ring*.

While at no point in the performance is that stature in doubt, it has to be said that by this point in Flagstad's career the combination of age (she was 54) and the strain of full-scale live performances gives rise to a good deal of edgy shrillness above the staff and occasional patches of labored, under-the-note singing. (You can measure the vocal condition against her best recorded Immolation Scene, the 1948 studio version with Furtwängler, recently reissued in Pathé-Marconi's "Références" series, 2C 051-03855.) Don't misunderstand me; the authority of her singing is tremendous, the vocal intensity is often overwhelming, and the sheer scale and beauty of the tone in the middle and lower registers remain incomparable. But this is less than Flagstad's best.

The Scala casts offer other strengths.

As mentioned, Herrmann is a strong, focused, rich-toned Wanderer; he's also a good Gunther. Ludwig Weber sings four parts: a touchingly lyrical Fasolt (his partner is less solid); a forceful but dignified Hunding, who doesn't start right out snarling at his guest; a sonorous Fafner in *Siegfried* (his valedictory spoiled by the muffling effect of the dragon's "speaking tube"); and a slightly underpowered (perhaps fatigued) Hagen, who uncharacteristically resorts now and then to shouting for emphasis. Frantz, the Wotan of the Rome cycle and Furtwängler's Vienna studio recording of *Walküre*, takes the role here in the first two operas only; short on color and variety of delivery, his singing is at least strong and reliable.

Like Weber, Elisabeth Höngen turns up in all four operas; only her middle register is substantial or reliable, but within that limitation she can be very effective; the central part of Waltraute's narrative is exceptionally moving. Peter Markwort's conventional, often parlando Mime is no match for Julius Patzak's original, imaginative, and incredibly musical performance in the Rome cycle, but he does at least abandon the usual gabbling shtick when Siegfried browbeats him into telling the truth about Sieglinde. After a shaky start, Alois Pernerstorfer turns into an impressive Alberich; Hilde Konetzni is a pallid but sympathetic Sieglinde and Gutrunne, not as tremulous as she would be later in Rome; the smaller parts, including the Rhinemaidens, Valkyries, and Norns, reach an acceptable average (particularly striking is the bright and phenomenally accurate Helmwig of Ilona Steingruber).

Now we must face up to the principal tenors, four in number. I don't much care for Joachim Sattler's Loge; it's an operetta-weight voice, nasal and bleaty from forcing, and his imprecise singing detracts from the fire god's image as a sly and clever craftsman. Siegmund is Günther Treptow, who makes reasonably clear and clean sounds in the middle register, but attains his higher notes with difficulty and soon tires out. Too bad—aided by Furtwängler's orchestra he projects Siegmund's narrative with a lively intelligence, rounding it off with a real flavor of melancholy. The high points of the role, both literally and figuratively, simply aren't in his voice, nor can he sustain the lyrical line of "Winterstürme," where he persistently rushes the conductor.

Set Svanholm is another rusher (although Furtwängler never gives in to his beat-jumping, it inevitably grows more tiresome upon rehearing), and in fast music his line tends to get choppy (those little glottal barks with which he often began his phrases are much in evidence). Svanholm is nevertheless an important factor in the very successful performance of the first two acts of *Siegfried*. He is capable of quite sensitive work when he has time to get set for it, and

WAGNER: Das Rheingold.

CAST:

Woglinde Magda Gabory (s)
 Wellgunde Margherita Kenney (s)
 Freia Walburga Wegner (s)
 Fricka Elisabeth Höngen (ms)
 Flosshilde Sieglinde Wagner (ms)
 Erda Margret Weth-Falke (a)
 Loge Joachim Sattler (t)
 Froh Günther Treptow (t)
 Mime Peter Markwort (t)
 Wotan Ferdinand Frantz (b)
 Donner Angelo Mattiello (b)
 Alberich Alois Pernerstorfer (bs)
 Fasolt Ludwig Weber (bs)
 Fafner Albert Enmerich (bs)

La Scala Orchestra, Wilhelm Furtwängler, cond. FONIT-CETRA FE 37, \$29.94 (mono; three discs, manual sequence) [recorded in performance, March 4, 1950] (distributed by International Book and Record Distributors, 40-11 24th St., Long Island City, N. Y. 11101).

WAGNER: Die Walküre.

CAST:

Brünnhilde Kirsten Flagstad (s)
 Sieglinde Hilde Konetzni (s)
 Gerhilde Walburga Wegner (s)
 Ortlinde Karen Marie Crkall (s)
 Helmwig Ilona Steingruber (s)
 Grimgerde Sieglinde Wagner (ms)
 Fricka Elisabeth Höngen (ms)
 Waltraute Dagmar Schmedes (ms)
 Siegrune Margherita Kenney (ms)
 Schwertleite Polly Batic (ms)
 Rosswisse Margret Weth-Falke (a)
 Siegmund Günther Treptow (t)
 Wotan Ferdinand Frantz (b)
 Hunding Ludwig Weber (bs)

La Scala Orchestra, Wilhelm Furtwängler, cond. FONIT-CETRA FE 38, \$49.90 (mono; five discs, manual sequence) [recorded in performance March 9, 1950].

WAGNER: Siegfried.

CAST:

Brünnhilde Kirsten Flagstad (s)
 Wood Bird Julia Moor (s)
 Erda Elisabeth Höngen (ms)
 Siegfried Set Svanholm (t)
 Mime Peter Markwort (t)
 Wanderer Josef Herrmann (b)
 Alberich Alois Pernerstorfer (bs)
 Fafner Ludwig Weber (bs)

La Scala Orchestra, Wilhelm Furtwängler, cond. FONIT-CETRA FE 39, \$49.90 (mono; five discs, manual sequence) [recorded in performance, March 22, 1950].

WAGNER: Götterdämmerung.

CAST:

Brünnhilde Kirsten Flagstad (s)

Gutrune/Third Nom Hilde Konetzni (s)
 Woglinde Magda Gabory (s)
 Wellgunde/Second Nom
 Margherita Kenney (ms)
 Waltraute Elisabeth Höngen (ms)
 Flosshilde Sieglinde Wagner (ms)
 First Nom Margret Weth-Falke (a)
 Siegfried Max Lorenz (t)
 Gunther Josef Herrmann (b)
 Alberich Alois Pernerstorfer (bs)
 Hagen Ludwig Weber (bs)

La Scala Chorus and Orchestra, Wilhelm Furtwängler, cond. FONIT-CETRA FE 40, \$49.90 (mono; five discs, manual sequence) [recorded in performance, April 4, 1950].

WAGNER: Der Ring des Nibelungen.

Casts as above. FONIT-CETRA CFE 101, \$129 (mono; eighteen discs, manual sequence).

WAGNER: Götterdämmerung: Act III.

CAST:

Brünnhilde Kirsten Flagstad (s)
 Gutrune Hilde Konetzni (s)
 Woglinde Julia Moor (s)
 Wellgunde Elisabeth Lindermeier (s)
 Flosshilde Ruth Michaelis (ms)
 Siegfried Ludwig Suthaus (t)
 Gunther Josef Herrmann (b)
 Hagen Josef Greindl (bs)

RAI Chorus and Symphony Orchestra, Rome, Wilhelm Furtwängler, cond. FONIT-CETRA FE 20, \$19.96 (mono; two discs, manual sequence) [recorded May 31, 1952].

WAGNER: Operatic Excerpts.

Various artists. [Keith Hardwick, prod.] SERAPHIM IG 6130, \$41.86 (mono; seven discs, manual sequence) [from various EMI/HMV originals, 1926-42]. See separate listing.

WAGNER: Orchestral Selections.

Berlin State Opera Orchestra, Karl Muck, cond. [Barton Wimple, prod.] IN SYNC/CONDUCTART C 4133, 4136, \$9.98 each (cassettes only) [from HMV originals, 1927-29]. (In Sync Laboratories, Inc., 2211 Broadway, New York, N. Y. 10024).

C 4133: Der fliegende Holländer: Overture. Tristan und Isolde: Prelude (with concert ending). Götterdämmerung: Rhine Journey and Funeral Music. Parsifal: Prelude to Act I.

C 4136: Die Meistersinger von Nürnberg: Prelude. Siegfried Idyll. Parsifal: Prelude to Act III. Tannhäuser: Overture (Dresden version).

WAGNER: Parsifal: Selections.

Various artists. [Johann Landgraf, prod.] EMI GERMANY IC 137-78174/5, \$17.96 (mono; two discs, manual sequence) [from various EMI/HMV originals, 1913-51] (distributed by German News Co., International Book and Record). See separate listing.

singing alone, except possibly for Flagstad. However, few of them let the side down badly, and the flow and fullness of the overall shaping often buoy up the weaker members. In 14 hours of music, every bar, every strand of the orchestral part is full of life and character and expressivity. Unquestionably the Scala orchestra is more skilled than the Rome Radio band, although in fact these players can have been only marginally more familiar with the music. (They had performed *Walküre* under Victor de Sabata a year earlier, but none of the other operas since 1943, when Franz von Hösslin had conducted a cycle in Italian.) The Wagner-tuba parts, in particular, are managed here with reasonable security, whereas the Rome players seem to be only just coming to grips with the instruments (which are of course rarely encountered in the normal repertoire of an Italian orchestra).

There are scrappy patches, especially in string figuration, and I have the impression that these increase as the cycle proceeds. Nevertheless, the playing has wonderful life and spontaneity and lyricism—string tremolos, as in the *Waldweben*, are no routine noodlings, but glisten and shimmer. There's not as much deep dark glow from the lower instruments as one hears from the Vienna Philharmonic in Furtwängler's studio recording of *Walküre*, to which we must turn for the most accurate image of the orchestral sound he sought in the *Ring*. (The Seraphim edition of that has now vanished, but I can recommend the recent Electrola pressing, IC 149-00675/9, five discs.) The Scala trumpet tone, for example, blares more than one would expect from German players.

What never fails to impress me, from the beginning to the end of the cycle, is Furtwängler's power to integrate several different musical characters within a coherent tempo—an achievement involving agogics and articulation as much as the actual choice of the tempo. In the first act of *Siegfried*, the solemn tread of the Wanderer's chords and the nervous querulousness of Mime's forging rhythm could not be more vividly contrasted, yet we never notice gears shifting because it's done by maximizing distinctions of dynamics, rhythm, and timbre. (Mime's material is sharply bounced off the strings, and its draggy syncopations are given full value.) Similar precision enhances all the many narrations for which the *Ring* is notorious, and, although Furtwängler takes his time, these never become tedious. The forging scene is slower than usual (and clearly slower than Svanholm is used to), but the rock-solid tempo and the never-flagging precision with which the dotted rhythms are articulated keep it all intensely alive.

The things Furtwängler's *Ring* does well are unique—nobody else brings them off so successfully, and hardly anybody else even tries; here is the utmost possible contrast to Pierre Boulez's steady bril-

the basic alertness of the singing and brightness of the sound are absolutely right for the role. In the last act he tires badly; there is little lyricism in his musings on the sleeping Brünnhilde, and by the coda of the duet he simply carries on a survival operation.

The older Siegfried is entrusted to Max Lorenz, a singer frequently so imprecise and clumsy as to make even Melchior seem a paragon of musicianship; by this point in his career (he was nearing 50) Lorenz's basic strategy was evidently to get something out first and only afterward worry

about its pitch and rhythm. The surprising thing is that he does manage to project a good deal of the role's energy, force, and humor, occasionally even some of its lyrical feeling. Lorenz's is the kind of sloppiness one tolerates in the theater in return for such projection; transmuted into the permanence of a recording (a circumstance that at the time could not have been farther from his mind), it inevitably grows ever more irritating.

This doesn't add up to an exceptional cast—I can't imagine buying this set for the

liance, as to Solti's banga aggressiveness! Taken all in all, the Scala cycle seems more successful than the Rome one. *Rheingold* simply sounds better in this version—the Rome set starts very murky, though it improves in the later works. Despite many admirable sections, the first act of *Walkire* doesn't add up right in either Milan or Rome—only the Vienna version achieves a climax that really caps what has gone before. In Milan, however, scale and pacing of the last two acts seem close to perfection. As in Rome, *Siegfried* is good throughout; here the brightness and transparency of the sound actually help, the dearth of warm resonance seems less of a handicap than elsewhere. In *Götterdämmerung*, the Norn Scene is expectedly vivid, but "Zu neuen Taten" never gets off the ground, with both singers sounding labored. Hagen's big scene with the chorus is similarly restrained (the Scala men certainly aren't at ease with the language: "Hoi-ho!" comes out more like "Oy-yo!," with a tangible loss of thrust). After that, the performance gets into stride, and Flagstad's delivery of the Immolation Scene, whatever its limitations in absolute terms, is certainly on a scale with its surroundings.

Fonit-Cetra has also published a footnote to Furtwängler's two Italian *Ring* cycles: a 1952 Rome Radio performance of *Götterdämmerung*, Act III, which evidently functioned as a trial balloon for the broadcast cycle the following year. The cast doesn't add much to what we know about them from the complete cycles—Flagstad still impressive, her tone just tangibly thinner and edgier; Ludwig Suthaus congested but musical; Josef Greindl a wobbly but genuine presence; the Rhinemaidens acceptable; the orchestra not entirely at ease. The studio conditions yield better balances and a warmer acoustic than the Scala live pickups, but Cetra's edition is problematic—the pitch is an eighth-tone sharp, and much of the sound is afflicted with a light but perceptible case of the "bubblics," not present in an earlier pirate edition; again, one suspects deterioration of the master tape in the decades since the cloning of the copy that served for the pirate version. Only intermittently distracting, the defects don't enhance what for most collectors, even Flagstad and Furtwängler fans, is likely to be a fairly marginal item.

We may have no complete prewar *Ring* with Leider, Melchior, and Friedrich Schorr, but they left a considerable heritage of studio recordings from the cycle. EMI's reissue producer Keith Hardwick tells us that his anthology "Wagner on Record: 1926-42" was originally conceived as a "potted" (that's British for "abridged") *Ring* compiled from the early electrical recordings in EMI's archives. It was a sound idea: a set of five or six LPs could indeed have comprised a really substantial representation of the cycle with that cele-

brated trio, filled out where appropriate by their contemporaries (e.g., Maria Olszewska and Emil Schipper in the Wanderer/Erda confrontation). Somewhere along the way, however, the project was watered down to a more general seven-disc Wagner collection, only about half of it devoted to the *Ring*.

As a result, "Wagner on Record" tantalizes as much as it satisfies. Who, hearing Melchior's rapt performance of Siegfried's Death, would not also want the equally potent Narration recorded at the same session? (Owners of the Seraphim Melchior collection, IB 6086, already have the Narration—though not the Death—and about half the other Melchior material in "Wagner on Record" as well.) Those who want Leider's searing traversal of Isolde's Narration and the hectic yet exultant Love Duet with Melchior will surely be curious about how she sings the *Liebeshod*—but they will find Meta Seinemeyer's recording instead! The latter is an impressive piece of work from a singer who didn't live long enough to undertake the role in the theater, but it should have been saved for a supplementary disc (which might also have included the abridged *Siegfried* finale that Leider recorded with the heroic Rudolf Laubenthal; in the present set, Hardwick has quite rightly preferred the more complete Easton/Melchior version). Similarly, Hardwick's new transfers of *Meistersinger* excerpts with Schorr are certainly welcome, but Angel COLH 137 (later Seraphim 60189), if sonically less satisfactory, also included three further 78 sides that I wouldn't be without.

Despite that continuing frustration, "Wagner on Record" contains much indispensable material; if you haven't looked into historical Wagner recordings and don't want to get into Electrola and Preiser imports yet, it's a pretty good place to start, and Hardwick's inclusion of occasional "intruders" at least provokes one into articulating what is special about that central trio of Leider, Melchior, and Schorr. Some aspects of their singing need little underlining at this point, although they were unusual in the 1920s, when the non-legato "Bayreuth bark" was still considerably in evidence. All three have beautiful and powerful voices, in excellent working order despite some wear at the upper limits of Leider's and Schorr's instruments. They move smoothly from one note to the next, without glitches or gurgles—in fact, they have more than one way of connecting notes, controlling the degree of portamento for expressive and musical purposes. They sing precise pitches, and consistently sing the right ones: listen to Schorr, in Sachs's *Fliedermonolog*, alternating G and G sharp in the phrase "sänge dem Vogel nach," and then compare his present-day successors. And whatever has been said about Melchior's musicianship, the reliability of his intonation has never been questioned: in these early studio recordings, fortunately, he is

more attentive to Wagner's rhythms than he later became, especially in the undisciplined climate of the Met during the 1940s.

Although these singers exemplify the virtues of a classical legato in Wagner's music, they don't turn their backs on a delivery firmly founded on vivid and idiomatic declamation of the words, whether in conversational or in epic style or in between. All three of them developed, as performers, in an age when a stylized, elocutionary mode of speech, such as lies behind Wagner's text-setting, was still very much part of daily life, in public life as well as on the stage. Amplification, by rendering such a mode of speech unnecessary, even absurd, brought it into disuse. Today, the musical styles derived from it must be self-consciously acquired; they don't any longer relate to an everyday usage that performers grew up with and learned as much by osmosis as by conscious study. That certainly doesn't mean that every singer of earlier times was automatically good at Wagnerian declamation. (Recordings, some of them in this set, show otherwise.) But when someone with the right combination of physical and psychological endowments came along, the modes of expression he or she needed were naturally at hand, which they surely are not to generations whose "theatrical" experience has been primarily via the amplified (and radically rescaled) media of film, television, records, and radio. (The parallel disappearance of the gestural rhetoric that accompanied the vocal one has also complicated modern performers' access to these works, but that isn't germane to recordings.)

An intimate and imaginative relation-
(Continued on page 101)

Schorr: variety and profile in any role





KARI HAKU

Jorma Hynninen as Topi in *The Red Line*

IN APRIL, ON BILLBOARDS all over the city that is called the City, the stern face of Liberty appeared, glowering against the background of the Union Jack, in a dual emblem for the arts festival "Britain Salutes New York 1983," which commemorated the bicentennial of the signing of the peace treaty that put an end to the Revolutionary War. The calendar listed over 200 events in venues from museums and performing spaces to parks and department stores. The Royal Ballet offered, in one week, three local premieres plus the world premiere of *Variii capricci*, by Grand Old Man Sir Frederick Ashton, to a score by Sir William Walton with decor by David Hockney. The Royal Shakespeare Company weighed in with Trevor Nunn's inventive production of the sad, off-kilter comedy *All's Well That Ends Well*. Sir Laurence Olivier's flamboyant portrayal of King Lear (filmed for television) was screened at the Museum of Broadcasting. The Fires of London put their admirers on their ears and may have won a few converts. Winston Churchill's Sunday paintings, Hans Holbein's court portraits, the queen's Fabergé eggs took over some of the City's choicest exhibition halls—and all this was just the beginning.

The British were everywhere. But amid the rampant Anglophilia, it was Finland that delivered what may prove the most lastingly influential of the season's (indeed, many seasons') cultural imports. With the Metropolitan on tour, the Finnish National Opera moved into Lincoln Center for a week of riveting contemporary music drama—and riveting despite a language barrier that for all but a handful of listeners must have been impenetrable. Who among us can count to three in Finnish, or say hello? But the music and action told with unflinching conviction.

The Finnish Touch

From a country rich in composers and interpreters, three opera recordings enhance fond memories of a happy American visit.

Reviewed by Matthew Gurewitsch

The touring repertoire consisted of Joonas Kokkonen's first and to date only opera, *The Last Temptations* (1975), and Aulis Sallinen's second one, *The Red Line* (1978), with which the Finns have already made their mark as far from home as London, Zurich, and Moscow. Kokkonen's opera is not Finland's first. In 1852, Fredrik Pacius brought out his *Hunt of King Charles* (set to a Swedish libretto), and in 1899, Oskar Merikanto submitted his *Maid of the North* (in Finnish) as the sole and winning entry in an opera competition sponsored by the Finnish Literature Society. Despite the presumably prestigious circumstances of its entry into the world, the Merikanto score went unstaged until 1908. The sketchy sources available here do not tell what fortunes these forerunners met with in their own time and after, but it is certain that since the opening of the brand-new *Last Temptations*, opera in Finland has been newly blessed with enduring summer. New works from many hands have cropped up in plenty, fine performers have rushed to present them, and understanding audiences have flocked to see and hear them.

The American record-buying public had a first chance to get acquainted with the new operatic wave from the North in 1980, when both *The Last Temptations* and Sallinen's first opera, *The Horseman* (1974), went into American distribution. The brace of albums left a strong impression of their composers' contrasting tempers that the further evidence of *The Red Line* confirms; but they also suggested a clear ranking of Kokkonen's and Sallinen's relative merits that now must be reconsidered.

Kokkonen, born in 1921 (and Sallinen's senior by 14 years), found his operatic voice on his first try. *The Last Temptations* evokes the dying hours of the (historical) revivalist preacher Paavo Ruotsalainen, and chronicles in flashbacks and ghostly encounters among people long dead the coldness, rage, pride, fear, and craving for recognition that fueled his zealotry. (The skillful dramaturgy of the libretto, by the composer's cousin Lauri Kokkonen, makes all the time travel not only meaningful, but also lucid.) The scenes of Paavo's life out

among men have a rough-hewn, at times lurid, power; but even stronger are the private moments he shares with his first wife, Riitta, who appears before him to relive scenes from their marriage and gently to summon him beyond "the gate," to "the island," a touchingly terrestrial haven recalling the place where in younger days the couple had found a measure of contentment.

For the most part, the score unfolds at a measured pace, in a subdued orchestral palette, though smoothly integrated movements of airy lightness and massy sweep also contribute to its austere beauty. The grateful vocal writing rarely blossoms out into expansive melody, but carries the action fluently forward. Paavo's nature finds, perhaps, its fullest expression in an oft-repeated hymn: It is foursquare, "unadorned, bold, and frightened. Riitta's unearthly serenity shines forth in a brief, falling theme, invoked to invite her despondent husband to the island. (At length, though, one may feel one has heard the lovely cadence once or twice too often.) Paavo and Riitta's son, Juhana, who has died barely grown to manhood, strangled in the reins of his own horses, gives utterance to the simple faith his father seeks so long in vain in an exultant lyric prayer—and in the prophetic ending of the first act stands in (the point is tactfully understated) for another son, the universal savior.

Sallinen's first operatic outing, *The Horseman*, is at once gaudier, more virtuosic, and immeasurably less effective. Part of the trouble arises from the libretto of Paavo Haavikko, who sounds, in disjoint scenes, themes of sexual, economic, and societal thralldom that make no poetic or polemical point, cumulatively or individually. Sallinen drapes the murky allegory in a fancily wrought musical fabric that casts sparkle and glitter here and there without concealing any of what there is to hide. No musicianly sense of drama asserts itself to whip the events into cogent shape, and even over short stretches, the inspiration falters. The score's one or two attempted "numbers" announce themselves just in time to peter out.

But in *The Red Line*, Sallinen charts his course from first to last with mastery

KOKKONEN: The Last Temptations.

CAST:

Riitta Ritva Auvinen (s)
 First Woman Taru Valjakka (s)
 Second Woman Eini Liukko-Vaara (ms)
 Third Woman Raija Määttä-Falck (a)
 Anna Loviisa Marita Nordberg (spkr)
 Albertiina Nenonen

Liisamaija Laaksonen (spkr)

Juhana Seppo Ruohonen (t)
 First Man Kalevi Koskinen (t)
 Jaakko Högman Matti Lehtinen (b)
 Second Man Jorma Falck (b)
 Paavo Ruotsalainen Martti Talvela (bs)
 Third Man Jaakko Ryhänen (bs)
 Savonlinna Opera Festival Chorus and Orchestra, Ulf Söderblom, cond. [Wolfgang Mitlehner, prod.] DEUTSCHE GRAMMOPHON/PSI 2740 190, \$35.94 (three discs, manual sequence) (distributed by PSI/Polygram Classics, 810 Seventh Ave., New York, N.Y. 10019).

SALLINEN: The Horseman.

CAST:

Anna Taru Valjakka (s)
 Woman Tuula Nieminen (ms)
 Merchant's Wife Anita Vätkki (a)
 Novgorod Merchant Eero Erkkilä (t)
 Yeoman Usko Viitanen (b)

Antti Matti Salminen (bs)
 Judge Martti Wallén (bs)
 Matti Puikkanen Heikki Toivanen (bs)
 Savonlinna Opera Festival Chorus and Orchestra, Ulf Söderblom, cond. FINLANDIA FA 101, \$32.94 (three discs, manual sequence) [recorded in performance, July 17, 1975] (distributed by PSI/Polygram Classics).

SALLINEN: The Red Line.

CAST:

Riika Taru Valjakka (s)
 Tiina Helena Salenius (s)
 First Child Susanne Helasvuo (girl s)
 Second Child Ilari Angervo (boy s)
 Kaisa Ulla Majjala (a)
 Kunilla Iris-Lilja Lassila (spkr)
 Puntarpää Usko Viitanen (t)
 The Vicar Antti Salmén (t)
 Epra Kauko Väyrynen (t)
 Topi Jorma Hynninen (b)
 Young Priest Erkki Aalto (bs-b)
 Simana Arhippainen Jaakko Hietikko (bs)
 Jussi Harri Nikkonen (bs)
 Pirhonen Tuomo Häkklä (bs)
 Raappana Harri Tirkkonen (spkr)
 Finnish National Opera Chorus and Orchestra, Okko Kamu, cond. [Ari Angervo and Aulis Sallinen, prod.] FINLANDIA FA 102, \$29.94 (three discs, manual sequence).

assurance. This time, working from a novel by his compatriot Ilmari Kianto, the composer has served as his own librettist. The action is set early in our century, and the shocks of revolution in Russia are sending waves of socialist unrest as far off as the backwoods of Finland, where poor home-steaders are near starvation. The new order succeeds at the polls, but not in time to save the crofter Topi, whose three little children perish of hunger, and who himself is savaged by an unseen marauding bruin—the symbol, says the official commentary, of hostile nature, though covert political meanings are not far to seek. At the final curtain, Riika, Topi's wife, faces the uncertain future alone. The matter sounds bleak in the retelling; the feeling yet unsentimental treatment lends it the radiance of truth.

The Horseman, for all its flaws, gives more than a hint of Sallinen's way with color, but in *The Red Line* his inventions lend the drama real fire. By turns, his strokes are brisk or subtle: Topi falls into a harrowing nightmare dialogue with a glacial Vicar through a fearsome rush of trombones and percussion; the Vicar answers his pleas for help in righteous chorales, their harshness underscored by flutes and clanging bells; disembodied glissandos chase through hovering tone clusters as the heartbroken father tells that his children all lie dead in a single coffin; the crack of whips punctuates the interview; and the anguished dreamer awakes to a scattering din of trumpets. A reedy blend of winds and strings sets the stage for the opera's one carefree scene, the arrival of the peddler Simana Arhippainen at Topi's cottage and his visit with the croft-

er's grave, inquisitive boy and girl; the racing riddle song Simana sings to entertain them has an accompaniment (enlivened with whiffles and ratchets) that grows denser and denser as the final stanza approaches—and yet remains so transparent that it all may be sung with conversational ease.

It is an enchanting interlude, and Simana is not the only character with lustrous music to sing. The aforementioned Vicar, who is a horror, has his sinister chorale. A Young Priest, who steps forward to answer the arid yet scintillating propagandizing of the agitator Puntarpää, delivers his gospel of forgiveness in generous cantabile periods—in which the biblical saying about the danger of living by the sword is set in quotes, as it were, by the amplified span of the phrase to which it is set. Riika's declamations are shot through with lyricism, even lushness, but it is Topi who has the largest and finest part: broad, bitter, resonant with a profound, simple dignity.

If Finland today is happy in its composers, so too are those composers happy in their interpreters. Only Martti Talvela and Matti Salminen, two basses of towering stature and opulent instruments, have carved out niches for themselves in the intercontinental music world, but both maintain their ties with Finland, where they take their place in a superb home ensemble. Talvela, whom ill health forced to withdraw from his single scheduled appearance with the Finns at the Met, was the original Paavo Ruotsalainen in *The Last Temptations*, and his boots, for the time being, are not filled. With all the benefits of the stage and living presence,

Jaakko Ryhänen could not compete with the memory of Talvela's stolid, shaken reading of the part on records. Salminen, magisterial as the original Horseman of Sallinen's first opera (recorded, in a move of amazing daring, at its world premiere), came along on the tour as the good-natured peddler Simana Arhippainen in *The Red Line*. His bluff, burly manner met with boisterous approval, well deserved. Yet the Simana of the album, Jaakko Hietikko, brings the part even more beautifully to life with his sweet simplicity and uncomplicated timbre. In baritone Jorma Hynninen, the Topi of the recording and the tour, the Finns introduced an artist of sterling vocal endowment, native refinement, and deep expressivity, who must be heard on these shores again and often in the Finnish and the standard repertory, as well as on the concert stage. The tessitura for Kokkonen's and Sallinen's leading sopranos is unrelentingly elevated; but Ritva Auvinen (Riitta in *The Last Temptations*) and Taru Valjakka (Anna, the Horseman's wife, and, in *The Red Line*, Riika, Topi's wife) handle their material with beaming confidence and immediacy.

At the Met, the supporting roles were almost without exception in apt, excellent hands, and so they are on the recordings. In *The Last Temptations*, in the role of Jaakko Högman, the smith whose teachings set Paavo Ruotsalainen on his thorny path of righteousness, baritone Matti Lehtinen conveys a wonderful disengagement from the vanities of earth, though he strains slightly in extended high phrases. For Juhana, the revivalist's angelic son, Seppo Ruohonen's bright tenor lacks the full measure of streaming freedom his music calls out for. In *The Horseman*, tenor Eero Erkkilä and bass Martti Wallén stand out as the grasping Merchant of Novgorod and the grimly eloquent Judge. In *The Red Line*, tenor Usko Viitanen gives a razzle-dazzle reading of the agitator Puntarpää's harangues, in telling contrast to the nobly scaled responses of bass-baritone Erkki Aalto as the Young Priest. Susanne Helasvuo and Ilari Angervo pipe through the children's part with disarming innocence. And the Finnish choruses and orchestras, under the batons of Ulf Söderblom (*The Last Temptations* and *The Horseman*) and Okko Kamu (*The Red Line*), acquit themselves memorably, vividly, with passionate distinction.

The Finns are fearlessly addressing in their music theater the destinies of the individual and society, in forms fully artistic, bearing the stamp of authenticity un-snudged by cant and sloganeering. In our country and at a time when opera has evolved into a pastime for expanding multitudes largely by dropping all claims to a higher seriousness and espousing the values of Madison Avenue, where the package is mistaken for what it contains, their example asserts a wonderful and inspiring authority. *The Last Temptations* and *The Red Line* are works to test lives by.

HF

Reviews



DeGaetani: scrupulous vocal standards applied to characterful Brahms interpretations

BRAHMS: Five Songs, Op. 72; Zigeunerlieder (8), Op. 103; Four Serious Songs, Op. 121.

Jan DeGaetani, mezzo-soprano; Gilbert Kalish, piano. [Teresa Sterne, prod.] ARABESQUE 8141-L, \$8.98. Cassette: 9141-L, \$8.98.

This disc marks the return to recording of Teresa Sterne, the strong-willed and imaginative producer who was sacked from Nonesuch in a minor hailstorm of publicity. Her series on Arabesque leads off strongly, with fine, freshly prepared translations (some by the producer herself), a stimulating jacket essay by David Hamilton, and performances by two of her star players from Nonesuch, whose Ives, Wolf, and Rachmaninoff (preeminently among much else) have been some of the most satisfying vocal recitals of the past decade.

DeGaetani's is an odd voice. Sometimes rich and vibrant (and the apparent power is no trick of the mikes—I've heard her hold her own in an opera-weight oratorio quartet), it can at other times go strangely dead and dull. The musical line, too, she often lets hover on the brink of death, so softly and unaccentedly does she spin it out. But somehow it never dies—she keeps just

enough core in the tone, just enough juice in the line to make this the low end of a wide emotional-vocal spectrum that stays vital throughout. And (almost paradoxically) it is for her scrupulous vocal standards as much as for her acclaimed musicianship that one values her records. She will hold dissonant notes dead on pitch where others accommodate; she will place quick notes as exactly as a fine violinist (compare her to Fischer-Dieskau in the last song of Op. 72, where the eighth-note pattern from the Scarlatti quotation takes over the vocal line); and she will sing the most agitated songs with unforced beauty of tone.

What she might not do is sing them with agitation, but here I find her more characterful and interpretively satisfying than sometimes in the past. The *Zigeunerlieder* are sung in Deutsche Grammophon's new Brahms Edition (2740 279) by Jessye Norman, with much greater glory of sheer tone, yet DeGaetani brings to them not only a more even vocal production, but a sweeter smile for her "*süßes Täubchen*" and more relish for the "*Csardas Melodie*." She also has an intent seriousness (not just slowness; the difference, hard to describe, is easy to

Reviewed by:

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|--------------------|--------------------|
| John W. Barker | Nicholas Kenyon |
| John Canarina | Allan Kozinn |
| Scott Cantrell | Paul Henry Lang |
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sense) in Op. 121. Though more convincing in the pessimism and reflection of the first three songs than in the ardently affirmative sermon of the last, even there she rises grandly to the climax, and the coda is beautifully tender.

Kalish plays with bracing strength and clarity throughout. W.C.

FAURÉ, DEBUSSY: Songs.

Marni Nixon, soprano; Armen Guzelimian, piano. [David B. Hancock, prod.] MUSICAL HERITAGE MHS 4699, \$7.75 (\$4.95 to members) (add \$1.95 for shipping; Musical Heritage Society, 14 Park Rd., Tinton Falls, N.J. 07724).

FAURÉ: *Après un rêve*, Op. 7, No. 1; *Au bord de l'eau*, Op. 8, No. 1; *Les Berceaux*, Op. 23, No. 1; *Notre amour*, Op. 23, No. 2; *Le Secret*, Op. 23, No. 3; *Les Roses d'Ispahan*, Op. 39, No. 4; *Clair de lune*, Op. 46, No. 2; *Mandoline*, Op. 58, No. 1; *Prison*, Op. 83, No. 1. DEBUSSY: *Fêtes galantes I-II*; *Mandoline*; *Beau soir*; *Romance*; *Ariettes oubliées*: No. 2, *Il pleure dans mon cœur*.

FAURÉ: Songs (18).

Frederica von Stade, mezzo-soprano; Jean-Philippe Collard, piano. [Eric Macleod, prod.] ANGEL DS 37893, \$12.98 (digital recording). Cassette: 4XS 37893, \$9.98.

Le Papillon et la fleur. Op. 1, No. 1; *Dans les ruines d'une abbaye*. Op. 2, No. 1; *Lydia*. Op. 4, No. 2; *Rêve d'amour*. Op. 5, No. 2; *Après un rêve*. Op. 7, No. 1; *Au bord de l'eau*. Op. 8, No. 1; *Les Berceaux*. Op. 23, No. 1; *Notre amour*. Op. 23, No. 2; *La Fée aux chansons*. Op. 27, No. 2; *Les Roses d'Ispahan*. Op. 39, No. 4; *Clair de lune*. Op. 46, No. 2; *Au cimetière*. Op. 51, No. 2; *Mandoline*. Op. 58, No. 1; *En sourdine*. Op. 58, No. 2; *Arpège*. Op. 76, No. 2; *Prison*. Op. 83, No. 1; *Dans la forêt de septembre*. Op. 85, No. 1; *L'Aurore*.

A whole disc of Fauré songs is a severe vocal and interpretive challenge that Nixon sensibly bypasses in her well-chosen and winningly realized program. She observes in her liner note that in Debussy "the vocal line seems to dictate a will of its own," whereas "I must call upon more vocal weight and sheer power of tone to bring out the subtleties underlying the musical structure of Fauré," and her understanding of Fauré's challenge carries over into the per-

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The most noteworthy releases reviewed recently

BEETHOVEN: String Quartets (complete). Talich Qt. CALLOPE CAL 1631/40 (10), June.
BEETHOVEN: Violin Concerto. Ughi; London Symphony, Sawallisch. RCA ITALY RL 31590, Oct.
BRITTEN: Our Hunting Fathers; Folksong Arrangements. Söderström, Armstrong. EMI ASD 4397, Oct.
CARTER: Night Fantasies; Piano Sonata. Jacobs. NONESUCH 79047-1. Rosen. ETCETERA ETC 1008. Sept.
CARTER: Syringa; Concerto for Orchestra DeGaetani, Paul, Sollberger. New York Philharmonic, Bernstein. COMPOSERS RECORDINGS SD 469. Sept.
DVORÁK: Cello Concerto, Op. 104. TCHAI-

KOVSKY: Roco Variations. Cohen; London Philharmonic, Mácal. MUSICAL HERITAGE MHS 4690, Aug.
ELGAR: Enigma Variations; Pomp and Circumstance Marches (5). Philharmonia, A. Davis. CBS IM 37755, Sept.
GLUCK: Orfeo ed Euridice. Speiser, Baker, Leppard. ERATO NUM 750423 (3), Aug.
HAYDN: Symphonies (6). L'Estro Armonico, Solomons. CBS 13M 37861 (3), May.
KODÁLY: Háry János. Takács, Nagy, Ferencsik. HUNGAROTON SLPX 12187/9 (3), June.
MENDELSSOHN: String Quartets (complete). Melos Qt. DG 2740 267 (4), Sept.
MENDELSSOHN, TCHAIKOVSKY: Violin Concertos. Chung, Montreal Symphony, Dutoit. LONDON LDR 71058, Oct.
MOZART: Opera Arias. Te Kanawa; London Symphony, C. Davis. PHILIPS 6514 319, Sept.
MOZART: Serenade No. 10, K. 361. Collegium Aureum. PRO ARTE PAD 137, Oct.
MOZART: Symphonies Nos. 38, 39. Bavarian

Radio Symphony, Kubelik. CBS IM 36730, July.
NIELSEN: Symphony No. 3. Danish Radio Symphony, Ahronovitch. UNICORN-KANCIANA KP 8006, Aug.
SCHUBERT: Songs (16). Ameling, Baldwin. ETCETERA ETC 1009, Oct.
SCHUBERT: Symphony No. 9. London Philharmonic, Boult. EMI SXLP 30558, Sept.
SMETANA: The Bartered Bride. Beňáková-Čápková, Dvorský, Košler. SUPRAPHON 1116 3511/3 (3), Aug.
SZYMANOWSKI: Orchestral Works. Kasprzyk, Semkow, Wit. EMI GERMANY 1C 165-43210/2 (3), July.
TIPPETT: Concerto for Violin, Viola, Cello, and Orchestra. Pauk, Imai, Kirshbaum; Boston Symphony, C. Davis. PHILIPS 6514 209, Aug.
COLOGNE MUSICA ANTIQUA: Conversation Galante. ARCHIV 2534 006, July.
CATS: Original Broadway cast recording. GEFEN 2GHS 2031 (2), Aug.

formances, which are consistently clear-eyed and dramatically responsive, each song creating its own sound world. By contrast, Von Stade's performances, pleasing as they are in their unflinching roundness of tone and generalized "sensitivity," all sound pretty much the same.

Nixon's Debussy side is even more successful than the *Fauré*. Depending less on infusions of "vocal weight" and "sheer power of tone," she exposes her fragile top less, showcasing the silvery fullness of her midrange. One of the more unusual features of this disc is its inclusion, interspersed among the song texts, of a brief description of the place, time, and circumstances, all very particular and with well-defined relationships to the circumstances, that Nixon has imagined for each piece. These circumstances have obviously not only anchored her reality in each song, but freed her imagination to connect to the text—another valuable reminder of how the right kind of discipline activates really creative communicative impulses.

Armen Guzelimian's accompaniments for Nixon are tonally firm and as text-specific as the singing. Jean-Philippe Collard's playing is lighter-textured and more obvious, but has a generalized attractiveness that complements Von Stade's work. Both discs include French and English texts, with MHS's translations especially attentive to the syntax of the originals. **K.F.**

GRIEG: Sonata for Piano, in E minor, Op. 7; Lyric Pieces, Opp. 12 (8), 43 (6). Zoltán Kocsis, piano. PHILIPS 6514 115, \$12.98 (digital recording). Cassette: 7337 115, \$12.98.

Eva Knardahl's integral recording of Grieg's piano music for Bis (LP 104/17, August 1981) served the music handsomely; so does this sampling by the young Hungarian artist Zoltán Kocsis.

Both pianists capture the requisite simplicity and thoughtful Romanticism, but, as might be expected, a generation gap emerges: Kocsis's performances are generally brisker and tauter. Either approach works well, and the sonata—which can ramble in hands less adept than Knardahl's or Kocsis's—coheres very well in both recordings. And, in each instance, the *Lyric Pieces* (here including some of the best and most popular, such as "Elves' Dance," Op. 12, No. 4, and "Butterfly" and "Little Bird," Op. 43, Nos. 1 and 4) emerge in pristine fashion, with gleaming, jewel-like sonority and artful simplicity.

Philips contributes flawless surfaces and wonderfully direct piano reproduction. (The Bis sound was also distinguished.) In every way, this is a highly recommendable release. **H.G.**

KOKKONEN: The Last Temptations—See page 74.

MILLOCKER: Gasparone.

CAST:

Carlotta	Anneliese Rothenberger (s)
Sora	Gabriele Fuchs (s)
Sindulfo	Willi Brokmeier (t)
The Stranger	Hermann Prey (b)
Nasoni	Günter Wewel (bs)

Bavarian State Opera Chorus, Munich Radio Orchestra, Heinz Wallberg, cond. [Christfried Bickenbach, Wilhelm Meister, Helmut Storzjohann, and Ronald Schmidt-Boelcke, prod.] EMI GERMANY 1C 157-46571/2, \$21.96 (digital recording; two discs, manual sequence) (distributed by German News Co., International Book and Record Distributors).

If there were evidence of higher artistic ambitions, we might worry about the corps of arrangers credited with this edition of the 1884 operetta by the composer of *Der Betelstudent* and *Gräfin Dubarry*. But the piece's, and the performance's, justification is the agreeable display of good spirits

within the clichéd confines of lesser operettadom. The plot has to do with bandits in Sicily, and the legendary Gasparone, who never does appear, the work's "twist" being that The Stranger turns out *not* to be he. Some of the music is quite charming, and Wallberg responds to it more persuasively than to many of the major operas he has recorded. If you want to hear some beautifully recorded triangle and xylophone parts, here's your recording. Rothenberger sounds pretty hollow here, and Prey is pretty much in his Perry Como croon groove, and the liveliest singing is done by Wewel with a vibratoless bass that sounds like a mellowed-out Kurt Böhme.

A source of innocent merriment, as the Mikado might have said. The notes are given in English, but texts in German only. **K.F.**

PROKOFIEV: String Quartets: No. 1, in B minor, Op. 50; No. 2, in F, Op. 92.

Sequoia Quartet. [Judith Sherman and Michela Schneider, prod.] NONESUCH 79048-1, \$11.98 (digital recording). Cassette: 79048-4, \$11.98.

The decade-plus that separates these quartets was a crucial period in Prokofiev's life. When he wrote the First in 1930, fulfilling a commission from the Elizabeth Sprague Coolidge Foundation for the Library of Congress, he was still living in the West and touring regularly as composer and piano soloist; but by 1941, the time of the Second, he had not only returned to his native soil, but had also been shipped by his Soviet protectors to Nalchik in the Caucasus, along with other national "treasures," to wait out the war. This circumstance is worth noting, since the Second is one of Prokofiev's few works based almost entirely on folk music—that of the locale in which he was being sequestered.

The Sequoia Quartet does handsomely by both pieces, giving trim, slashing, elegantly proportioned performances; the ex-

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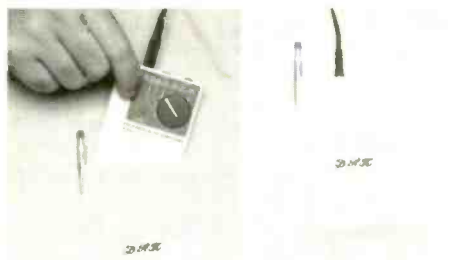
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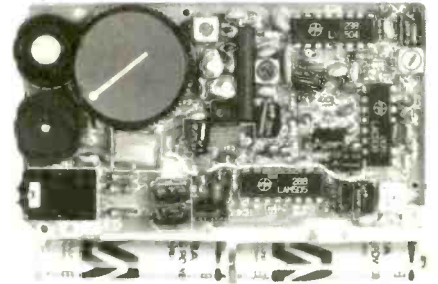
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cellent production team has taken it all down with crystal clarity, good balance, and exactitude; and Nonesuch contributes an agreeably silent pressing. This coupling ought to take care of all needs for this engaging music for years to come. H.G.

PUCCHINI: Orchestral Works; Operatic Excerpts.

Berlin Radio Symphony Orchestra, Riccardo Chailly, cond. [James Mallinson, prod.] LONDON LDR 71107, \$12.98 (digital recording). Cassette: LDR5 71107, \$12.98.

Preludio sinfonico. Capriccio sinfonico. Three Minuets. Crisantemi. Le Villi: Prelude; Witches' Dance. Edgar: Preludes to Acts I and III. Manon Lescaut: Act III Intermezzo.

Puccini orchestral music? Without singing and everything? Of course, several of his operas contain preludes and an intermezzo or two, but, while still a student, Puccini also wrote several purely orchestral and instrumental compositions.

The *Preludio sinfonico* dates from 1876, and, though the composer was only 18, his voice is already recognizable. But for its length, this could well have served as an operatic intermezzo. It's a lovely work.

Even more operatic is the 1882 *Capriccio sinfonico*, Puccini's last student work. He evidently realized the score's potential; after an opening similar in mood to the *Preludio* comes an agitated section

with rhythmic music later to be heard at the beginning of *La Bohème*. It's quite surprising to hear it in this earlier context, developed differently. Most attractive, the piece certainly deserves an occasional hearing on today's unimaginative orchestral programs.

Also from the student years are the *Three Minuets*, performable by either string quartet or string orchestra—the latter version played here, of course. Quite elegant, they do not sound much like the Puccini we know, though one of them (somewhat remindful of the Grieg of the *Holberg Suite*) did find its way into *Manon Lescaut*. Another string piece, the poignant *Crisantemi*, is a later work, written in 1892 to mark the death of Amedeo, Duke of Aosta.

The remainder of the disc offers opera excerpts. Two numbers from Puccini's first theatrical venture, *Le Villi*, are especially attractive, an atmospheric prelude, and an exciting Witches' Dance (*La Tregenda*), in which Puccini gives witches a grace denied them by other composers.

This is a most enjoyable record, beautifully played by the Berlin Radio Symphony Orchestra, sympathetically conducted by Riccardo Chailly. My one complaint concerns the only really familiar number, the tragically moving Intermezzo from *Manon Lescaut*, in which Chailly rushes the impassioned central section, thus weaken-

ing the climax.

Several of the works have only recently been published, in editions by Pietro Spada, who supplies informative annotations. The recording is excellent, with tremendous bass and extremely quiet surfaces. Heartily recommended to those willing to explore illuminating musical byways. J.C.

ROSSINI: Il Barbiere di Siviglia.

CAST:

Rosina	Agnes Baltsa (ms)
Berta	Sally Burgess (ms)
Count Almaviva	Francisco Araiza (t)
Figaro	Thomas Allen (b)
An Officer	John Noble (b)
Dr. Bartolo	Domenico Trimarchi (bs-b)
Don Basilio	Robert Lloyd (bs)
Fiorello	Matthew Best (bs)

Nicholas Kraemer, fortepiano: Ambrosian Opera Chorus, Academy of St. Martin-in-the-Fields, Neville Marriner, cond. PHILIPS 6769 100, \$38.94 (digital recording; three discs, manual sequence). Cassettes (3): 7654 100, \$38.94.

COMPARISONS:

Berganza, Ausensi, Varviso	Lon. OSA 1381
Callas, Gobbi, Galliera	Ang. SCL 3559
De los Angeles, Bruscantini, Gui	
	Ang. SCL 3638
Peters, Merrill, Leinsdorf	RCA LSC 6143

Whatever its limitations, this *Barbiere* at least plays like a performance, and some credit must go to Marriner, who in his first repertory-opera recording shows refreshingly little need to announce His Interpreta-

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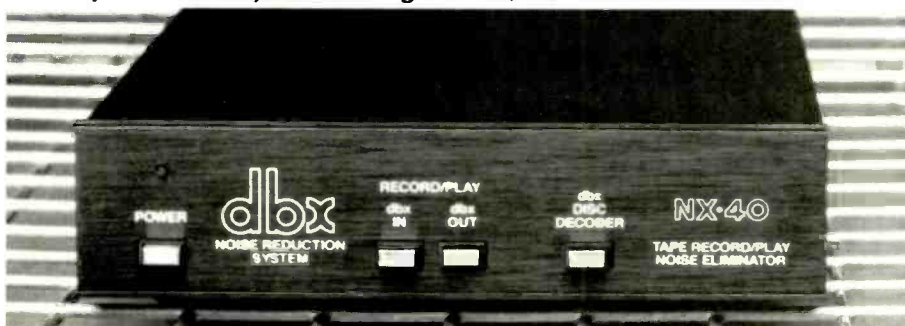


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tion. Much of the performance has a nice unforced flow like that of his Rossini overtures: it's only when he tries to press, as in the more animated sections of the overture or of "Una voce poco fa," that his work begins to sound a bit mechanical. Otherwise he contents himself with creating a framework in which his singers can operate, and the performance for me succeeds to the extent that the singers make it happen.

Fortunately our cast includes two of the most engaging singers on the current scene, who by voice and personality should be ideally suited to Figaro and Rosina. And their singing here does give much pleasure, Allen indeed providing one wonderful moment: a vibrant "Alto là!" that really takes over the stage when he makes his entrance into the incipient riot in the Act I finale. But (and this is a highly personal response) I am also disappointed by the gap between what two such talented and eager performers are doing and what they surely could do with some artistic guidance.

There are such purely technical matters as control of the passage-work, in which both Baltsa and Allen rate a low "fair," which places them both above most of their contemporaries, but which shouldn't satisfy them, let alone us. More important, though, is the low level of their human stakes. The singing is nice, and frequently better, but it just isn't being channeled into purposeful vocal action. Why aren't they giving us their version of the kind of musical electricity that Callas and Gobbi set off in their Angel recording? Where are the chances taken in pursuit of powerful objectives?

The rest of the cast could be better but could also be worse. Neither Araiza nor Lloyd has his voice really centered, a familiar story in Araiza's case but a disappointment in Lloyd's. With concentration of tone and intent, he ought to be able to sing a dandy Basilio, but here he sort of traces his

way through, gimmicking up "La calunnia" and making a modest impact in the Act II quintet; compare Ghiaurov (London) and Raimondi (in the Angel set conducted by Levine, SCLX 3761). Araiza manages the final-scene aria better than Gedda (Le-

This may be the best *Barbiere* recording we've had in nearly 20 years.

vine/Angel) or Barbacini (in the CBS set conducted by Riccardo Chailly, 13M 37862), but not as well as Valletti (RCA) or even the lighter-voiced Benelli (London). He never sounds quite firm enough to inspire confidence that he's going to really come out on top of a phrase, let alone to take charge of it, choosing among options for the strongest human connection. This is potentially an excellent voice, but a performer who is stagnating.

Trimarchi offers a decent stock buffo Bartolo, outclassed even in its category by Corena (RCA, London) and Tadeo (DG Privilege 2728 005), not to mention the more truly vocalized performances of Dara (CBS) and Capocchi (Levine/Angel). The comprimario singers are an acceptable but gummy-voiced lot. The chorus contributes positively, and the sound is warm and full, if maybe a shade aggressive.

This may be the best *Barbiere* recording we've had going back the nearly 20 years to the London set with the spectacular young Berganza, held together by the buoyant flow of Varviso. But that also leaves the sparkling Callas/Gobbi/Galliera performance, and the more lyrical, introspective De los Angeles/Bruscantini/Gui. And don't

overlook the easy-to-underrate RCA set, whose humor may be Metropolitan-broad, but which does at least have some overall coherence, as well as a vocal standard that looks formidable from our vantage point.

Philips does some pruning in the recitatives but otherwise presents the musical text complete. The fortepiano continuo works nicely—less quaint-sounding than a harpsichord, without the anachronism of a modern piano. **K.F.**

SAINT-SAËNS: Concertos for Piano and Orchestra: No. 2, in G minor, Op. 22*; No. 4, in C minor, Op. 44†.

Pascal Rogé, piano: Royal Philharmonic Orchestra*, Philharmonia Orchestra†, Charles Dutoit, cond. LONDON CS 7253, \$10.98. Casette: CS5 7253, \$10.98.

The attraction of having the two most popular Saint-Saëns piano concertos back to back in well-recorded performances is compromised by the decidedly tepid approach of Rogé, who certainly commands a lush tone but lacks the requisite sparkle and rhythmic exactitude for a truly engaging presentation of this music. Dutoit tries to rescue things, to little avail, and the end result is cosmetic refinement without panache. **H.G.**

SALLINEN: The Horseman; The Red Line—See page 74.

SHOSTAKOVICH: Symphonies: No. 5, in D minor, Op. 47*; No. 12, in D minor, Op. 112 (*The Year 1917*)†. Overture on Russian and Kirghiz Folk Themes.†

Concertgebouw Orchestra, Bernard Haitink, cond. [Andrew Cornell, prod.] LONDON LDR 71051*, 71077†, \$12.98 each (digital recordings). Cassettes: LDR5 71051*, 71077†, \$12.98 each.

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Rostropovich, cond. [Hanno Rinke and Cord Garben, prod.] DEUTSCHE GRAMMOPHON 2532 076, \$12.98 (digital recording). Cassette: 3302 076, \$12.98.

SHOSTAKOVICH: Symphony No. 10, in E minor, Op. 93.

London Symphony Orchestra. André Previn, cond. [Suvi Raj Grubb, prod.] ANGEL DS 37955, \$12.98 (digital recording). Cassette: 4XS 37955, \$9.98.

A generation or so ago Shostakovich's Fifth Symphony was not problematic to perform, and conductors such as Stokowski, Koussevitzky, Rodzinski, and the young Leonard Bernstein played it often. I don't know whether they were concerned with its "inner meaning," but in their hands it was a tremendously exciting piece that never failed to bring an audience to its feet. In recent years conductors have begun to pay greater heed to the score's metronome markings. Moreover, the revelation in the composer's memoirs that the work represents false and hollow rejoicing has caused performers to rethink its spirit. As a result, the Fifth has become problematic; one can't just toss it off as in days of yore. As a further result, many contemporary performances of it are not exciting at all, but boring, and seem to go on forever.

Bernard Haitink's extraordinarily grim reading, hailed as "revelatory" in many quarters, is neither exciting nor boring—it's just there. Haitink, of course, brings to the score his customary fastidiousness and integrity. Virtually every metronome marking is faithfully observed, so that the piece unfolds at a measured pace. The first movement's gravity is emphasized, the beautiful Largo third movement is tender and impassioned, and the scherzo and finale move deliberately. The final coda is almost the slowest I've heard. (*The slowest follows.*)

The problem is that Haitink's conscientiousness has got the better of him. There is no rejoicing of any kind—real, false, or otherwise. It's all quite stolid, static, and Serious. The first movement's lovely second theme, introduced by first violins over the anapestic rhythm of the rest of the strings, is a case in point; at such a deliberate tempo, it remains earthbound.

I attended the performance of the Fifth by Mstislav Rostropovich and the Boston Symphony at Tanglewood in 1975, just after announcement of the composer's death. Not surprisingly, it was an event supercharged with emotion and intensity, and I have eagerly awaited Rostropovich's recording. If, in the end, it falls short of the heights reached on that occasion, it remains a magnificent traversal of the work and demonstrates that, as with any composer, metronome marks are meant not to be rigidly and slavishly adhered to, but to serve as guideposts. Rostropovich's tempos tend to be marginally faster than Haitink's and show a flexibility the Dutch conductor does not supply.

Hence, the first movement flows, and

its second theme soars. In the work's sixth measure, Rostropovich renders the violins' main theme in an unusual manner, pianissimo and without vibrato, imbuing it with an eerie, unearthly character. In the scherzo, the strings play less marcato than Haitink's and Rostropovich slows each time just before the famous passage for the horns (once, the trumpets). The violin solo, however, which provides the one fanciful moment in Haitink's performance, is a bit heavy-handed here, not at all playful. The Largo also flows beautifully, and, though Rostropovich begins the finale just as deliberately as Haitink, he soon gains momentum. At cue 105, he observes the acceleran-

do (tricky because of the afterbeats) ignored by Haitink. He also consistently broadens tempo to lead into a new section.

Rostropovich's tempo for the coda is the slowest I've heard, and is at the prescribed metronome figure, eighth-note = 184 (or so it appears in my blurrily printed score). Yet here the pace convinces. For Haitink just another section at a slow and rigid tempo, the coda becomes in Rostropovich's more flexible performance a true culmination to the symphony. This slow conclusion will shock anyone used to either of Bernstein's recordings (CBS MY 37218, IM 35854), especially the earlier one, where his tempo is perhaps twice as fast.



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Yet we know from the memoirs that Shostakovich admired Bernstein and was pleased with his performances. So perhaps the metronome markings are not all that important, as long as the spirit of the music is captured.

I don't mean to be too hard on Haitink, a conductor I admire very much. He gives as faithful a representation of the printed score as possible, magnificently played by the Concertgebouw Orchestra and superbly recorded. It's just that Rostropovich offers more than a representation of the score: a living, breathing, and, yes, exciting piece of music. The National Symphony, while not the equal of the Concertgebouw (there is some thinness of tone in the upper registers of violins and violas), also performs well, with true commitment, and the recording is as vivid as London's. (I should note the availability of a version similar in spirit and tempo to Rostropovich's, by the composer's son Maxim with the U.S.S.R. Symphony, now on Quintessence PMC 7202.)

The latest installment in André Previn's Shostakovich cycle is an excellent performance of the great Tenth Symphony. My enthusiasm is tempered only by the fact that Karajan's colossal account with the Berlin Philharmonic (DG 2532 030, November 1982) still rings in my ears. On its own terms, Previn's version has much to offer. The brooding melancholy of the long

opening movement is beautifully and sensitively portrayed, as is the similar mood of the finale's introduction. The plaintiveness of the often waltzlike third movement is very poignant, the finale very exciting, but not superficially so. Only the brief and manic scherzo would benefit from a slightly faster pace. Here the feeling is of two beats per bar (fair enough in 2/4 time); Karajan and Mitropoulos (Columbia, deleted) give the feeling of one. It's certainly effective enough under Previn, with a weight and substance eschewed by the others. The London Symphony Orchestra plays brilliantly for its former principal conductor, and the recording is first-rate, not as recessed as some Angels have been. This is one of Previn's finest recent discs.

The record jacket for the Twelfth Symphony gives its title as *Lenin*, but the labels give the correct title, *The Year 1917*—the year, of course, of the Russian Revolution. Lenin does figure in the work's dedication. This is, I'm afraid, one of Shostakovich's "official" Soviet compositions, one of the public works he was obliged to write so that he could continue to compose pieces like his string quartets and last three symphonies. (The Fifth was, in fact, another such piece, but a more successful and universally accepted example.)

That said, it's really not all that bad. It's a cyclic work in four connected movements, with the folklike themes of the first

movement recurring throughout. That first movement, as Haitink plays it, is viscerally exciting. The somber slow movement leads into a mysterious third section called "Aurora," after the cruiser that signaled the start of the revolution by firing the first shot into the Winter Palace. Quiet mystery gives way to fortissimo excitement with many offbeat percussion accents. The finale, "Dawn of Humanity," unfortunately doesn't know when to end; when it finally does, it's almost a rewrite of the ending of the Fifth Symphony, also in D major, with pounding timpani and bass drum. In fact, playing this record after the two Fifts, I was asked by a family member listening from the next room whether I was playing the same work over again.

I had heard the Twelfth several times before on records and once in concert. I hope I can make amends to Haitink by saying that his version is the finest I've heard, and the mostly good impression the score makes here is entirely his doing (and the Concertgebouw's, of course). But even he can't quite save the finale.

New to me is the *Overture on Russian and Kirghiz Folk Themes*—a very effective work of its type. (It's an occasional piece "in honor of the 100th anniversary of Kirghizia's willing incorporation into the Russian State.") This is the sort of piece Glinka might write today—the Glinka not of the *Ruslan and Ludmila* Overture, but of the dances from that opera, and of *Kamarinskaya*. J.C.

VERDI: I Masnadieri.

CAST:
 Amalia Joan Sutherland (s)
 Carlo Moor Franco Bonisolti (t)
 Arminio Arthur Davies (t)
 Rolla John Harris (t)
 Francesco Moor Matteo Manuguerra (b)
 Massimiliano Samuel Ramey (bs)
 Moser Simone Alaimo (bs)

Welsh National Opera Chorus and Orchestra, Richard Bonyngue, cond. [Andrew Cornell and Michael Haas, prod.] LONDON LDR 73008, \$38.94 (digital recording; three discs, manual sequence). Cassettes (3): LDR5 73008, \$38.94.

COMPARISON:
 Caballé, Bergonzi, Gardelli Phi. 6703 064

"When I read in Plutarch," says Carlo Moor in the opening line of *I Masnadieri*, "I am bored, disgusted with this age of weaklings." So, listening to parts of this new recording, might one say of our age of Italian singers, substituting for Plutarch's the pages of Steane, Chorley, Stendahl, or some other chronicler of operatic greatness. But Joan Sutherland's name would loom large in any modern musical Plutarch, and it is on the current state of her work that interest will largely center here.

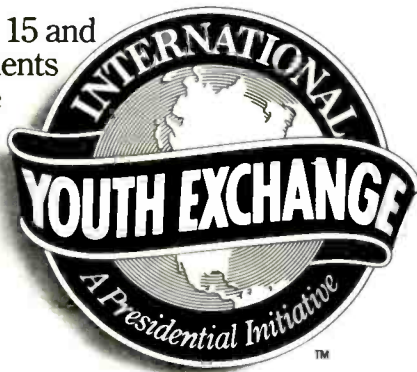
I Masnadieri was written in 1847 for London, and the role of Amalia for London's new favorite Jenny Lind, whose celebrated trill Verdi took care to showcase. Not superficially: The ornament becomes

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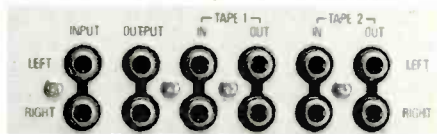
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Nellie Melba: The LP Transfer Completed

Reviewed by Tim Page

JOHN HETHERINGTON STATES the case succinctly in his excellent 1967 biography of Nellie Melba: "Those who disliked [her voice] found it cold, aloof, passionless; to others, it had the unearthly beauty of winter moonlight. . . . I fall squarely into the latter camp, and an ambitious new Australian reissue of Melba's American discs only serves as confirmation.

Melba's voice came as a revelation to me, when, 10 years old, I was given an Angel reissue of her first recordings. Although it was years before I could have told anyone why, her singing transfixed me. Struggling against the primitive recording technique of the time, she yet managed to produce an astonishingly pure tone, almost devoid of vibrato, that chimed through the unholy clang of wax and cactus. She seemed to defy the limits of the human voice, with soaring high notes that leapt from nowhere and scales that were seamlessly elegant. Later, I would find my wonder echoed in the pages of Shaw: "You never realize how wide a gap there is between the ordinary singer who simply avoids the fault of singing obviously out of tune and the singer who sings really and truly in tune, except when Melba is singing."

None of Melba's recordings captures her in her prime; the earliest were made in 1904, when she was 42 and had been the toast of Covent Garden for some 15 years. Her last recordings—and her only ones made with the benefit of modern electrical technology—date from 1926, the year of her operatic farewell. These are among her loveliest discs; the voice, though deteriorated, retains a pale, haunting luster, and her artistry remains undiminished. Despite their limitations, the Melba recordings constitute impressive souvenirs, inspiring none of the keen disappointment we feel when listening to so many early recordings of unquestionably great singers. (Lillian Nordica is only the most extreme example.) With pleasure that is much more than merely historical, we come into dim but palpable contact with one of the supreme vocalists of all time.

Melba's American recordings date from the middle of her discographic career. She made 73 recordings here, in New York and at the old Victor headquarters in Camden, New Jersey, between March 1907 and January 1916. Sixty-one of these survive. There is very little change in the voice over these nine years, and most of the performances are fine.

The very first side contains the sole

memento of one of opera's great partnerships: Melba's only recorded collaboration with Enrico Caruso. The recording—"O soave fanciulla" from *La Bohème*—has long been considered a classic, and Caruso's later version, with Geraldine Farrar, does not stand up to comparison.

Mary Garden, some forty years later, recalled Melba's interpretation of this scene: "My God, how she sang it. The last note of the first act of *La Bohème* is a high C, and Mimi sings it when she walks out of the door with Rodolfo. The way Melba sang that high C was the strangest and weirdest thing I have ever experienced in my life. The note came floating over the auditorium of Covent Garden; it left Melba's throat, it left Melba's body, it left everything and came over like a star and passed us in our box and went out into the infinite. I have never heard anything like it in my life. It just rolled over the hall of Covent Garden." Some of that quicksilver magic is captured in this unique recording, which sold for five pre-inflation dollars in 1907, the highest-priced disc issued to that time.

If Melba recorded a composition once, she was likely to record it again. Her second rendition of the Mad Scene from Thomas's *Hamlet*, included here, does not have quite the freshness of the 1904 version, but maintains a special poignancy that is deeply moving. Her performance of Tosti's "*Mattinata*"—a song that can brook comparison with Leoncavallo's better-known offering—has a tremulous ecstasy; what a way to greet the dawn. And Arditi's "*Se saran rose*"—dubbed the "Melba Waltz" though actually dedicated to Adelina Patti—nearly levitates, so buoyant is its energy.

The voice is always the main event in a Melba recording. The soprano had a predilection for what can be affectionately described as trash, and her discography is peppered with art songs by her friends Herman Bemberg, Landon Ronald, and the slightly more distinguished Reynaldo Hahn. But everything Melba sang suddenly grew in stature, and she transforms this slight material like a vocal alchemist.

Melba's trilling, virtuosic approach to works like the Mad Scene from *Lucia di Lammermoor* and Handel's "Sweet Bird" may horrify some purists, but she imbues the music with an exquisite daffiness that should still musicological carping. There is cool distance to Melba's passion; she did not so much express emotions as artfully dissect them. Her recording of "*Vissi*

d'arte" from *Tosca* impresses one with Platonic remove rather than heart-in-mouth dramaturgy, yet it remains a convincing interpretation. Her approach, though Apollonian, takes the listener to the structural heart of the music as few other artists can.

Melba is often at her best in unexpected material. Her recording of Foster's "Old Folks at Home" is an indelible portrait of a world gone sad and dreary. But perhaps we shouldn't be surprised by the patrician Melba's affinity for this music; her very last recording, symbolically appropriate and musically rewarding, was "Swing Low, Sweet Chariot."

The soprano is joined by some classy colleagues on certain recordings, including the baritone Charles Gilibert and the violinist Jan Kubelik. Melba accompanied herself in several selections, and served in the same capacity in a 1910 recording by her favorite flutist, John Lemmone, included here. *By the Brook*, Wetzger's idyll for flute and piano, is one of the sappiest pieces ever written, but Lemmone is a fine player, and Melba's pianism is all that it should be.

One recording is included mistakenly: Melba's spurious Mapleson cylinder. The Maplesons were the first live bootlegs, recorded on the catwalk of the Metropolitan Opera by the house's librarian Lionel Mapleson during performances. Current scholarship indicates that a 1902 recording of the Queen's aria from *Les Huguenots*, long attributed to Melba, is in fact the work of Suzanne Adams. It is still a pleasure to have this thrilling singing on disc, and this reissue should raise our estimate of Adams considerably.

This collection, together with the 1976 EMI reissue of her HMV recordings (RLS 719, January 1978), completes the transfer of surviving Melba recordings to LP. Beautifully remastered and lavishly packaged, it is very much a collector's edition; everything is arranged in strict chronological order, which explains the presentation of two recordings of "*Depuis le jour*" from *Louise* in a row, as well as duplications on several sides. But despite the effort to satisfy the archivist, the weekend operaphile will find much to admire as well.

It would be a cliché to suggest that your library is incomplete without this set. Nevertheless, Melba's recordings comprise a library in themselves, and must be considered one of the precious artistic legacies of the century. This is a splendid collection; you couldn't improve upon it. **HF**

NELLIE MELBA: The American Recordings, 1907-16.

Nellie Melba, soprano and piano; various other performers. [Eric Clapham, reissue prod.] RCA AUSTRALIA VRL 5-0365. \$59.90 (mono; five discs, manual sequence) [from VICTOR originals] (distributed by Orpheus Records, 1047 Lexington Ave., New York, N.Y. 10021).

CLASSICAL Reviews

absolutely motivic, an essential propulsive element in the opening phrases of her entrance aria, her cabaletta, and the cabaletta of her duet with the tenor. This feature of the score made Montserrat Caballé an odd choice for the opera's only previous recording, since she is apparently unable to execute it. Sutherland's trill is as famous as the Swedish Nightingale's, and it makes a great difference. Listen to the very long one on D where the cavatina modulates: The "orchestration" is much more colorful when the shifting woodwind diminished sevenths glint against the dissonance of a true trill rather than Caballé's slightly pulsed single note.

Amalia was also written for a voice still fresh from its first international successes, and with just such a voice Sutherland made a stunning record of the big *Masnadieri* aria in the early '60s (London OSA 1254). The inevitable comparison with the present set reveals some loss, and not just in vocal bloom. In the earlier version, for instance, phrase-halves in the cabaletta are joined with graceful portamentos. When the same aria came up on a televised gala (London LDR 72009), it was disappointing to hear all of these broken. The complete recording steers a middle course, but in general it falls short of the first in elegance, refinement, and sheer pep (that seems the right word for the wholesome, alert vigor of Sutherland's most spirited singing). The

fast divisions at the end also betray a certain sense of effort—but only by Sutherland's own standards. (In the earlier disc, she takes Bonyngé's challenging tempo with every indication that she could do it half again as fast if need be.)

When one considers that this is the work of a soprano well into her fifties, though, carping gives way to admiration. The middle voice has lost in resonance and projection (in vigorous passages several sensible changes have been made to avoid undue pressure on it), but it is not only in the trill that she emerges as preferable to Caballé. The great high Cs of the first finale are rather hard in the Spanish soprano's version; Sutherland sounds fresh, soaring, glorious. Some of the familiar complaints might be raised, but in the final analysis Sutherland is one of the few artists now working in opera who has a firm idea of the kind of singer she wants to be, and the wherewithal to make the idea real.

For that, in "this age of weaklings," one is grateful, not least when listening to her partners on this recording. Franco Bonisolli and Matteo Manuguerra have strong, useful voices—one can see why they have regular work—but it is depressing to realize that, as things stand, they are among the best six or eight Italian men in opera today. The opening pair of cavatinas is particularly dispiriting: The lyrical singing lacks energy, and, when energy arrives, unpleasant

pushing comes with it. Bonisolli essays here and there what might be called a "token dolce" (usually by squeezing the quality out of a note he's about to stop holding anyway), but of charm, plasticity, and genuine vocal imagination he and Manuguerra have little.

Nor have they what might go far to compensate, sheer beauty (or animal thrill) of sound. Carlo Bergonzi on Philips gives a relatively unvaried and unimaginative performance too, but, wherever one drops the needle, the immediate reaction is gratitude for a warm, evenly produced voice and a true (albeit plain) elegance of phrasing and declamation. With Bonisolli the loud singing often becomes strained, vowels are distorted, vibrato loses control (note the shouted releases at "mano mia giurare la fè" in his cabaletta).

Nor, finally, does this pair bring much dramatic tension to such musical gestures as they occasionally do make. It's instructive to compare the moment in his first recitative when Manuguerra momentarily lowers his voice to suggest intensity with Mattia Battistini doing the same thing in a 1911 recording from *Maria di Rohan* (Preiser CO 327): It's like a damp match and gunpowder.

Samuel Ramey does better as the solemn Massimiliano (not, however, suggesting much of the horror of being imprisoned (Continued on page 100))

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The Tape Deck

Critiques of new cassette and open-reel releases by R. D. Darrell

Less Is More?

If ever this oxymoronic question can be answered in the affirmative, it's in the realm of music-making where one, two, or a few players or singers speak directly *vom Herzen zum Herzen*. Electrifying as full symphony orchestras and grand-opera companies may be, small ensembles often can be more delectably or poignantly moving. And nowadays recordings and broadcasts have opened wide the treasure house of chamber music once available exclusively to a privileged few.

The only real catch is that this repertory's more refined, if not actually elitist, nature demands a greater degree of knowledgeable participation from its listeners. And some of the current chamber-music tapings indeed are of highly specialized interest. But luckily many others proffer wider, more generalized, yet no less potent appeals.

Two solo- and duo-program exemplars are particularly relevant in this Brahms anniversary year: the late Glenn Gould's ballades and rhapsodies, and the first partnering of Mstislav Rostropovich with Rudolf Serkin in the cello sonatas. The piano pieces *can* be played in big-concert bravura fashion, of course, but the ripened Gould approach is introspective and intimate—speaking with arresting, eventually radiant eloquence (CBS Masterworks digital/chrome IMT 37800, price at dealer's option). Less austere but no less magisterial authority is just one of the many magnetic attractions of the sonatas (Deutsche Grammophon digital/chrome 3302 073, \$12.98)—a coupling that makes even the best of the earlier versions seem just a bit immature.

Then, this month's other solo program turns far from Brahms's crepuscular shadows to sunny Spain's most graceful dance and scene evocations in Julian Bream's guitar transcriptions of mostly familiar Albéniz and Granados pieces, played and recorded even more magically than this master's earlier Iberian explorations (RCA Red Seal ARE 1-4378, \$12.98).

Purists fault the piano trio for its im-miscible combination of tone qualities, but the best classical and Romantic examples easily triumph over that theoretical handicap for most music-lovers. And if I can't join them wholeheartedly where either the Beethovenian repertory or the acclaimed Beaux Arts Trio's readings are concerned,

that may only expose blind spots in my own sensibilities. Certainly there is much to admire in the latest additions to the group's new series—not least, Menahem Pressler's deft pianism and the gleaming recording in both the analog/ferric taping of four of the lesser trios (mostly variations) and the digital/chrome coupling of Op. 11 and Op. 70, No. 1 (Philips 7337 279, \$10.98, and 7337 184, \$12.98, respectively).

I find more stimulating rewards in two of Dvořák's five piano trios, the disarming Op. 26 and great *Dumky*, Op. 90, and the two Schubert piano trios, plus two kindred shorter pieces—all played with infectious verve and relish by the Odeon Trio in vivid if sonically lightweight recordings (Pro Arte digital/chrome PCD 130, \$9.98, and 2PCD 202, \$19.96, respectively). And there are more Dvořákian delights in the new open-reel edition of the robust c. 1978 Supraphon String Quintet, Op. 97, by the Smetana Quartet with Josef Suk, filled out with a negligible viola-piano transcription of *Silent Woods* (Pro Arte/Barclay-Crocker F 1074, \$9.95).

Larger-scale ensembles, especially with both winds and strings, aptly serve to win over orchestrally biased listeners. The once immensely popular if now faded Beethoven septet and the eternally fresh Schubert octet are admirable examples (None-such 78015-4, \$8.98, and digital/ferric 79046-4, \$11.98, respectively). But these latest cassettes—expertly performed and recorded by the Boston Symphony Chamber Players—lack the more distinctive individuality of the best available interpretations.

A very special kind of wind octet once—and still—popular is the opera-hit arrangement, such as the Beethoven-Sedlak *Fidelio* excerpts delectably played by a Southwest German ensemble (Spectrum SC 266, \$7.98).

Moving into unfamiliar territory also is eased when the immediate musical attractions transcend the medium—as do Halvorsen's superb *Handel Variations* (passacaglia and sarabande), plus a fine Spohr duo and a glibber one by Rolla, in surprisingly sonorous virtuoso versions by the Schumskys, father and son (Spectrum SC 264, \$7.98). Or as in the mostly modern-style performances of the Handel Op. 1 Sonatas and Op. 2 Trio Sonatas by members of the St. Martin's Academy Chamber Ensemble: The former features Iona Brown's rich-toned fiddling; the latter stars violinists Kenneth Sillito and Malcolm Latchem, with cello and harpsichord or

organ continuo (Philips Prestige Box 7654 079, \$21.96, and 7337 230, \$10.98, respectively). I prefer a more "periodthentic" approach, but the music itself flows from the deepest, purest wellsprings of imaginative melodic invention.

Primarily for specialists. The whole-hog combination of relatively or completely unfamiliar music in period-style timbres, pitch, and readings, all italicized by high-tech tape processing, may well seem bitter medicine for novice or even general listeners. But if they gulp it down bravely, they may come to appreciate better what it is that fascinates connoisseurs in Catherine and Robert Strizich's French baroque lute duets and obscure Italian lute solos with baroque-guitar accompaniments. The playing is routine, but where else can you resurrect the music of Denis and *le vieux* Gaultier, Francesco Corbetta, Fabritio Caroso, Giovanni Battista Granata, and Giovanni Paolo Foscari?

This Titantic program (TI 40) is one of three reissued by the Direct-to-Tape Recording Co. (14 Station Ave., Haddon Heights, N.J. 08035; \$14 each, plus \$2 per order shipping) in a wide variety of real-time cassette and unidirectional open-reel tapings. My review copies are "X"-encoded reels, requiring DBX decoding, some on extra-price mastering-tape stock, but the impressive technology is sure to tell, whatever the format and noise-reduction system chosen.

Two other Titantic/DDT programs, while musically less recondite, are no less passionately purist: the Boston Museum Trio's five Rameau *Pièces de clavecin en concerts* (TI 28) and a "Young Bach" set of violin-continuo sonatas, S. 1021, 1023, and 1024, along with the S. 1026 Fugue (TI 80). In the former program, played on historical instruments (violin, harpsichord, and gamba) from the Boston Museum of Fine Arts, John Gibbons's keyboard skills and prominence enhance the charm of Rameau's delectable tone portraits of himself, Forqueray, Marais, et al. In the latter, utilizing historical instruments from New York's Metropolitan Museum collection, Daniel Stepner's often mercilessly penetrating violin tone doesn't persuade one that these particular works rank high in the Bach canon. And, throughout, there are more "authentic" expressive swells than I care for. But the fascinatingly raw timbres of the past spring to life in both programs—and assume a nearly palpable presence in one's listening room. **HF**

BACKBEAT

Chez Carly



Equal parts apple pie, motherhood, and high-class sleaze, Ms. Simon is back, on her twelfth album, to what she does best: songwriting.
by Steven X. Rea

SHE IS LOOKING for something—for answers, meanings, reasons for being. Her hits (*You're So Vain*, *Anticipation*, *That's the Way I Always Heard It Should Be*, *Jesse*) and her misses (everything on "Another Passenger") are like little musical search parties sent out from the soul.

"That's been my particular journey in this lifetime," says Carly Simon. "To find out as much as I can about myself and about why I do things and why other people do things. I'm definitely a seeker."

And so, she writes songs. Songs about relationships, songs culled from her experiences, songs about transactional analysis and cocktail parties, fame and wealth (she acquired the former, was born into the latter), marriage and children, infidelity and reincarnation.

Since her debut was released in 1971, Simon's image has been a strange, provocative, and successful mix: a sensitive female singer-songwriter who came to songwriting by way of private schools and Sarah Lawrence; a sexually independent woman looking for the ideal of a traditional marriage; a closet folkie with pop-song inclinations; a reluctant performer whose frequent social appearances at Studio 54, celebrity bashes, and star-studded dinner

parties landed her in the pages of *People*, *W.* and a ream of gossip columns.

And then there are those album covers: Carly in black lingerie and high-heeled boots; Carly in diaphanous, high-chic hippie garb; Carly in low-cut evening gown. The soft-core jackets haven't hurt her sales figures any, and she readily acknowledges it.

Nowadays, Simon, 38, divides her time between her Central Park West apartment in New York and a secluded, gray-shingled house she built with James Taylor on Martha's Vineyard in Massachusetts. After a lengthy separation (documented in *People* and *Rolling Stone*) from the star singer-songwriter, the divorce papers have finally gone through, and Simon, for the most part, lives alone. Alone, that is, with her two children, Sally, 9, and Ben, 6, and a housekeeper. There are also visits from friends, like songwriter Libby Titus and actor Al Corley, best-known for his role in TV's *Dynasty*.

The following interview was conducted one late-summer day at her home on Martha's Vineyard. It began with Simon's enthusiastic self-appraisal of "Hello Big Man," her new album. If you count her "Best Of" record and "Hot Cakes," (vir-

tually a duet LP with then-husband Taylor), this is her twelfth solo album, her third for Warner Bros. (She also made two folk records with sister Lucy in the mid-Sixties.) It is also, says Carly, the best of her three collaborations with producer Mike Mainieri.

Backbeat: Are you always this enthusiastic when you've just completed a project?

Carly Simon: Yes [laughs]. I've never done an album from which I haven't come away thinking, "This is my best album"; and then a week later, "This is my worst." I do skip around a lot in the self-esteem area.

Backbeat: How did "Hello Big Man" come together?

Simon: Well, I was trying to find a new producer because Warner thought Mike couldn't make a really commercial album. I disagreed with them, but I went along because they were so nice about "Torch" [her last LP, comprised entirely of Tin Pan Alley classics]. Even though they didn't think it was commercial, they really did get behind it. And it actually sold more copies than some of my "commercial" albums.

So I looked for another producer and I settled on Glyn Johns. We started work at

Compass Point in Bermuda, and it simply didn't work out. I wasn't happy. So I went back to Mike. Most of the recording was done in New York at the Power Station, except for the strings, which were done in L.A. Then it was all mixed at Right Track. The actual recording took about five months.

Backbeat: Did you bring in the songs in fairly complete form, or were a lot of them written in the studio?

Simon: We wrote some in the studio, like *Such a Good Boy*, which came together very quickly. I wanted to get Sly Dunbar and Robbie Shakespeare [both in-demand Jamaican rhythm players] for my version of Bob Marley's *Is This Love?* I tracked them down in the Bahamas, and Robbie said he'd love to come to New York and play on it. We got the tune down very fast—in about two hours—and we had some time left over, so we decided to write a song in the studio. And that was *Such a Good Boy*.

Backbeat: There was a small article in *Newsweek* that mentioned the new LP's reggae influence and showed a picture of you playing drums.

Simon: I did, but not on that tune. I played them on *Orpheus*, but we cut out my drum tracks. Thankfully [laughs].

Backbeat: No offense, but it wouldn't make sense to play drums with Sly Dunbar in the room.

Simon: That's right. It wouldn't.

Backbeat: Did you record any songs that didn't make it to the album?

Simon: Yes. About six or seven. Some really good songs didn't make it because we felt they would throw the balance too far to the ballad or slow side. I wanted to keep the album fairly up.

Backbeat: Let's go through the tracks on the record. Stop if there's anything you'd like to say about them.

Simon: Okay.

Backbeat: *You Know What to Do* sounds like the obvious choice for the single.

Simon: It is. I'm doing a video of it too. Andy Summers [of the Police] played guitar on that track, and Elliott Randall ended up playing the guitar solo.

That song was the most difficult one on the album to bring together. It went through a lot of different stages. It was like a swing song when I first wrote it with Peter Woods and Jacob Brackman. It sounded a little like Robert Goulet could sing it. The lyric was completely different: "When native waiters flashing smiles save the drinks for after lunch."

We got together one day, and I said, "Let's put a kind of Police beat to it." That's when the off-beat thing started to happen on the piano, and it rearranged itself. Then Jake and I rewrote the lyric, saving just a couple of lines. It became almost a completely different song.

Backbeat: What about *Menemsha*?

Simon: That's a beautiful fishing village down at the other end of the island where I

spent most of the summers as a child. The song is a little memoir about how the place used to be and about a boy I used to know. I had wanted to write a chant, and I happened to show Peter Woods—who is not the Peter in the song—a book that my brother [a pro-

Discography

Carly Simon. Elektra EKS 74082; 1971.
Anticipation. Elektra EKS 75016; 1971.
No Secrets. Elektra EKS 75059; 1972.
Hot Cakes. Elektra 7E 1002; 1974.
Playing Possum. Elektra 7E 1033; 1975.
Best of Carly Simon. Elektra 7E 1048; 1975.
Another Passenger. Elektra 7E 1064; 1976.
Boys in the Trees. Elektra 6E 128; 1978.
Spy. Elektra 6E 506; 1979.
Come Upstairs. Warner Bros. 3443; 1980.
Torch. Warner Bros. 3592; 1981.
Hello Big Man. Warner Bros. 1-23886; 1983.

With sister Lucy, as the Simon Sisters:
Winkin', Blinkin' and Nod. Kapp 3359; 1964.

Cuddlebug. Kapp 3397; 1965.

fessional photographer) did called *On the Vineyard*. We came across a picture of Menemsha, and it just clicked.

Backbeat: The acoustic guitar on *Damn, You Get to Me* sounds very much like James Taylor's. Was that intentional?

Simon: Maybe because I lived with him for more than 10 years. I picked up some of his style. I'm terribly flattered that you say that. It'd be so nice to sound like James.

Backbeat: The Bob Marley song, *Is This Love?*

Simon: My brother Peter was instrumental

in that. He always wanted me to do a Marley tune. A couple of years ago he gave me the backing track of that one and asked me to put my voice on it. I did, and when I listened I thought it was sort of an innocuous song. It just didn't strike me the way it strikes me now.

When we were getting the material together for this album, I asked my brother for a tape of reggae songs. He gave me one with about 25 songs on it, and the one I ended up loving the most was *Is This Love?*

Backbeat: Where did *Orpheus* come from?

Simon: On the surface of things, it came from my kids. Sally was studying Greek mythology, and Ben became very interested in it. So every night I would read them one of the legends. I always loved the *Orpheus* legend, and I loved the movie *Black Orpheus*. After reading it to them, I realized I wanted to write a song from Eurydice's point of view; to say, "Orpheus, goddamn you! Why did you blow it? Why did you look back? Why did you lose your faith?" I wanted to be her voice and tell Orpheus how mad I was. I remember after reading it I was so inspired that I just went into the other room and wrote the whole thing—words and music—in about half an hour. I either take months to write a song or it happens in 10 minutes.

Backbeat: Do you have any kind of routine? Do you try to write something every day at a certain time in a certain place?

Simon: I wish I did. I'm the most undisciplined person imaginable. I have no schedule for anything. If I didn't have children, I don't know what I'd be like, because they keep me on some sort of schedule. I get up in the morning and just kind of see where the day takes me. Very often it doesn't take

At the control board: "I still have the right to say no."



LYNN GOLDSMITH

me anywhere [laughs].

But I don't take my writing as seriously as I should. I've never had an office. I've never had a set time for working. I can't seem to ever say to the children, "You have to stay out of here for two hours while I work." I think, though, that next year I'm going to get an office or a little studio to write in.

Backbeat: Has having children changed your viewpoint or affected the way you write songs?

Simon: Sometimes I see things from their point of view, so perhaps there's more naïveté in my songs. I think my approach has become more simple—pared down a little bit. My songs used to be a little too detailed and nonuniversal. They'd get a little precious. Or I'd write about experiences that other people couldn't share because the references were too obscure. I think I've become more direct and more accessible because I've assimilated the children's need to understand things in a direct way.

Backbeat: *It Happens Every Day* is a pretty universal theme: marriages breaking apart. I imagine that was inspired by your relationship with James.

Simon: Oh yeah. A lot of things are inspired by my relationship with James and with other people. That song came about when my dear friend Al sat me down and made me write. He said, "I'm going to put you in a room and close the door, and I'll bring you some tea, and I don't want you to come out until you've written a song." And so I wrote *It Happens Every Day*. I guess I need that external discipline sometimes.

Backbeat: The vocals on that song are very Fifties-ish, almost Everly Brothers. I remember your recording with James of *Devoted to You*. I take it they've been a big influence.

Simon: I love the Everly Brothers. Who doesn't?

I had a major fight with the record company about that song. Michael put strings on it, and I wanted it spartan so the vocals would come through. Everyone at the record company loved the strings and thought that could really be the single. I think it's a very commercial song anyway, but with the strings it sounded almost like a country record. [There are no strings on the album version.]

Backbeat: Who do you deal with primarily at the record company?

Simon: Lenny Waronker [the label's president], who's a great man and very good friend. I respect him a lot. He used to be James's producer. I genuinely like all the people that I deal with at Warner Bros. Teddy Templeton is one of the vice presidents, and he used to be my producer. So I have a great relationship with him too. And Russ Titelman is one of my closest friends. I'm so fortunate with Warner Bros.

Backbeat: You went there about three years ago. Were you unhappy at Elektra, or was it just a matter of money?



Sometimes now I see things from a child's point of view.

Simon: I was very happy at Elektra at first because [president] Jack Holzman was great. I had the kind of relationship with him that I have with Lenny or Teddy or Russ. But then when Jack left, David Geffen came in with his whole entourage of artists that he had set up on Asylum: Joni Mitchell, Jackson Browne, the Eagles, Linda Ronstadt. I was like the ugly stepdaughter. He was sort of stuck with me, and I felt like he was putting me in the ugly closet, that I was no longer important to the label.

And then Joe Smith took over. I don't know, I didn't do very well under Joe. It may have been that my records fell down, that they weren't as good or something. But, whatever happened, I didn't feel as good about being on that label as I had. As soon as I switched to Warner Bros., I had a great feeling of being in the right place again. Lenny's such a music person—he's a musician and a producer—we have so much more of a rapport and understanding. Even though we disagreed violently over *It Happens Every Day*, he understood my point of view. Almost everyone disagrees with me [smiles].

Backbeat: And who usually wins?

Simon: It is my decision. That's what being an artist means. You have artistic choices to make. They can say you're really being a fool, that the strings are wonderful and add a lot of commercial potential to the record,

but I still have the right to say no. And I did as far as the album version. They might be entirely right. But I just didn't want them on an album that is a representation of me.

There have been too many instances where I've let people convince me to go against my instincts and I've been sorry later.

Backbeat: Any specifics?

Simon: *Attitude Dancing*. I just hated my vocal on it. To this day I can't stand to listen to it. But everybody was saying, "Oh, it's a big smash hit," so I just let it go. It wasn't a big smash hit—it did okay. And then there was my version of James's *Night Owl*. I hated the way I sang it, and I let myself be convinced that it was great. I said "Okay, okay, you must be right."

I'm the one that it's most important to. Nobody really cares whether *Attitude Dancing* sits just right or whether the vocal on *Night Owl* is any good, but I care. I care a lot. There are tracks on just about every one of my albums that I'm not happy with. I wasn't happy with *No Secrets* until it became a big hit. Then you can face that.

Backbeat: *Hello Big Man* is about your parents and how they first met. Was that something you've wanted to write about for a long time?

Simon: I've written a lot of songs over the years about my mother and father, and I've always scrapped them. It always seemed to be too difficult a subject to get into. I don't know if I approached this one differently, but a song is not necessarily an autobiography—you have the license to say whatever you want.

The beginning of *Hello Big Man* is, in fact, the way they met. I don't know exactly what she was wearing her first day of work—I imagine that she might be wearing saddle shoes and her mother's cocktail dress—but it is the way they met. She was the switchboard operator at Simon & Schuster, and his first words to her were, "Hello, little woman," and her first words were "Hello, big man." I was telling that story to somebody one day, and I thought, Gee, that would be a nice song.

I do that a lot: I say things or hear things that somebody else says and they sound musical, so I make a melody for them and see whether they sound nice—whether the syllables fit into a rhythm, or whether the vowel sounds can be sung well [laughs]. I'm very concerned with open-vowel sounds. I like open-vowel sounds. I don't like the high ees. I like the oohs and the ahhs—all the open ones are good.

Getting back to *Hello Big Man*—I had a tough time with the last verse because my father has been dead for 20 years and I have him still living in the house where I was born. So I thought, God, everybody wants that to be true of their parents, so why can't I make that a fantasy? That's the way I wanted their lives to go out. I wanted them to go out in romantic splendor, to live happily ever after.

HF

Reviews



Diana Ross: All dressed up with no musical place to go—See page 95.

Bangles

Craig Leon, producer
Faulty FEP 1302 (five-song EP)

Back when they were the Bangs, onstage at various clubs around L.A., the four girls in this bouncy, Sixties-influenced combo were being compared to that other bouncy, Sixties-influenced L.A. girl group, the Go-Go's. After all, they were females in kitschy mod clothes who jumped around a lot.

A year or so later, the Bangs are the Bangles and their five-song mini-album is out on Faulty Records, a subsidiary of I.R.S., the Go-Go's label. But beyond gender and maybe a mutual affection for the decade that spawned the Beatles and the Byrds, the similarities end.

For one thing, the Go-Go's are far more modern-sounding, with no rough edges: Production is sharp and shimmering, the keyboards and drums move along with cool, electro-pop ebullience, and there's a high-tech gloss to the songs.

The Bangles are rough edges, and from their album cover (a psychedelic hodgepodge of photos and squiggly drawings) to the tracks inside, "Bangles" is rife with garage-band energy and garage-band sloppiness. On the opening song, *The Real*

World, Susanna Hoffs's and Vicki Peterson's guitars (rhythm and lead, respectively) bash out a jangling, twangy chord-drone under Hoffs's high, scraggly, lead vocal. Behind her, drummer Debbi Peterson's high, wavery, and slightly skewed harmonies with sister Vicki recall Michelle Phillips and Cass Elliott of the Mamas and the Papas.

In fact, the Bangles sound like a frenetic mix of the Mamas and the Papas and the Monkees. Producer Craig Leon has framed them in a tinny, monolike context where nothing resonates, the drums clack, and the bass (played by Annette Zilinskas, who doubles on harmonica) thumps. When there's piano—on *The Real World* and *Mary Street*, both courtesy of Leon—it's off in the distance, a thin, energetic rumble. On *I'm in Line*, where Debbi tackles the lead vocal, the chorus is none other than that from *Dr. Robert*, one of the rawer of the Beatles' rockers. Nor have the Bangles forgotten the Byrds: Zilinskas's harmonica on *How Is the Air Up There?* and the buzzing guitars on *Want You* show that these girls are up on their Sixties pop. Indeed, they play as if in a time warp, blissfully unaware of any musical developments past 1968.

STEVEN X. REA

Lonnie Brooks: Hot Shot

Lonnie Brooks & Bruce Iglauer, producers. Alligator AL 4731

There's a whole generation of mature bluesmen currently in full bloom. People like Johnny Copeland, Carey Bell, Jimmy Johnson, Magic Slim, and Lonnie Brooks—all in their 40s—came up playing in bands led by such masters as Howling Wolf and Muddy Waters, struck out on their own in the Sixties and Seventies, and are now reaching their artistic peaks. Brooks grew up in Louisiana, toured in the Fifties with both Sam Cooke and Cajun-blues great Clifton Chenier, had some Southern regional hits under the name Guitar Jr., and then landed in Chicago to stay. He supported himself playing Top 40 and c&w, while continuing to hone his own approach. An incendiary live show, a fine permanent band, and several highly acclaimed concert appearances finally led to a strong following.

"Hot Shot" is Brooks's third album for the independent Alligator label, and it's a fiery collection of new songs and well-chosen covers. His voice is grainy and emotive, high and lonesome, and it nicely matches his soaring, rough guitar style. This set was recorded live in a Chicago-area studio, so there's a brightness and push to the tunes that keeps an edge on the proceedings. On his own *Messed Up Again*, Brooks berates himself for "foolin' with my fast-living friends," then launches into a scorching barrage of notes high up on the guitar neck. The rock ballad *Family Rules* was a hit for him as Guitar Jr., and he reprises it with an authentic '50s soul delivery. He digs into Otis Blackwell's uptempo, bayou-flavored *Back Trail* with knowledgeable precision. (Blackwell wrote some of Elvis Presley's early hits.) On J. B. Lenoir's *One More Shot*, Brooks charges into the first line shouting, "Hey bartender, where you been? I need a shot of whiskey and I need a shot of gin," as his guitar blazes in a shower of perfectly bent notes and clanging chords. On the title track, tenor saxist Abb Locke contributes some brawny solo work in the delightful style of the late Chicago jazz great Gene Ammons.

"Hot Shot" is a showcase for this versatile musician's roots in rock and soul, making it more than just another blues album from Chicago. In *Brand New Mojo Hand*, Brooks sings about a trip "back down to New Orleans," and you can hear the connection between swamp funk and Chicago steel that is the essence of his burly, elemental approach. CRISPIN CIOE

Jackson Browne: Lawyers in Love

Jackson Browne & Greg Ladanyi, producers. Asylum 60268

The arrival of *Lawyers in Love*, the title song from Jackson Browne's first album in more than three years, was one of the happier surprises of this past summer. From a

performer often deemed an archetype for the confessional singer-songwriter, this eerie, panoramic broadside promised a major shift in perspective; while reviving the element of social commentary that had appeared in varying degrees on past albums, the song reflected a new, mordant sense of humor.

"Lawyers in Love" the album does bear witness to changes, but the bulk of them stand in sharp contrast to the quirky invention of the single. The swing toward more concise rock and pop motifs that paid off on the seven-inch preview only points up the limitations of Browne's now radio-conscious melodic instincts. However frail his early, longer melodies sometimes seemed, their harmonic and melodic origins—in Christian hymns, folk music, and to a lesser degree, country—were at least distinctive. Here, the worst doubts raised by his 1980 set, "Hold On," are confirmed: Few of these melodies are memorable, and the majority are punctuated by guitar and keyboard embellishments interchangeable with countless other polite soft-rock styles.

Browne's past work always derived much of its impact from his musings as a lyricist. Unfortunately, he stumbles in that respect as well, sidestepping more introspective themes to focus on romantic disappointment and redemption with most of the craft but little of the heart of his strongest material. Even his best love song here, *Tender Is the Night*, is marred by the very triteness of the title cliché. Elsewhere, he tries for variety with a shopworn rock anthem (*For a Rocker*) and nearly erases the memory of his earlier tributes to contemporary Everyman with an embarrassing, slice-of-life vignette, *Downtown*, that makes Petula Clark's 1964 hit of the same title sound downright profound. Compounding these problems are the crisp but rather soulless performances of his studio band, which should make veteran Browne fans hunger for the rougher but more emotional delivery of his first four Asylum albums.

We're left, then, with the stunning title song and a less successful but still admirable antiwar ballad, *Say It Isn't True*. I'm still banking that the spaced-out vidiot's delight of the former coupled with the unalloyed compassion of the latter hold out reasonable hope for Browne's future writing. For now, though, admirers are advised to dust off their old albums and track down the new set's single. SAM SUTHERLAND

Elvis Costello and the Attractions: Punch the Clock

Clive Langer & Alan Winstanley, producers. Columbia FC 38897

It's an expansive, ingratiating Elvis Costello that emerges on "Punch the Clock." The album, Costello's ninth in the U.S., has a swaggering tunefulness that has been

brought to the surface by producers Clive Langer and Alan Winstanley, whose recent Top 10 hits (Madness's *Our House*, Dexys Midnight Runners' *Come on Eileen*) show a talent for getting to a melodic hook, using horns for jabbing emphasis. Costello even does last year's excellent "Imperial Bedroom" one better in the accessibility department by printing the lyrics neatly on the inner sleeve rather than in run-on chunks. But if he's more forthcoming than usual, he's no less combative, still seething about emotional injustice and political insensitivity.

"Punch the Clock" contains two recent Costello political songs that are chilling and gray: *Shipbuilding*, which he introduced on his '82 tour and has since been recorded by Robert Wyatt, is an extraordinary piece (written with Langer) that skewers England for its jingoism and economic rationales during the Falkland Islands conflict; and *Pills and Soap*, released under a pseudonym (the Imposter) during the last British elections, warns against the continuation of the Thatcher government.

While these two tracks are the most riveting, the new LP is composed of more than grim commentary. There is writing, even in the acerbic songs about men and women at cross-purposes, that demonstrates what Costello has learned from Motown songwriters—who built countless hits on extended metaphors and the imaginative use of everyday phrases—and from the sophisticated rhymers of the pre-WW2 New York lyricists (Lorenz Hart, Ira Gershwin). The drawing of a family reunion with scandalous undercurrents on *The World and His Wife*, the rapid-fire verbiage about modern matrimony on *The Greatest Thing*, and the deceptive simplicity of *The Element Within Her* are all brittle and intelligent; and *Everyday I Write the Book*, on which Costello describes in literary terms the vigilant monitoring of a lover, is as irresistible a pop song as he has written.

Costello is, as ever, quotable ("Even in a perfect world where everyone was equal/I'd still own the film rights and be working on the sequel"), but "Punch the Clock"—a brassier expansion of the soul-influenced "Get Happy!!"—isn't all wordplay. It's filled with inspired instrumental touches: the TKO horns opening the proceedings with a fanfare on *Let Them All Talk*; Steve Nieve's invaluable keyboard contributions throughout; Chet Baker's funereal trumpet solo on *Shipbuilding*; the cavernous drums on *The Greatest Thing*; the gothic-funk atmosphere on *Pills and Soap*. On "Punch the Clock," Elvis Costello and the Attractions are making rock that has an arresting outer layer and a tough moral center. "I'm a man with a mission in two or three editions," Costello sings. You'd be wise to snap up this chapter in what has been unfolding, over the past six years, as a significant story in contemporary music. MITCHELL COHEN

Billy Joel: An Innocent Man

Phil Ramone, producer
Columbia QC 38837

Having won the respect of even his harshest critics with the thematic gravity of last year's "The Nylon Curtain," Billy Joel executes a striking shift in mood on "An Innocent Man," an ebullient valentine to the pop, rock, and soul styles the songwriter grew up with. In place of the previous album's pensive social concerns are time-honored romantic issues, while the music turns from an eclectic stylistic sweep to lovingly precise recreations of individual styles forged two or more decades ago. If his mission is more modest here, his success with these pop miniatures is no less impressive.

The tone of the set is established on the opening song, the title theme to the new Rodney Dangerfield comedy, *Easy Money*. Far from a throwaway screen anthem, it is a muscular reincarnation of the taut, uptempo Memphis soul apotheosized by Otis Redding and Wilson Pickett, driven by surging horn choruses and a relentless rhythm section. Joel's singing taps the gruff ecstasy of Otis himself, right down to the delirious falsetto squeals and grunts; only on the bridge does Joel's penchant for more expansive melodies and dramatic chord changes betray the song's authorship.

There are no such hints on *The Longest Time*, a synthesis of black and white doo-wop vocal styles of the late '50s and early '60s. And on *Tell Her About It*, the set's first single, Joel resumes his normal vocal style but swings the arrangement sharply toward Motown with nimble bass figures, creamy backing vocals, husky baritone sax, and bright brass choruses. The songwriter's long-standing skill with ballads yields several tracks that meld his more sophisticated style with flourishes extracted from earlier pop models. The title song, for instance, inserts vocal mannerisms and soft percussive accents that allude to the Drifters' atmospheric ballads.

Perhaps the strongest example of Joel's astuteness as a pop historian is *Uptown Girl*, in which he surrenders completely to the idiosyncracies of a single style: the Four Seasons' recorded work as produced by Bob Crewe during the mid-'60s. Apart from his letter-perfect realization of Frankie Valli's keening falsetto (right down to those inimitable repeated vowels, designed to extend single syllables over entire phrases), Joel also recreates the sound of the original records with tramping percussion and handclaps, martial piano vamps, and sliding backing harmonies. Even the lyrics are squarely on target, describing a love that crosses lines of social caste.

Such moments make "An Innocent Man" a joy. Joel never condescends to his models, offering instead a generous, even reverent enthusiasm in these pop tributes.

Best of all, most of these songs succeed on their own terms, regardless of the various associations we may bring to them.

SAM SUTHERLAND

Diana Ross: Ross

Gary Katz, Ray Parker Jr., & Diana Ross, producers
RCA AFL 1-4677

After stampeding out of the Sixties Motown corral as lead singer with the Supremes, Diana Ross became among this country's most enduring show-business personalities, thanks to her sweet, breathy vocal style and natural, take-command stage presence. Now, two decades and a raft of solo albums later, her pop-diva image is still quite clear—this album's red-hot packaging virtually drips with it—but her musical course is not. "Ross" features three producers, one of them Ross, and three different sets of musicians. While Gary Katz and Ray Parker Jr. bring all the trappings of their styles to the project, neither succeeds in nudging the singer into the kind of transcendent musical moments of which she is capable.

Katz's burnished timbres and harmonic sophistication dominate Side 1, and he has brought in material by Michael McDonald and Donald Fagen, undoubtedly his most widely known client. But the occasional ambivalence and detachment that

shade Katz's trademark sound is not a comfortable context for Ross. McDonald's *That's How You Start Over* sets a promising pace with the songwriter's ringing gospel piano intro, but the lyrics' wordy, down-to-earth advice to the love-lorn is too weighty for the singer's intuitive style, and the results are unconvincing. Fagen's *Love Will Make It Right* is, predictably, much darker in tone, dealing with secret lovers who must hide their infatuation from mutual friends. The song's twisting melody and involved harmonic scheme convey its subject's painful ironies, but the hushed, conspiratorial production tone—offbeat drum accents, slinky background vocals, etc.—ultimately overpower the singer's rather restrained delivery. *You Do It* is an upbeat love song, and Ross, finally on familiar terrain, sounds more assured and openly emotional. Her charged sexual presence, at once innocent and energetic, emerges on *Let's Go Up*, as she pushes for higher notes and deeper sentiment.

As expected, with Ray Parker Jr. at the production helm, the grooves are stronger. *Love or Loneliness* is a sultry midtempo r&b chugger about a man's questionable commitment to a woman, and Ross's Southern, soul-flavored delivery is convincing, given the lyric's narrow emotional range. Things get too narrow on *Up Front*, whose lyrics are so pedestrian and fakenasty ("If you want a serious commitment,

you gotta first make one yourself") that, delivered against a driving rock-guitar line, both song and singer sound forced right from the top. Ross's own *Girls* is equally transparent, a discified exhortation to women to "set the fashion... get into action... taste the fast life/And fall in love through the camera's eye."

Diana Ross has never had a technically dazzling vocal style, but, given the right material, she is still one of the great natural pop singers. Her style is unique and, at its best, emotionally revealing. Unfortunately, "Ross" obscures as much as it reveals.

CRISPIN CIOE

Jazz

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Giovanni Bonandrini, producer
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periods to create a very broad musical outlook. In addition to his customary assortment of saxophones, flutes, and clarinet, his present quartet includes the brilliantly coloristic percussion of longtime associate Randy Kaye, Bob Nieske on electric bass, and Gil Evans graduate Pete Levin on electric piano and synthesizer.

By sustaining and expanding the tight, closely focused ideas he has always been fond of, the electronic instruments become the key to the successful fusion of Giuffrè's disparate musical styles. (He accepted electronics only five or six years ago—after hearing Weather Report.) To be sure, there

are still signs of the earlier Giuffrè—the low-register clarinet on *Cool*, the exotic impressionism of his bass flute on *Moonlight*. But for the most part, his playing has opened up to an impressive degree. Even in his big-band days with Herman, he was a far less swaggering saxophone soloist than such colleagues as Stan Getz, Al Cohn, or Zoot Sims. But on this set's opening number, *Dragonfly*, he plays tenor with a big, open urgency that sounds very much like contemporary Getz in full cry.

Similarly, his clarinet playing now includes the entire instrument and, at times, an aggressive attack that makes it sound

like a different instrument from the one he played 25 years ago. JOHN S. WILSON

Stephane Grappelli:
Live at Carnegie Hall
Bob Thiele, producer
Doctor Jazz/CBS FW 38727

Jazz, sad to say, is not particularly enriched these days by the presence of patriarchs. The Ellingtons, Armstrongs, Parkers, and Youngs are, for most young listeners, voices that speak only from phonograph recordings. How remarkable it is, then, to hear violinist Stephane Grappelli, now in his 70s and playing not like some frozen memory of himself, but like a vigorous, creative young improviser. A comparison of his present performances to his 40-year-old-classic recordings with Django Reinhardt reveals no slippage, no loss either of intensity or imagination. Some of the well-formulated, articulate improvisations from this Carnegie Hall concert are even superior to the best work of his youth.

It helps, of course, that the repertoire is as familiar to him as the strings of his instrument. On *I Can't Give You Anything but Love*, he begins with a short, but well-considered cadenza, then proceeds to set the tempo in a groove that is remarkable for the opening of a live concert. *As Time Goes By* reveals what is perhaps Grappelli's strongest skill—melodic improvisation. He devotes only a few bars to the familiar theme's statement, then moves into an increasingly ornamental improvisation. Yet, as baroque as Grappelli's frills and furls sometimes may be, they never lose touch with the essence of the material.

On *Crazy Rhythm*, he steps aside for a moment to spotlight one of his two guitarists, Diz Disley, in a pure Reinhardt-style acoustic solo. Jean-Luc Ponty's *Golden Green*, one of only two contemporary pieces on the album, is a surprisingly elegant melody (for Ponty) that, at three minutes, is simply not long enough for Grappelli to do much with. *Chattanooga Choo Choo* begins and ends with a train simulation by the violinist and not much substance in between. *Blues in G for B.T.*, the album's longest piece, is essentially an improvisation made considerably more interesting by a series of rhythmic changes introduced by Grappelli's driving violin. Second guitarist John Ethridge dominates the middle section of the piece with an extremely articulate improvisation.

The album's (and presumably the concert's) highlight is Reinhardt's *Nuage*, made more poignant by its being performed on the 25th anniversary of the guitarist's death. Grappelli plays it as Reinhardt would have liked, with just the right combination of schmaltz, swing, and Gypsy hot stuff. And he concludes with a cadenza that applies his unique jazz sensibility to the violin virtuosic tradition, touching everything from Bach's solo partitas to Paganini

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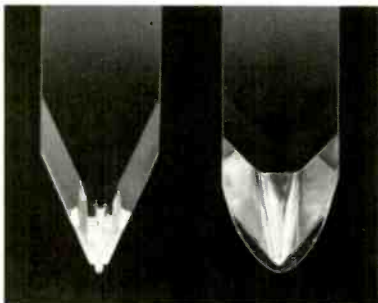
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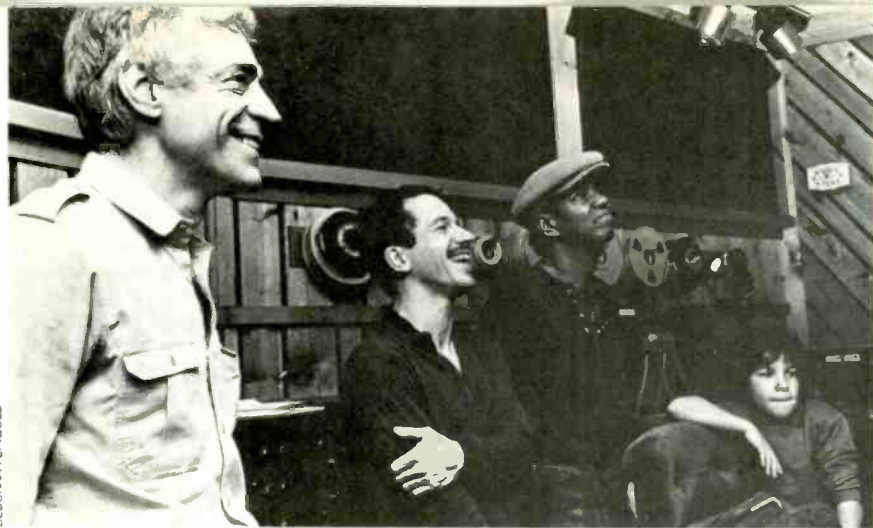
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Peacock, Jarrett, DeJohnette, and Gabriel Jarrett at the Power Station

and Tchaikovsky. If there's a flaw in the LP it's only in its brevity. Presumably the concert was longer than 30 minutes, but that's all that is included here. One hopes another volume is in the works. Stephane Grappelli still has much to tell us. DON HECKMAN

Helen Humes: Swingin' with Humes
Lester Koenig, producer
Contemporary 7598 (P.O. Box 2628,
Los Angeles, Calif. 90028)

Helen Humes's most successful recording was a rhythm-and-blues song called *Ee-Baba-Leba*. But though she could sing the blues with the best of them, her real forte was ballads. For most singers, putting a ballad in a jazz context means speeding up the tempo or inserting some scatting. Helen avoided both. Instead, she would change the rhythmic emphasis of the melody line to create inherently swinging phrases. She might then add a few words, whether to fill any gaps that arose from her treatment or to add tension as she built toward an ending. All of this enabled her to punch home a song in a way that its melody as written would have restricted.

"Swingin' with Humes" is a reissue of one of her most famous LPs. It was recorded in 1961 with Wynton Kelly playing a flowing piano accompaniment and Teddy Edwards picking up Humes's rhythmic emphases on tenor saxophone. *The Very Thought of You*, *I Surrender Dear*, and *I'm Confessin'* represent some superb examples of her brilliant restructuring technique, while *There'll Be Some Changes Made* and *Baby Won't You Please Come Home* show how richly she could swing on songs that needed no restructuring.

Sometimes Helen got carried away in her efforts to turn a gentle ballad into a lusty, punching joy-shout: Duke Ellington's *Solitude*, for example, simply does not respond to her approach. And though she initially falls into an almost operettalike formality on *Some Day My Prince Will Come*, she eventually moves into a floating, dreamy quality that, while quite unlike her usual forthright style, retains her ultimate swinging sensibility. JOHN S. WILSON

**Keith Jarrett:
Standards, Vol. 1**
Manfred Eicher, producer
ECM 1255

For this listener, ECM's generous documentation of Keith Jarrett's spontaneous keyboard improvisations has just about worn out its welcome. That said, it is an absolute delight to hear him on "Standards, Vol. 1" testing his mettle against more demanding material.

In fact, if you only have time to hear one Jarrett track this year, listen to *All the Things You Are*, that perennial test of the jazz musician's ability to work his way through a complex harmonic structure. It begins, appropriately, with a Tatum-esque, out-of-tempo intro that recaps the bridge and final section of the piece. Then it moves quickly, without hesitation, into harmony-based improvisation. And here is where Jarrett's intense melodicism pays off, as he spins out one lovely fragment after another. As the solo builds, he sacrifices the lyricism to intense, hornlike phrases whose energy is underscored by his passionate grunting.

Almost as good is the lovely, rarely performed Rodgers & Hart song *It Never Entered My Mind*. Its flaws trace not to the pianist, but to the persistently out-of-tune bass of Gary Peacock, who seems unable to play a pedal octave in pitch. Jarrett, on the other hand, is quite remarkable. After playing Rodgers's floating theme fairly straight, he moves first into a paraphrase, then into a highly energetic double-time melody that interacts dramatically with Jack DeJohnette's otherwise understated drums. Peacock's uncentered solo takes too much space, but Jarrett compensates when he returns with yet another romantic view of the melody.

The other high point is *The Masquerade Is Over*. Jarrett is bright and energetic from first-sound, playing his own brief variation of the theme before embarking on a drivingly rhythmic improvisation. The extreme length of his lines, combined with the right-hand dominance, reminds us how strongly he has been influenced by Lennie (Continued on page 104)

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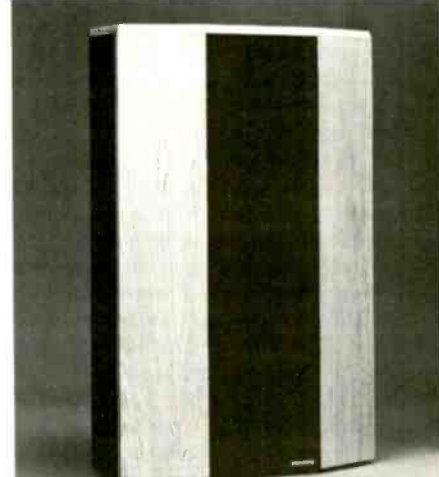
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CLASSICAL REVIEWS

(Continued from page 87)
to starve to death). His sonority is formidable, but Ruggero Raimondi's finer-grained sound on Philips is more appealing to my ears.

Bonynge conducts as usual: with intelligent consideration for the singers, and with some spirited tempos, but also with a curious lack of propulsion in both fast and slow music. (Compare him to Gardelli in the prelude to Amalia's entrance, a potentially—and with Bonynge, actually—boring page.) The Welsh National Opera Orchestra gives Bonynge some ill-tuned wind chording (note the prelude to the tenor cavatina), and a cello soloist less apt than Norman Jones of the New Philharmonia, who "sings" the aria-overture beautifully on Philips.

Gardelli holds his singers rather pedantically to the letter of the score, but Bonynge's men depart from it only to add unlovely high notes to the ends of their arias. They pointlessly repeat their cabalettas unaltered, even at the ad-lib cadences (where Bergonzi at least varies his treatment of a *rallentando*). And the added high notes in the cantables are not even integrated into what could properly be called a phrase, much less a cadenza: They are just *there*, mounted and quitted like the peak of a mountain, as though the feat itself should be sufficient to command admiration. Bonisolli can belt out an impressive top D flat, but, by the fourth time he threw one in, I wished he couldn't; in general, the men's interpolations are exhibits in evidence for the *come scritto* camp. (Sutherland herself, with the exception of one gratuitous high C at exactly the point where our attention should shift to the baritone's cry of aggrandizement, is much more apt and interesting.)

Yet the *come scritto* position is untenable, especially in these early operas. Indeed it is rather an insult to Verdi to suppose that he considered 4–1 a satisfactory melodic expression of the basic dominant-tonic resolution—but both Bergonzi and Bonisolli sing it as such in a passage that requires an *Eingang* as surely as any in a Mozart concerto. (Italian singers of Verdi's generation knew about the *Eingang* and called it a *conducimento*; Luigi Lablache, who sang in the *Masnadieri* premiere, gives the wheres and hows in his *Metodo di canto*.) There survives at the Milan Conservatory (and, on microfilm, in the American Institute of Verdi Studies at New York University) a document that casts fascinating light on the way *Masnadieri* might have been sung in Verdi's day: a handwritten piano transcription of excerpts for amateur or student use. It aims not at all for pianistic virtuosity, yet the solo melodies are graced with *gruppettos*, passing tones, and modest, tasteful cadenzas at fermatas.

Masnadieri, by the way, is the first of the truly forgotten Verdi operas (*Nabucco*

and *Ernani* were never quite that) to receive a *second* modern, high-quality recording. Will it return to the repertory, even the fringes? Should it?

If not, it is more the fault of the book than of the score: Schiller's play is already overwrought; it becomes more so because Maffei chose to condense what a more experienced Italian librettist would have jettisoned. Some of the music is splendid. Amalia's big scene will stand beside "*Ernani involami*"; the tenor-bass duet is melting; Carlo's grim call to vengeance begins stirringly; and the first and last finales have power and sweep (the latter also has one of those inexplicably great Verdian melodies that are nothing but a major scale). I am convinced that the baritone's dream of the Last Judgment, the most forward-looking piece in the score, has not had an adequate hearing. (Once into the aria proper, which Bonynge begins at an unaccountably heavy forte, Manuguerra never goes beyond "stock" involvement; neither does Capuccilli on Philips.) One scene for the chorus—robbers and refugees watching as Prague burns—is extraordinary in its tension: Something of the storm scene in *Otello* is here in germ.

But when later the chorus sings an exquisite pianissimo waltz for the words "The last gasps of murdered fathers, the wails of wives and mothers, are music to our hearts," one can only hope that Verdi just pushed the *coro* button on his opera-making machine and forgot to monitor the output. He may have been button-pushing also for some of the cabalettas. (In the love duet with the tenor and the defiance duet with the baritone, Amalia sings, in the same key, music so essentially identical in style and plan that a good deal of the one could be sung without adjustment to the other's accompaniment.) It is this kind of thing that still keeps some people from taking early Verdi seriously.

But a great performance makes all the difference. Without Sutherland, would it be so clear that Julian Budden had underrated Lind's trilling cabaletta? Had Angel recorded it in the '50s with Callas, Di Stefano, and Gobbi (think of *him* in that *sogno!*), or the Met revived it in the '30s with their *Bocconegra* cast (Rethberg, Martinelli, Tibbett, Pinza), we might feel very differently about *Masnadieri*. Andrew Porter greeted the Philips recording in these pages as setting "a new standard for the 'Verdi revival' recordings." I would say rather that it brought the revival performances up to the prevailing standard for the familiar Verdi operas. A version that would compel genuine reevaluation remains in the future, I think; standards, meanwhile, in both revival and repertory performances, need a new lift, and in a different direction. W.C.

WAGNER: Der Ring des Nibelungen; Operatic Excerpts—See page 70.

WAGNER

(Continued from page 73)

ship with the language that's being sung is very much a part of this, naturally. Leider and Schorr (both native Germans) and Melchior (who must have learned German early, and in any case worked in a basically German orbit from at least the time he was 30) all use the German language with assurance and much inflective variety. The stresses and colors they find in Wagner's lines are not derived only from the notated pitches and rhythms, but are also suggested by the spoken language's meanings and possibilities. The comparison with Flagstad (not represented in "Wagner on Record," because all her prewar Wagner recordings belong to RCA) is especially interesting in this respect, for the Norwegian soprano didn't sing much in German until her late thirties, and then only rarely before German-speaking audiences. Where the challenge is primarily musical or tonal, she is sovereign: the perfectly controlled crescendo of the sustained notes, the shapes of the arching lines in Brünnhilde's "Der diese Liebe" (*Walküre*, Act III, Scene 3), for example. But to Brünnhilde's agitated pleading with her sisters, earlier in the same act, Leider brings much more variety and specificity of emphasis than Flagstad; her words really embrace the notes, rather than simply riding on their backs, and the result is more focused and committed. (Unfortu-

nately, this passage is one of Leider's *Walküre* recordings that Hardwick omits.)

The two sopranos differ tonally, of course. Leider's rapid vibrato gives her sound a vitality quite different from Flagstad's brighter, more instrumental color. Even in recordings from the late Twenties (her early forties), Leider had to reach for her high notes, sometimes abandoning the words in the process; characteristically, she doesn't sustain the top Bs in Isolde's Narration. Flagstad retained a reliable high B even after the Scala *Ring*, and in that cycle made a stab at the first high C in the *Siegfried* final duet. (The Cs in her 1951 studio recording of the same passage with Svanholm were sung by Sylvia Fisher, and—as is well-known—those in the 1952 *Tristan* were taken by Elisabeth Schwarzkopf.) Although recordings can be misleading about such things, I have the impression that Flagstad's was the more powerful voice; like Birgit Nilsson later, she often (and effectively) relied on that power as a resource with which to dominate the stage. Leider, on the other hand, seems to have made her effects in a more personal way, principally with enunciation and vocal coloring. Both were remarkable singers, but it's not hard to see why Flagstad's tonal marvels were more widely appreciated by New York's non-German-speaking audiences than were Leider's subtler effects.

The work of Leider's direct competition

in "Wagner on Record"—two Commonwealth Brünnhildes—emphasizes her strengths. Florence Easton is a solid and musical singer with a passable trill and high C but an ungenerous, unexpansive way with words; despite Melchior's fervor, the *Siegfried* finale comes out staid. Florence Austral's wide-ranging voice isn't as well-knit as Easton's or Leider's, betraying a chesty timbre below and a certain hootiness on top; though she gets around the *Götterdämmerung* Dawn Duet handily, even at Albert Coates's frenetic pace, one misses the bite of Leider's diction, while Walter Widdop's unwinnable tone and squeezed upper register are no pleasure at all. (The question of Wagnerian tempos in the 1920s and '30s is worth some systematic study; while the time limits of 78 sides were certainly a factor in recordings, live-performance material from the Thirties—notably Artur Bodanzky's work at the Met—suggests that hot and hasty may have been a prevalent style.) This excerpt, like Widdop's duet from *Walküre* with a white-toned, ill-tuned Göta Ljungberg, leaves me wondering, "Why this, when there's lots more Melchior and Leider?"

I will say less about Schorr and Melchior, not because there is less to say but because it has already been said often in these pages (e.g., in October 1972, when Dale Harris wrote about Schorr's Sachs and Osborne about Melchior)—and because neither has really been eclipsed in the memory of the American public, as Leider was by Flagstad. In the case of Schorr, note that Hardwick's alternative baritones are restricted to a single category—lyric (Gerhard Hüsch and Herbert Janssen) or dramatic (Bockelmann)—whereas Schorr dealt successfully with all the Wagnerian parts in his range, and his ability to encompass both extremes obviously enhanced the variety and profile he gave to any individual role. Hardwick might usefully have furnished us an example of Schorr's Wolfram to compare with his younger contemporaries—perhaps in place of Hüsch's lush-toned but slightly lugubrious "Abendstern." (Don't miss Janssen's "Blick ich umher," the classic demonstration of how to keep this very static piece alive.) Bockelmann's excerpts—the angry Wanderer in *Siegfried*, Act III, and Sachs's aggressive cobbling song—show him in music best suited to his imposingly darker, thewier voice; he was definitely not one of nature's Wolframs.

Melchior avoided the lyric part of Walther in *Meistersinger* onstage, but several times recorded excerpts from the part, and it's a measure of his extraordinary control that these rarely seem overpowering, though after a nice start to "Am stillen Herd" he loses the improvisatory feel of the piece. His competitors in "Wagner on Record," aside from the unfortunate Widdop, are heard only in the lighter parts. Torsten Ralf is a sound singer with a slightly whiny tone, and in the Bridal Chamber

Wagner on Record, 1926–42

Rienzi: *Allmächt'ger Vater* (Lauritz Melchior, t; 1930).

Der fliegende Holländer: *Mit Gewitter und Sturm* (Herbert Ernst Groh, t; 1932); *Die Frist ist um* (Friedrich Schorr, b; 1929); *Johohoe . . . Trafft ihr das Schiff* (Emmy Bettendorf, s; 1928); *Wie aus der Ferne* (Schorr; 1927); *Steuermann, lass die Wacht* (Berlin State Opera Chorus, Leo Blech, cond.; c. 1929).

Tannhäuser: *Als du in kühnem Sange: Wie Todesahnung . . . O du mein holder Abendstern* (Gerhard Hüsch, b; 1936); *Dich, teure Halle* (Elisabeth Rethberg, s; 1927); *Blick' ich umher* (Herbert Janssen, b; 1930); *Allmächt'ge Jungfrau* (Maria Müller, s; 1930); *Inbrunst im Herzen* (Melchior; 1929).

Lohengrin: *Einsam in trüben Tagen* (Rethberg; 1927); *Euch Lüften die mein Klagen* (Lotte Lehmann, s; 1930); *Das süsse Lied verhallt* (Tianna Lemnitz, s; Torsten Ralf, t; 1939); *Höchstes Vertrau'n* (Melchior; 1928); *In fernem Land: Mein lieber Schwan* (Helge Roswaenge, t; 1942).

Das Rheingold: *Prelude* (London Symphony Orchestra, Albert Coates, cond.; 1926); *Zur Burg führt die Brücke . . . Abendlich strahlt* (Genia Guszalezowicz, s; Waldemar Henke, t; Schorr; 1927).

Die Walküre: *Ein Schwert verhiess mir der Vater* (Melchior; 1929); *Dich, selige Frau . . . Winterstürme . . . Du bist der Lenz* (Göta Ljungberg, s; Walter Widdop, t; 1926–27); *Siegmund heiss ich* (Melchior; 1929); *Nun zäume dein Ross . . . Hojotoho!* (Frída Leider, s; Schorr; 1929); *Zauberfest bezähmt ein Schlaf* (Lehmann; Ella Flesch, s; Melchior; Alfred Jerger, b; Emanuel List, bs; 1935); *Ride of the Valkyries* (Ljungberg; Elfriede Marherr-Wagner, s; Guszalezowicz; Lydia Kindermann, a; Werner Alberti, t; 1927); *War es so schmähhlich* (Leider; 1927); *Wotan's Farewell and Magic Fire Music* (Schorr; 1927).

Siegfried: *Nothing! Nothing!* (Melchior; Albert Reiss, t; 1929); *Dass der mein Vater nicht ist* (Melchior; 1929); *Da lieg auch du, dunkler Wurm* (Nora Gruhn, s;

Melchior; 1929); *Kennst du mich, kühner Spross* (Melchior; Rudolf Bockelmann, b; 1929); *Heil dir, Sonne!* (Florence Easton, s; Melchior; 1932).

Götterdämmerung: *Zu neuen Taten* (Florence Austral, s; Widdop; 1928); *Hast du, Gunther, ein Weib?* (Marie Luise Topas, s; Melchior; Schorr; Rudolf Watzke, bs; 1929); *Hier sitz ich zur Wacht, Hagens Ruf* (Ivar Andrésen, bs; Berlin State Opera Chorus, Blech; 1928); *Brünnhilde! heilige Braut!* (Melchior; 1930); *Siegfried's Funeral Music* (Berlin State Opera Orchestra, Karl Muck, cond.; 1927); *Schweigst eures Jammers jauchzenden Schwall* (Leider; Marherr-Wagner; 1928); *Starke Scheite schichtet mir dort* (Leider; 1928); *Orchestral finale* (London Symphony Orchestra, Coates; 1927).

Tristan und Isolde: *Prelude* (Berlin Philharmonic Orchestra, Wilhelm Furtwängler, cond.; 1938); *Isolde's Narrative and Curse* (Leider; Marherr-Wagner; 1928); *Isolde! Tristan! Geliebter, Doch es rächte sich; O sink' hernieder. Soll ich lauschen* (Leider; Melchior; 1929); *O König, dass kann ich dir nicht sagen: Und drauf Isolde . . . Wie sie selig* (Melchior; 1930); *Liebestod* (Meta Seinemeyer, s; 1928).

Die Meistersinger von Nürnberg: *Am stillen Herd* (Melchior; 1931); *Was duftet doch der Flieder* (Schorr; 1930); *Gi'u'n Abend, Meister* (Ljungberg; Schorr; 1931); *Jerum! Jerum!* (Bockelmann; 1931); *Wahn! Wahn! Überall Wahn* (Schorr; 1929); *Abendlich glühend* (Melchior; Schorr; 1931); *Aha! da streicht die Lene* (Schorr; 1930); *Selig wie die Sonne* (Elisabeth Schumann, s; Gladys Parr, ms; Melchior; Ben Williams, t; Schorr; 1931); *Euch macht ihr's leicht* (Schorr; 1931); *Morgenlich leuchtend* (Ralf; Lemnitz; Bockelmann; Royal Opera House Chorus, Thomas Beecham, cond.; 1936); *Verachtet mir die Meister nicht . . . Finale* (Schorr; Berlin State Opera Chorus, Blech; 1927).

Parsifal: *Ich sah das Kind* (Leider; 1931).

Wesendonk Lieder: *No. 5, Träume* (Müller; 1937).

duet from *Lohengrin* he and Tiana Lemnitz, scrupulously observing Wagner's dynamics, achieve a nice balance of lyricism and tension. (Unfortunately, the recording stops short of the scene's climax, after "Athmest du nicht.") In the *Meistersinger* Prize Song under Beecham, Ralf's top notes tend to go sharp, but the atmosphere of the live-performance occasion is tangible. Lemnitz's limpid tone in Eva's final "Keiner wie du . . ." phrase justly famous. Helge Roswaenge, in *Lohengrin*'s final arias, manages nothing like the consistent, glitch-free legato of Melchior—these are actually among his least successful records, with uncharacteristic imprecisions of rhythm and pitch. Again, I find myself regretting omitted Melchior—these *Lohengrin* selections, the second half of Siegfried's Forging Scene (which, incredibly enough, is simply faded out in midstream!), the wonderful soliloquy on the Valkyries' Rock before Brünnhilde awakes, and the aforementioned *Götterdämmerung* Narration.

The other, lighter sopranos in "Wagner on Record" are competitive, not with Leider, but with each other. In *Elsa's Dream*, we begin by admiring Elisabeth Rethberg's exemplary musicianship and clear, bright tone—but after Lotte Lehmann has sung "Euch Lüften," a little less precisely, but with aura, shape, and intensity, the earlier record seems bland. Rethberg fares better in Elisabeth's "Dich, teure Halle," with its more obvious contrasts, where her thrust and enthusiasm can be put to good use. Maria Müller has something of both Lehmann's commitment and Rethberg's clarity—but we get only the first half of Elisabeth's Prayer here; I would gladly have sacrificed Müller's pretty but cool performance of "Träume" in return for the rest of it. Emmy Bettendorf's voice sounds right for Senta's Ballad, but faulty intonation and scooping spoil her basically well-conceived performance. Happily, Elisabeth Schumann's uniquely silvery and perfectly pitched launching of the *Meistersinger* Quintet is included.

The choice of the only bass represented here by substantial excerpts is puzzling; though his vocal material is imposing, Ivar Andréßen is a ponderous Hagen in both tone and spirit, and not even always solidly in tune. (How tragic that not a trace of Alexander Kipnis's Hagen seems to have survived!) Also curious is the inclusion of the final episode from the prewar "complete" recording of *Walküre*, Act II, available in this country (along with the more interesting Siegmund/Sieglinde scene) on Turnabout THS 65163. And despite his attractive tone, Herbert Ernst Groh's phrasing of the Steersman's Song from *Der fliegende Holländer* is both stiff and peculiar.

Besides inviting quibbles about selection, "Wagner on Record" raises technical questions as well. Pitch, it seems, can still

be a problem: That passage from the end of *Walküre*, Act II, and all the excerpts from the first two acts of *Siegfried* are about an eighth of a tone sharp. Most of the side-break edits are well managed, including some skillful overlaps, but there are also some "illegitimate" splices, whereby Hardwick has united things that were never meant to go together. It's only a little disconcerting when the shaky Rudolf Watzke (not Robert, as he is misidentified in the booklet), Hagen in the *Götterdämmerung* "Blutbrüderschaft" passage, turns into the beefy Andréßen for Hagen's Watch, but when the Berlin State Opera Orchestra under Leo Blech turns into the London Symphony Orchestra under Coates for the orchestral finale of the same opera (Leider's recording omitted all but its last phrases), the altered tempo and tonal coloring are jarring indeed. I have little but praise for the accompanying booklet, which includes biographical sketches of the principal singers and complete texts and translations, with plot summaries that place the excerpts in context.

Despite the basically good quality of the transfers, I have two serious reservations, based on comparison with some dozen or so originals and also a variety of other dubbings. First, the practice of "declicking" by hand—that is, physically splicing out the sound of ticks and pops on the surface of the source material—frequently leaves an annoying residue in sustained tones, uneven bumps that sound like flaws in the playing. (In fast music, it can upset the meter, but I noticed no instance of that here.) The effect is exceptionally, but not uniquely, distracting in the Furtwängler recording of the *Tristan* Prelude. (Doesn't EMI own a Packburn noise-suppression device, which will remove most such flaws without affecting the musical content? Another solution, obviously, is to find cleaner source material; for example, Victor pressings in this period were invariably superior to HMVs.) My other objection concerns what appears to be compression of dynamic range—at any rate, in my comparisons I discovered a good deal of fiddling with levels. The quality of the voices isn't seriously affected, but the spatial ambience of the orchestral sound is audibly diminished.

This is particularly important because Hardwick has chosen to include some orchestra-only selections—enough to whet the appetite if not to satisfy. I do question the inclusion of such a widely circulated recording as that Furtwängler *Tristan* Prelude (available, in a duller transfer from a source that didn't require drastic declicking, on Seraphim IB 6024 and several imports). When we come to Coates and especially to Karl Muck, however, we are dealing with major figures who have been almost completely ignored in modern reissues, and Hardwick's single selections are just a drop in the bucket. By a happy coin-



Muck: remarkable conception, execution

idence, the neglect of Muck is simultaneously remedied—on cassette if not on LP—among the initial releases in an important new historical series, jointly produced by Alan Silver's In Sync cassette label and Barton Wimble's Conductart series of 78 transfers using sophisticated modern technology.

Karl Muck (1859–1940) was the oldest great Wagnerian conductor to make significant recordings, and the orchestral selections he recorded in Berlin in 1927–29 are historically very important. The first In Sync/Conductart release includes all of them, in transfers that will open many ears to the quality of early electrical recordings. In Sync's real-time duplication may seem an extravagance applied to material more than 50 years old, but the results justify it. The sound of the Muck recordings is amazingly bright and clean, with wonderfully airy textures in the counterpoint of the *Meistersinger* Prelude: throughout, there is distinctive color in the winds, real bite to the brass tone, and startlingly realistic timpani sound. On most tracks, the surface noise is substantially negligible, never distracting; occasionally, rumble has been left for the listener to filter out if it distracts him more than the concurrent loss of bass. (I much prefer making this choice myself to having it made in advance for me!) A slight wow in the *Parsifal* Prelude is apparently inherent in the source material. Splices are well managed—not always imperceptibly, because Muck, not used to recording, sometimes slowed down as he approached the end of a side.

Most remarkably, these recordings incorporate a sense of spatial ambience—not a stereo effect, of course, but a clear

impression of the recording hall's depth and dimension and of the placement of the players therein. That's what has been lost in the "Wagner on Record" transfers, as comparison of the two editions of the *Götterdämmerung* Funeral Music demonstrates. And though Hardwick's version of the *Rheingold* Prelude sounds pretty sensational in its swelling richness of horn sound, a Conductart transfer, which had limited availability last year, shows that the original sound boasted an additional octave of bass and a quite different kind of tonal richness. I hope some of Conductart's Coates transfers will be made generally available, for the original recordings were much more sensorially realistic than the bass-shy Muck series.

As for Muck's performances, they are not merely historically significant, but special in both conception and execution. Occasionally the winds let us down with intonation that doesn't come up to modern standards, but the precision of articulation and clarity of texture are always exceptional. Climaxes are built steadily but never driven: The swell of the *Tannhäuser* Overture is particularly remarkable, and the *Tristan* Prelude, with Wagner's own beautiful A major concert ending, is masterfully shaped. The motto rhythm of the Funeral Music is precisely (and properly) accented, memorably stiffening the structural spine of this loosely strung-together passage. Extraordinary, too, is the musing horn motive following the first appearance of the "Redemption" theme in the *Holländer* Overture, which I have never heard loaded with such tension. The string playing uses portamento characteristic of its era, but always precisely, never sloppily. The *Siegfried Idyll*, with a gentle lullabyish *Schwung*, is a particular favorite of mine, but the whole series constitutes a major landmark of Wagnerian performance; it would be welcome in any form, thrice so in this impeccable edition.

The In Sync/Conductart Muck release somewhat alleviates my disappointment in Electrola's two-disc celebration of last year's *Parsifal* centenary—but only somewhat. Muck's special place in Bayreuth history is as the principal conductor of Wagner's last opera from 1901 to 1930, and his only electrical recordings not included in the two cassettes are from that opera—some substantial excerpts from the first two acts recorded in the Festspielhaus in 1927 (not during performances), and most of Act III, beginning at *Parsifal*'s first line, recorded in Berlin in 1928. The latter is republished on Preiser LV 100 (pitched on the sharp side, alas) but the Bayreuth recordings have never been adequately transferred and would have been the obvious centerpiece for a centennial edition.

Instead, Electrola has assembled a grab-bag that is frustrating in the same ways as "Wagner on Record," and further compromised by really inferior technical work

100 Years of Parsifal

Act I: *Prelude* (Berlin Philharmonic Orchestra, Wilhelm Furtwängler, cond.; 1938); *He! Ho! Waldhüter ihr* (Paul Knüpfer, bs; 1913); *Vom Bade kehrt der König heim* (Gotthelf Pistor, t; Ivar Andrésen, bs; 1927); *Transformation Music* (Berlin Philharmonic Orchestra, Hans Knappertsbusch, cond.; 1928); *Zum letzten Liebesmahle* (Bayreuth Festival Chorus and Orchestra, Karl Muck, cond.; 1928); *Des Weihgefäßes göttlicher Gehalt* (Theodor Scheidl, b; 1927); *Durch Mitleid wird . . . Wein und Brot* (Bayreuth Festival Chorus and Orchestra, Muck; 1928).

Act II: *Flower Maidens' Scene* (Max Lorenz, t; Berlin State Opera Chorus and Orchestra, Siegfried Wagner, cond.; 1925; and Bayreuth Festival Chorus and Orchestra, Muck; 1928); *Ich sah das Kind* (Frida Leider, s; 1931); *Amfortas! Die Wunde!* (Lauritz Melchior, t; 1925); *Seit Ewigkeiten harre ich deiner* (Astrid Varnay, s; 1951).

Act III: *Prelude* (Bayreuth Festival Orchestra, Wagner; 1928); *O Gnade! Höchstes Heil* (Ludwig Weber, bs; 1951); *So ward es uns verhießen* (Fritz Wolff, t; Alexander Kipnis, bs; 1928); *Mein Vater! Hochsegnet der Helden* (Clarence Whitehill, b; 1914); *Nur eine Waffe taugt* (Fritz Vogelstrom, t; 1921).

and some very questionable montage editing. The substitutions for Muck's *Parsifal* recordings are neither more satisfying nor harder to come by. No more than Furtwängler's *Tristan* Prelude does his equally fine *Parsifal* Prelude need further circulation. (It's in the same Seraphim set noted above.) In place of Muck's orchestral version of the Transformation Music (incorporating the memorable sound of the original Bayreuth bells), we have Hans Knappertsbusch's 1928 Berlin recording (also orchestral)—with its beginning and end replaced by the same music as sung by Andrésen and Gotthelf Pistor! Since these framing segments are somewhat mucilaginously conducted by Frieder Weissmann, you can't help noticing the firmer rhythmic profile when Knappertsbusch takes over; however, the return to Weissman is made, not at the real end of the Transformation Music (the repeated bell phrases), but a few measures earlier, in midphrase. Besides the possible aesthetic objections to such a composite, one may also reasonably object that it obscures the historical evidence, since the changeover point is neither immediately obvious nor made explicit in the descriptive material. In any case, although Knappertsbusch was of course a great conductor of *Parsifal* at Bayreuth, he did not appear there until some 25 years after this recording, which makes it somewhat irrelevant.

As well as sparing us the soggy conclusion of the Weissmann recording, Muck's Transformation would have edited neatly into the opening choruses of his Grail Scene, which *are* present here. Probably for financial reasons, the solo passages in this scene were not recorded in 1927, so Electrola has inserted a fervent though not always firmly pitched version of the second part of Amfortas's monologue by Theodor Scheidl, overlapping it neatly to the next

segment of the Muck recording, which then continues to the end of the Grail ritual. (I would have preferred to hear Janssen's rare Argentine Columbia recording of this solo; its eloquent companion piece from Act III was in Electrola's Bayreuth centennial set, "Sänger auf dem grünen Hügel," along with the Scheidl and much else in the present set; this is the kind of tiresome—and expensive—duplication that record companies continually impose upon collectors of historical recordings.)

From Act II, Muck recorded only the latter part of the Flower Maidens' episode (beginning at the waltz, "Komm! Komm, holder Knabe"); Electrola has spliced that into the middle of a lengthier version of the scene recorded in 1925 in Berlin under Siegfried Wagner, with Lorenz as Parsifal—with the result that, since Muck again eschews soloists, the protagonist simply vanishes during part of the scene! Again, little is achieved beyond a spurious continuity, at the price of disfiguring and misrepresenting both the historical documents and Wagner's music. The excerpts from Act III recorded at Bayreuth in 1927 were entrusted to the baton of Siegfried Wagner, and it is his ragged version of the prelude, rather than Muck's splendid Berlin one, that Electrola includes. The Good Friday Music, which features the incomparably firm and rich sound of Kipnis, eloquent enough to compensate for the distinctly quacky oboe solos, is another often-circulated recording.

The remaining vocal selections are a mixed lot. (For a comprehensive overview of the available material, I refer you to my survey of Bayreuth *Parsifals* on record, which began in *Opera News* in August 1982, continued in August 1983, and should conclude in 1984.) At least the Act II selections well represent Leider, Melchior, and Astrid Varnay (who gives us a real high B on "lachte" in the course of her fervent and neurotic Kundry), and from Act III Ludwig Weber sings one of Gurnemanz's monologues with easy authority, just weeks before his participation in Wieland Wagner's famous 1951 Bayreuth production (recorded live by Decca/London and long a classic). The final scene is represented by two acoustic recordings, documenting Clarence Whitehill's Amfortas, warmly and firmly phrased despite a few poorly centered notes, and Fritz Vogelstrom's *Parsifal*, of no particular distinction.

Many of the transfers have been made from noisy originals. The only overlap with "Wagner on Record" is Leider's "Ich sah das Kind," for which the British producer had a basically quieter source, but one evidently damaged in places, and traces of declipping are all too evident. We still await a comprehensive presentation of Muck's Bayreuth *Parsifal* recordings—perhaps In Sync/Conductart will spring into the breach? **HF**

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BACKBEAT Reviews

(Continued from page 97)

Tristano via Bill Evans. But the solo soon moves beyond Tristano-style eighth notes into powerful double-time triplets. Peacock sounds a bit better here, with freely soaring lines, but, alas, again with questionable pitch.

The final track, Billie Holiday's *God Bless the Child*, should have been dumped. It's hard to imagine why Jarrett would want to compete with Les McCann or Ahmad Jamal, but he certainly tries. DeJohnette is confined to banging out a rudimentary soul beat as the piano and bass stretch the lovely melody into a totally inappropriate double-time. All that might not be so bad if the track had been a simple throwaway, but it goes on for over 15 minutes. So what we have here is about two-thirds of a truly sensational Jarrett album. DON HECKMAN

LA4: Executive Suite

Carl E. Jefferson, producer
 Concord Jazz CJ 215

The LA4 has maintained an unusually high caliber of musicianship throughout its nine years of recording. Yet despite, or perhaps because of, the excellence of its members—Bud Shank on alto saxophone and flute, Laurindo Almeida on Spanish guitar, Ray Brown on bass, and Jeff Hamilton (who succeeded Shelly Manne) on drums—the quartet has had trouble establishing a group identity. The main problem has been integrating Almeida's guitar playing. He is a reader, not an improviser, and whenever he entered the limelight, the group's style of performance would change around him.

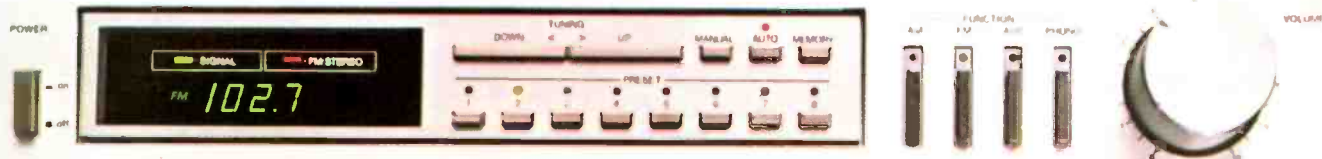
On "Executive Suite" he is in the midst of everything, but this time he draws from the spirit and coloration of the other three. The result is that a distinctive group sound begins to emerge; indeed the LA4 seems to be taking on some of the qualities of, though not imitating, the Modern Jazz Quartet. Almeida and Shank become John Lewis and Milt Jackson as, respectively, composer/arranger/stylist and boiling swinger. And Brown provides an added connection in that he now manages the MJQ.

Almeida brings a pervasive Latin feeling to the proceedings, particularly in his *Amazonia* and in two Brazilian tunes, *Você e Eu* and *Chega de Saudade*. But Shank is a brilliant balance to the soft, low-keyed guitarist, playing alto and even flute with tremendously lifting excitement and stirring Almeida to some driving rhythm chords on *Chega de Saudade*. Brown moves in as a foil to Shank in the more swinging situations. He uses his spacious tone and exquisite sense of phrasing to supplement Shank's explosive breaks on Jeff Hamilton's colorful *Blues Wellington* and to pull the flute and guitar together on Almeida's J. S. Bach-based *Simple Invention*.

JOHN S. WILSON

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