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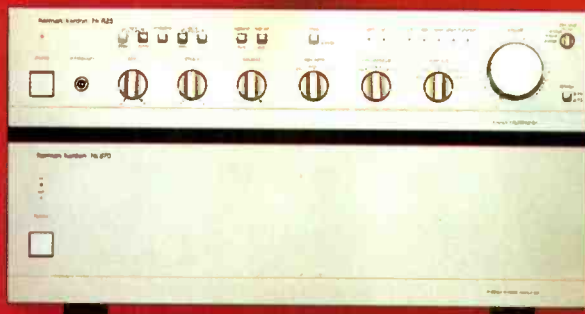




**THE NEC VC-739E BETA HI-FI VCR.  
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Circle 21 on Reader-Service Card

# HARMAN KARDON INTRODUCES 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 creative, quality thinking.

Over the years, Harman Kardon continued to introduce original audio theories that were truly "state-of-the-mind", each proving so successful that they were immediately absorbed into the marketplace as "state-of-the-art".

For example, in 1958, Harman Kardon developed the first stereo receiver. A state-of-the-mind theory that instantaneously became state-of-the-art.

Harman Kardon, in 1970, saw the need for a noise reduction system for recording tapes and became the first company to use Dolby<sup>1</sup> in a cassette deck.

Now, Harman Kardon's most important state-of-the-mind concept, High Current Capability, has turned state-of-the-art. A recently published paper<sup>2</sup> states that in order for an amplifier to properly drive loudspeakers it must have the High Current Capability to instantaneously generate as much as 6 times its rated power into a 1.33 Ohm load. Harman Kardon has consistently

used High Current Capability in our products and we are presently using it in all of our receivers and amplifiers.

The hk870 100 Watt power amplifier, our newest product, carries this philosophy even further. The hk870 has an exceptional 60 Amps of High Instantaneous Current Capability, and maintains a negative feedback level of only 12dB.

The hk870 is matched by the hk825 preamplifier. The hk825 offers dual RIAA equalization circuitry in the phono section, a discrete Moving Coil head amplifier and Ultrawidebandwidth of 0.1Hz to 180kHz delivering extremely pure, transparent sound.

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

1. Dolby is the registered trademark of Dolby Laboratories, Inc.

2. "Input Current Requirements of High Quality Loudspeaker Systems", published and presented to the AES by Dr. Matti Ojala. For a copy of this paper, write to Harman Kardon.

3. 100 Watts RMS per channel, into 8 Ohms, 20Hz-20kHz with less than .06% THD.

## harman/kardon

Our state-of-the-mind is tomorrow's state-of-the-art.



# HIGH FIDELITY

VOLUME 33 NUMBER 10 OCTOBER 1983

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# SOLUTION.

## Dear Bob Carver,

I bought a tuner four weeks before you introduced your TX-11 tuner. Now that I've read the AUDIO, STEREO REVIEW and HIGH FIDELITY reviews and have heard a demo at my audio dealer, I could kick myself. Couldn't you *please* put that special FM noise reduction circuit into an add-on unit? By the way, I have the C-4000 with Sonic Holography and your M-1.5t and I love them.

"Pleading in Suburbia"

## Dear Bob Carver,

I am satisfied with my present receiver except when I try to listen to FM. The stations in this city are fantastic but the noise from multipath interference makes stereo listening almost impossible for me. However, several friends in my building have your TX-11 tuner and they get beautiful stereo FM reception. Is it possible for you to build your special FM circuit as a separate device so receiver owners can benefit from your technology, too?

"Hoping in Manhattan"

## Dear "Pleading" and "Hoping."

I just did it! The Carver TXI-11, Asymmetrical Charge-Coupled FM Decoder, designed to be used in the stereo mode of *any* FM tuner or receiver, will give you a 20 dB improvement of the stereo quieting (that's 10 times quieter!) and a 10 dB improvement in multipath noise reduction. And you'll still have fully separated stereo FM reception with space, depth and ambience.

Both my TX-11 and TX-11 use the Asymmetrical Charge-Coupled FM Decoder circuitry which very significantly reduces the multipath noise and distant station hiss to which FM stereo is extremely vulnerable.

To get virtually noise-free stereo FM, simply connect the TXI-11 through the tape monitor or external processor loop of your existing system.

Good listening!



Bob Carver



TXI-11

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Circle 5 on Reader-Service Card ▶



# They don't just reduce tape noise. They eliminate it. Technics cassette decks with Dolby\* B, C and dbx.®

This remarkable series of Technics cassette decks represents an important technological advance in the fight against tape noise. Because unlike other decks that give you only one or the other, Technics now gives you: Dolby B noise reduction for compatibility with your present tape collection. Dolby C for compatibility with the new "C" encoded tapes. And dbx to eliminate virtually every decibel of audible tape noise. All in one deck.



dbx is effective because it compresses a musical signal so its dynamic range is cut in half. When the tape is played back, the original dynamic range is restored, but the noise level is pushed below the level of audibility.

This allows loud passages to be recorded without distortion and soft ones without hiss.

These Technics cassette decks go on to give you computerized performance: microprocessor feather-touch controls. Music Select to automatically find any song on the tape. Music Repeat to replay a song up to 16 times. And a remaining time display to tell you how much recording is left on a tape.

In addition, there is automatic tape bias and EQ setting, expanded range (-40db to +18db) three-color FL meters to handle all the dynamic range dbx gives you, the accuracy and precision of two-motor drive and more.

Explore all of the Technics cassette decks with Dolby B, C and dbx. After all, why own a deck that just reduces tape noise, when you can own one that also eliminates it. Technics.

\*Dolby is a trademark of Dolby Laboratories, Inc.  
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**Technics**  
The science of sound



"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."  
A JVC High Fidelity System  
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kinds of distortion down to inaudible.  
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# About This Issue

Inside the Pages of October's High Fidelity

Digital radio. Imagine. Someday you will turn on your system and receive over the airwaves crystal-clear, high-quality music with ultrawide dynamic range. Most likely it will be relayed from a satellite to a small dish antenna mounted on or near your house. How far away is this revolutionary home-music delivery system?

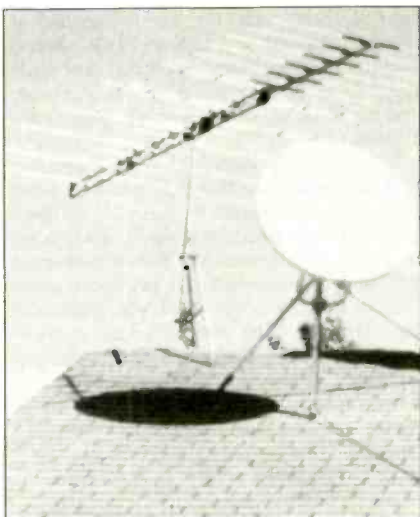
That "someday" appears to be just around the corner. CBS, ABC, and NBC are already using digital transmission to deliver music, news, and talk-show programming to their affiliate stations. The next step—direct broadcast to the home—is within sight. Charline Allen provides an overview of exciting developments in digital radio in the NEW TECHNOLOGIES section.

Our more down-to-earth coverage focuses on traditional stereo receivers. In "How to Buy a Receiver," E. Brad Meyer checks off 10 essential points you must consider in order to zero in—undistracted by the salesperson's pitch—on the models that best suit your needs. One of Meyer's pointers, check the specs, may be better followed after reading technical editor Michael Riggs's explanation of how HF tests preamplifiers, including the preamp sections of receivers, in "Basically Speaking."

Then we take you on the road along our tortuous car-stereo test route where we check out two new radio/tape decks that incorporate special circuitry to reduce common mobile-reception problems. We also take a look at an intriguing car-antenna amp designed to boost weak FM signals. And rounding out our car-stereo coverage, "Autophile" columnist Gary Stock surveys 1984's crop of components.

In this issue's coverage of Compact Discs, we turn our attention to the first "second-generation" CD player from Sony. In our lead test report, our lab and listening panels evaluate what at \$1,500 is the most expensive CD player to date. In NEW TECHNOLOGIES, you'll find a list of some 130 classical CDs due to be released this fall, as well as reviews of the latest popular and classical CD recordings.

In our regular review section, critic Kenneth Furie continues his comprehensive Wagner discography, this month tackling *Parsifal* and *Die Meistersinger*. Jazz is highlighted in BACKBEAT, with a look at four recent albums featuring the saxophone in "Hot Winds of Change." —W.T.



Rooftop satellite dish antenna

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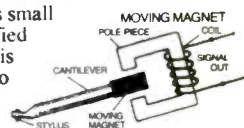
Number 8 in a Series

### The Magnetic Personality

With very few exceptions, quality high fidelity phono cartridges use a basic magnetic principle to convert the motion of the stylus in the groove into electrical energy. If an adjacent magnet and coil of wire move relative to each other, a small electrical signal is generated in the coil. There are three popular approaches to the use of this principle.

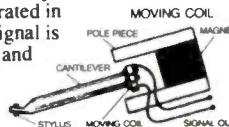
#### The Moving Magnet

The most widely used design concept locates a magnet at the end of the stylus cantilever where it will move when the stylus traces the groove. A coil, with pole pieces extending near the magnet, senses this motion and an electrical current is induced in the coil. This small signal is amplified and eventually is turned back into sound by the speaker.



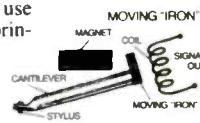
#### The Moving Coil

The second approach simply trades the location and size of the two elements. A very small coil is located at the end of the cantilever so that it can move in the field of a relatively large fixed magnet. A similar, but generally smaller electrical current is generated in the coil. This signal is then amplified and converted into sound by the speaker.



#### The Moving "Iron"

A third variant uses a piece of ferrous metal like iron, attached to the stylus cantilever. It is located between the fixed magnet and fixed coil so that as it moves it varies the magnetic field and generates an electrical signal in the coil. As can be seen, all three designs use the same basic principle, differing only in the way the concept is applied.



#### It Takes Two

While our simple drawing shows just one magnet and one coil for clarity, in a real stereo cartridge there must be two complete systems to sense the two independent stereo signals contained on the two sides of the record groove. These two systems must fit within the confines of a tiny phono cartridge. And they must operate with minimum effect on the motion of the stylus as it traces the stereo groove. In the next column we'll discuss some specific approaches.

Good listening.

*Jon R. Kelly*

Jon R. Kelly, President  
Audio-Technica U.S., Inc.  
1221 Commerce Dr., Stow, OH 44224



audio-technica.

The World's Favorite Phono Cartridge



COVER DESIGN: Skip Johnston

Cover Photos: Ronald G. Harris

ON THE COVER: (top to bottom) Oracle Alexandria turntable, RCA VJP-900 convertible VCR, Sony CDP-701ES Compact Disc player

Highway Photo: H. Armstrong Roberts, Inc.

"...a receiver of exceptional quality."  
— STEREO REVIEW

"...the finest 'receiver' we have ever tested."  
— HIGH FIDELITY



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## Letters

### Impossible?

Hundreds of readers must be scratching their heads over Michael Riggs's description of Acoustic Research's Adaptive Digital Signal Processor ("Signal Processing Enters the Digital Age," June). It can't possibly work that way. Someone at AR has been selling Mr. Riggs a bill of goods.

The confusion starts with his statement that the ADSP works in "the time domain, rather than . . . in the frequency domain . . ." [page 41]. This is true, but as far as steady-state signals go, there is no difference. Information conveyed by the time-domain response of any linear system is exactly identical to that given by its amplitude/phase response. The real advantage of time-domain transformations is the almost unlimited flexibility they provide, compared to a fixed set of frequency-domain filters. Of course, digital filtering requires true delay (rather than just phase shift—the two are not equivalent), and it is this delay that seems to offer so many possibilities for room error correction.

I've performed room equalizations a number of times and have noticed that, regardless of a room's size, if it is highly reverberant, equalizing for flat response at the mike does not produce subjectively flat response, even in a 10 by 15 foot rec room. (The fact that the first 20 to 50 milliseconds of delayed sound integrate with the direct sound is what allows regular steady-state EQ to work at all.) This suggests that the brain's ability to distinguish the spectral character of direct and reflected sound is not dependent simply on delay, but also on the fact that the delayed sound arrives from a different direction than the direct sound. This supposition is further supported by the knowledge that the side reflections are the most significant factor in a concert hall's sound. If delay alone were significant, then the later arrivals from the rear would have a greater influence than they do.

My gut reaction is that applying a delayed signal to the direct sound from the speaker would not produce the desired result. If the delayed sound arrived within the time window in which the ear cannot distinguish delayed from direct sound, this correction wouldn't be needed in the first place. And if it were outside the integration window, the brain would recognize it as a different sound, and perceive the direct component from the speaker as being colored by the combing effects of the delayed signal.

Even if my reasoning is incorrect, the ADSP still won't work as Mr. Riggs says it does. The random noise signal is essentially steady-state. The processor has no way of determining which response aberrations are in the speaker (and thus need no delay correction), and which are from room reflections (and require the delay).

These questions can be resolved only by applying psychoacoustic principles. It's unfortunate that the article does not recognize and address these issues. I suspect that if Bob Berkovitz were still at AR, Mr. Riggs might have received a more thorough explanation.

William Sommerwerck  
Lancaster, Pa.

**Michael Riggs replies:** In effect, the ADSP creates a negative loudspeaker and room, which it imposes on the signal to cancel the response errors introduced by the real things. But to do this, it doesn't have to know about loudspeakers and rooms, or even about frequency response. What the ADSP is concerned with is order, which for audio signals is a time-domain phenomenon.

If a pair of loudspeakers in a room were a "perfect" transmission medium, a random input would yield a random output. In the frequency domain, this would appear as flat response both for the first-arrival output from the loudspeaker and for the reverberant field in the room. Any deviation from flat response is therefore an indication that the speaker/room system is lending some characteristic of its own to the sound, with the result that the signal detected in the room will have some sort of order even if the input signal doesn't. It is this spurious order that the ADSP seeks to eliminate; flat frequency response is simply a byproduct—the frequency-domain transformation of the system's corrected time-domain response. So it doesn't matter that the test signal is steady-state: What's important is that it's random.

The key advantage of a time-domain equalizer, such as the ADSP, is that it can tailor the frequency responses of the loudspeakers and the room independently. With a frequency equalizer, any change in one will be mirrored in the other, which means that it cannot effect a complete correction unless the two responses are identical. Since this is extremely unlikely, there is virtually no hope of getting things right (i.e., of achieving conditions under which a random input signal will yield a random sound field) by means of conventional equalization. Only a device that can apply to the input signal the exact inverse of the characteristics imposed by the speakers and room can provide the desired effect. And only a time-domain equalizer can do that.

As for comb filtering, that's how the ADSP gets the job done. It generates a series of delayed replicas of the input, precisely timed so that the resulting comb filtering shapes the responses of the loudspeakers and room in the desired way. Thus, it is not a source of coloration, but of anti-coloration, so to speak. Nor is the integration time of the ear of much concern, since it is principally a monaural phenomenon. Our binaurality makes us far more sensitive to timing than we would be if we had to make our way in the world with just one ear. Certainly it would render sound localization a great deal more difficult, and stereo pointless.

It is true that a system equalized in the conventional manner for flat room response will usually sound very shrill. The primary reason is physical, however—not psychoacoustic. Most loudspeakers become increasingly directive at frequencies above a few kilohertz, giving a power response that rolls off relative to the on-axis response. Getting flat measured response in the reverberant field therefore entails boosting the treble to compensate for the loudspeakers' falling power response, as well as for any high-frequency absorption by furnishings. The result is a rising on-axis response, which causes the system to sound unnaturally bright. This is why recording studios typically equalize to a rolled-off "house curve" that yields subjectively flat response. There is strong evidence that these house curves give a flat first-arrival response.



*It is interesting that in our listening the ADSP had little audible effect when the speakers being used had a smooth, flat bass and midrange response. This suggests even more strongly that the diffuse-field response is substantially less important to our perception of spectral balance than is the first-arrival response.*

*Most of the material I used in writing the June article was provided by Ron Genereaux, who did (and is still doing) most of the work on the ADSP, and Robert Berkovitz. Bob was also kind enough to review the manuscript in advance of publication, and all of his changes and recommendations were incorporated in the final text.*

## X-Rated

Steven X. Rea has lost all credibility with me. First, he called Mark Knopfler's fling with some old sounds a "bad imitation" ["Minis, Maxis, and EPs of Recent Vintage," July]. He should have realized that Knopfler wanted to take a break from the serious and high-tech music that Dire Straits usually produces. Second, he gives the Rockats a review that might encourage an uninformed reader to go out and buy the disc. I have had the distinct displeasure of hearing this band in concert, and I can hardly agree that they are "refreshing," "sharp," and "splasy." Mr. Rea makes it sound like the Rockats' EP is more worthwhile than Dire Straits'. That's hardly the case.

**Robert Lee Johnson III**  
Durham, N.C.

## Dueling Egos

Steven X. Rea's pompous review of Pete Townshend's "Scoop" ["Backbeat," June] strikes me as an example of a critic's ego competing with an accomplished musician's. So what if the album is "comprised of outtakes, demos, . . . and musical first drafts"? The intimacy of home recording is special and can never be captured in a commercial studio. Furthermore, Townshend's honest comments in the liner notes are taken out of context and distorted by the critic with the cute name.

The chance to hear a good songwriter at work is, for me, well worth the price of admission.

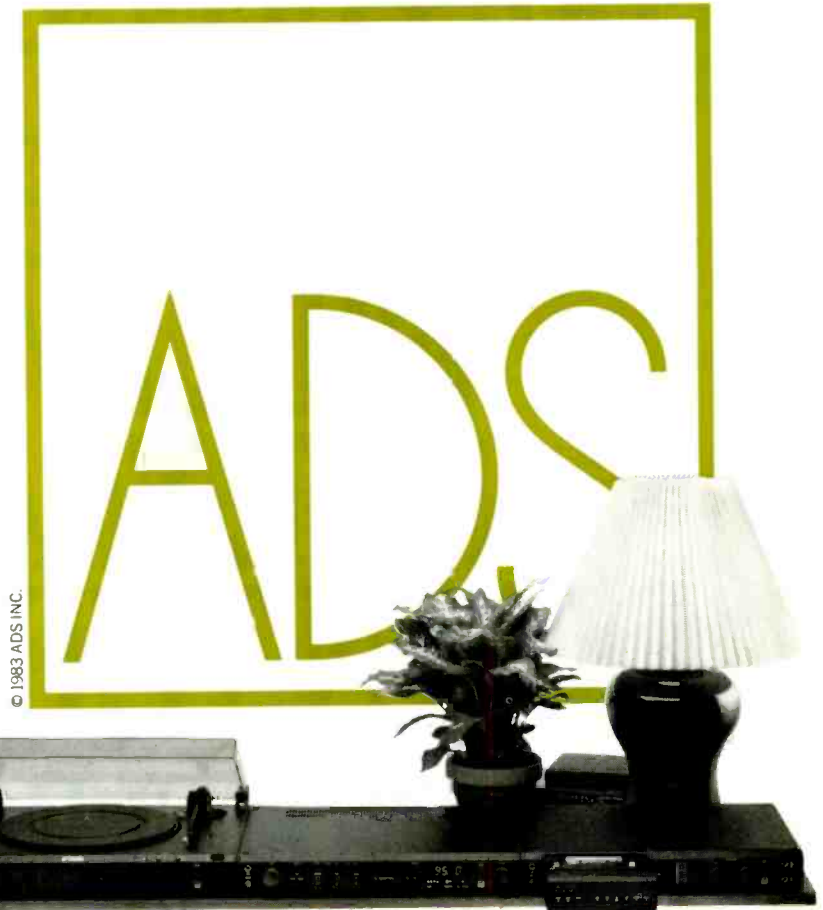
**Rick McInnis**  
Atlanta, Ga.

From his review of Pete Townshend's "Scoop," it's clear that Steven X. Rea doesn't like the Who or its leader. But that's okay, because I do. For me, this collection was very informative: I've always wondered what the original versions of the Who's songs sounded like.

Mr. Rea calls the album "one excruciating ego trip" and says, "the superstar takes himself too seriously." With all that talent—not to mention success—Townshend is entitled to an occasional ego trip. And it's Mr. Rea who takes himself too seriously.

**Robert M. Browne**  
Brooklyn, N.Y.

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



## A music lover's guide to home improvement.

Once upon a time serious stereo was a big investment.

Big amplifier. Big turntable. A system that seemed to take up half the room and looked like the flight deck of a 747.

If you still have yours it's time to redecorate. Because now, ADS offers a better-looking, better sounding way to satisfy your craving for beautiful music.

It's called *Atelier* ("Ah-tell-yea") and it's built by ADS who made their name making superb speakers in human scale.

In addition to the turntable, receiver, and cassette deck shown above, the *Atelier* range includes an amplifier, a tuner, and a speaker system.

They're all fashionably matte black and sensibly engineered as slim modules, with removable rear covers that conceal outlets and cables. Place them side by side, atop one another, on a shelf, or smack in the middle of your room. Know too that future *Atelier* components will fit the system so that you can add or upgrade without outmoding.

If the logic of all this appeals to you as it does to us, write for information to: Analog & Digital Systems, 244 Progress Way, Wilmington MA 01887. Or call 800-824-7888 (in CA, 800-852-7777) Operator 483.

Or better yet see your ADS dealer and make home a nicer place to come home to.

**ADS Atelier**



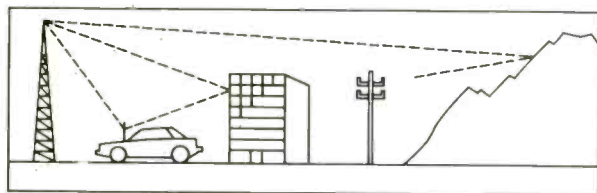
# THIS IS THE CAR STEREO TECHNOLOGY EVERYONE ELSE WILL HAVE FIVE YEARS DOWN THE ROAD. SUPERTUNER III.™

In 1976, Pioneer introduced the first Supertuner technology.

It elevated the car stereo tuner's ability to produce music.

And sent every other car tuner maker scrambling back to the drawing boards.

Now, just when they've



*A lot of things stand in the way of clear reception. Like buildings, mountains, even telephone poles. Radio signals bounce off them like balls on a handball court. Creating static, signals cutting in and out. Unless you have a Supertuner III.*

finally caught up to the advanced technology of the original

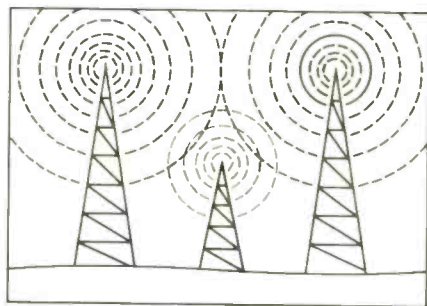
Supertuner, Pioneer introduces Supertuner III.

So long, fellas. See you down the road in another five years or so.

FM CAR STEREO RECEPTION  
SO CLEAR YOU'LL THINK  
YOU'RE LISTENING  
TO A CASSETTE.

Because music and only music is important to the engineers at Pioneer, anything that gets in the way of the music is as

annoying to them as it is to you. So they've worked

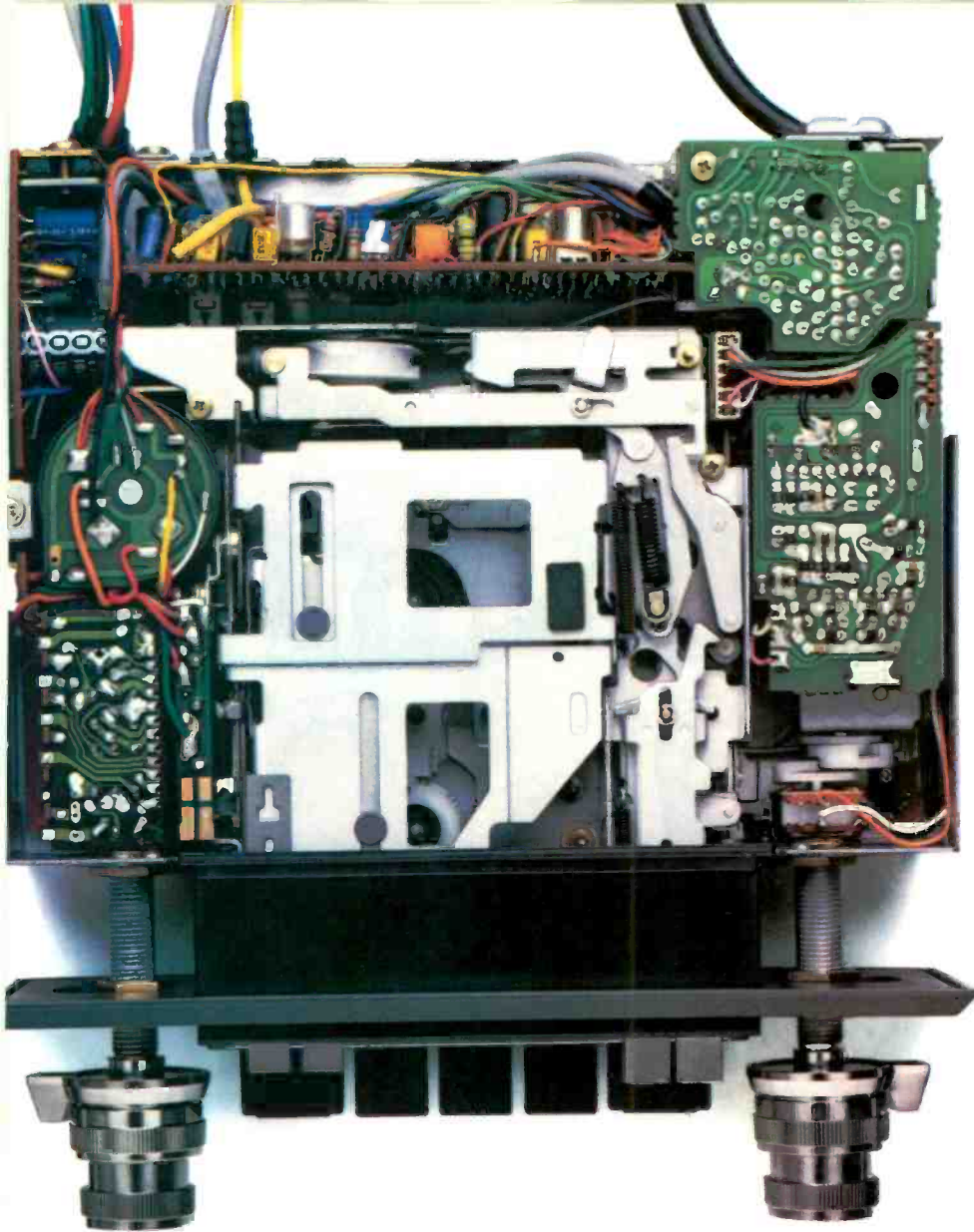


*Three-signal intermodulation is techno jargon for a weak signal that's surrounded by two stronger ones. This is what causes stations to cut into or bleed over others. Except in a new Supertuner III.*

continually to develop technology so sophisticated and advanced it virtually eliminates the maddening interference common to all car tuners.

Like static. FM noise. Strong signals cutting in or bleeding





in Chicago, Illinois, perhaps the worst FM reception area in the country.

If Supertuner III outperformed the competition here, it would do it anywhere.

Using the same car, with the same antenna, and driving continuously around the same block on the Near North Side (where the world's tallest and third-tallest buildings create FM listening havoc), Pioneer put one tuner after another to the test.

And the clear winner, time after time, was Pioneer's Supertuner III. Downtown, only Supertuner III received stations that came across other tuners sounding like bacon sizzling on a hot griddle. And in the suburbs, only Supertuner III consistently was able to pick up weak stations located downtown, and hold on to them.

Of course, reading this now may impress you. But most likely you'd rather hear the real thing with your own two ears.

So, at your earliest convenience,

on top of weaker ones.

In addition, Supertuner III can capture weak signals from a great distance and lock them in.

So, while Supertuner III offers a great many convenience gadgets like other tuners, it offers something that none of the others can.

The clean, clear, FM stereo reception you should be getting in this day and age.

**WHICH CAR TUNER GETS THE BEST RECEPTION IS NOW PERFECTLY CLEAR.**

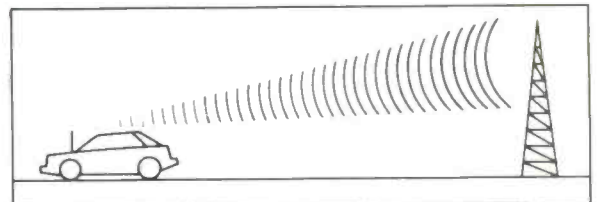
Of course, it's one thing to boast that no other FM stereo

tuner eliminates the irritants to your listening pleasure like Supertuner III.

It's another to prove it. Which is just what Pioneer did.

By road testing Supertuner III against the highest quality stereo tuners currently on the market.

The test was conducted



*Cars move and radio stations don't. So the further you drive from the transmitter of your favorite station, the harder it is to capture its signal. Unless you have a Supertuner III. Which is just another reason we should have the market all locked up.*

nience, visit your nearest Pioneer car stereo dealer and ask for a demonstration of Supertuner III.

And if, on the drive there, you get static and stations cutting in and out on your car stereo, don't just change stations.

Change car stereos.



**PIONEER**  
Because the music matters.

Circle 3 on Reader-Service Card



# The only cassette deck in America endorsed by 258,984 experts on sound.



Last year, more ears applauded Sony than any other line of cassette decks.

And Sony even delighted the ears of professional critics of sound. Like the editors of leading publications, who have consistently rated Sony decks above all others in their price class.

Perhaps it's the performance—which is enhanced by Sony's unique LaserAmorphous™ heads and advanced Dolby\* C noise reduction—that earns



our decks such wide acclaim.

Or perhaps it's the convenience of such features as feather-touch controls. A linear tape counter that displays actual elapsed time in minutes and seconds.

And systems that locate and play songs automatically.

Regardless, Sony cassette decks continue to win applause everywhere they're heard.

Which doesn't mean we're asking you to buy a Sony merely on hearsay.

Instead, we invite you to audition one of the new Sony cassette decks at your nearest audio dealer. And simply listen to what your ears say.

**SONY.**  
THE ONE AND ONLY.



# High Fidelity News

New equipment and developments



## CD Player Update

With the introduction of two new CD players, Technics has fired what many suspect is the opening salvo in the coming CD price wars. The SL-P8, a fully programmable unit with remote control, is priced at \$800, the nonprogrammable SL-P7 (above), at \$700, is \$100 cheaper than the least expensive unit presently available. Technics says it was able to lower prices by using its own integrated-circuit chips. Three large-scale ICs (LSIs) handle error-correction and concealment chores, using a proprietary algorithm that Technics, rather immodestly, terms "Ultra Super." Both players are front-loaders with sliding-drawer mechanisms. The SL-P8, like many Technics turntables, has a variable pitch control.

Circle 120 on Reader-Service Card

## As We Go to Press

Sears has confirmed that it will be offering a Compact Disc player in its Christmas catalog this year. At \$589, the Model 9750 will probably lack the sorts of special features (including remote control) that contribute to the higher prices of other players.

## Denon's Thoughtful Equalizer

A multifunction signal processor, Denon's DE-70 functions both as a 12-band, dual-channel graphic equalizer and as a dynamic range expander. Unique to the device is a dynamic equalization circuit that can be set so that EQ will be applied only in the presence of a musical signal. Thus a recordist might tweak the treble a bit on a cassette he is dubbing without raising background hiss on the copy. Recordists will also appreciate the device's built-in switching network, which accommodates two tape decks and provides separate dubbing and monitoring controls. A front-panel display indicates the unit's operating status, and LEDs on each frequency slider facilitate use in low light. The DE-70 costs \$425.

Circle 117 on Reader-Service Card

## Talking Shop with Bob Carver

Since he left Phase Linear (which he founded in 1971) and set up shop under his own name, Bob Carver has been virtually unstoppable. The Sonic Holography preamp, the high-efficiency Magnetic Field amplifier, and the TX-11 FM tuner, with its remarkably effective noise- and distortion-reducing circuitry, have won him a loyal following and a measure of the fame usually lavished on computer-designers-cum-entrepreneurs.

We recently had the opportunity to spend some time with Carver and thought you'd be interested in learning what the "boy genius"—now entering his fifth decade—is up to. First, the TX-11 add-on FM noise reducer (first displayed to the press in prototype a year ago) is in production and should be available now at local retailers. Bringing the same signal-processing to the car, however, is not as easy as Carver originally thought. It seems that get-

ting a quiet R+L (mono) signal, which the circuit needs to reconstruct a low-noise stereo output, is hard to guarantee in a moving car. Carver says he is still examining various options and that the project is certainly not dead.

He is also spending lots of time working on an idea for a super-amp that he claims could weigh less than 10 pounds, yet be capable of pumping out 500 watts per channel. Although completion of the project may be a decade away, Carver (predictably) already has a name for it—the Stratified Field Amp. He says that the device, which will operate on floating instead of fixed voltage rails, should be so efficient that absolutely no heat sinking will be necessary.

And in a move related to audio but applying its principles to different ends, Carver will soon begin marketing a system to physicians that he claims produces sonic



## 2 OZ. PRODIGY

If you think lightweight headphones mean lightweight sound, prepare to be amazed.

They're the incredible new HD40, Sennheiser's latest—and lightest—Open-Aire® model. With the electrifying clarity and definition that earned their forerunners world renown. Plus the wide frequency response and natural dynamic range that are Sennheiser trademarks.

Come hear Sennheiser's latest triumph at your dealer today. The price is so modest, you won't feel anything but the music.

**SENNHEISER**

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10 West 37th Street, New York 10018 (212) 239-0190  
Manufacturing Plant: Bissendorf/Hannover, West Germany

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visualizations of heart sounds. Called a Cardiac Hologram Generator, the system consists of a signal-processing unit, a special stethoscope microphone, a cassette recorder, and two small speakers. The physician replays the heart sounds through the processor to hear what he would if he were actually sitting inside the heart. Controls on the processor enable him to vary his position inside the heart, moving into and through chambers and valves.

And finally, Carver has some parting words for critics who claim that signal processing somehow dilutes the purity or naturalness of sound. He says those who pro-

test that a "straight wire with gain" should be the goal of audio electronics are simply repeating what is easiest for them to understand. "The appearance of the Compact Disc, which contains digital codes instead of comforting little analog wiggles, should open up the whole area of audio signal processing."

### A Crowning Achievement

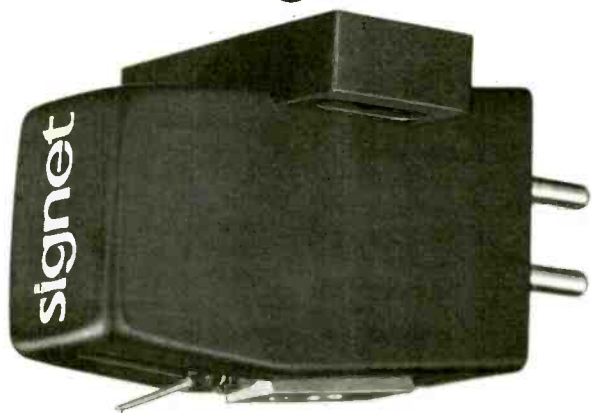
Crown has introduced a professional power amplifier that is said to extend the benefits



of full-range servo control to any loudspeaker, without modification to the drivers or crossover. The single-channel Delta Omega 2000 incorporates special feedback circuitry that compares the velocity of the speaker drivers to the slope of the signal waveform and corrects any discrepancies between them by applying the necessary compensation to its own output. Although the system's effect is most noticeable at high sound-pressure levels, where the drivers are highly nonlinear, Crown says that there is usually an audible improvement even with low-distortion loudspeakers operated at moderate levels. The Delta Omega 2000 is rated at 600 watts (27 3/4 dBW) into 8 ohms from DC to 45 kHz with no more than 0.05 percent total harmonic distortion. Weighing in at about 90 pounds, it has a rack-mount faceplate, both balanced and unbalanced inputs, and a two-speed cooling fan. Price is \$2,900.

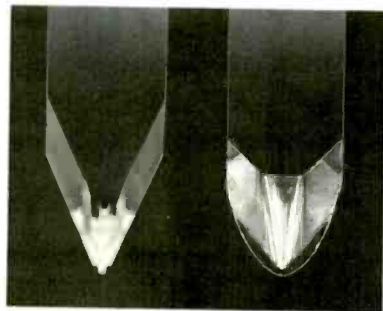
Circle 114 on Reader-Service Card

## The new Signet TK10ML



...so remarkable  
it may set digital records  
back another year!

Until you hear the Signet TK10ML, you may not fully appreciate how superb today's analog recordings can be. And how little may be gained by going all-digital. Each Signet TK10ML MicroLine stylus is created from a whole, natural octahedral diamond, oriented for longest life, and with a square shank to precisely fit the laser-cut hole in our unique, ultra-rigid low-mass boron cantilever. You get perfect alignment. Period.



The single most significant advance in the Signet TK10ML is its unique new MicroLine™ stylus...the most complex stylus shape ever attempted. Its scanning radius is a mere 2 to 3 microns! That's just 39% of the scanning radius of a typical 0.2-mil elliptical. Yet the supporting radius is about 3.0 mils (compared to only 0.7-mil for the elliptical). It's the longest, narrowest footprint ever achieved.

Even with repeated playings, the MicroLine stylus maintains its shape, without "spreading" like all other tips. So grooves sound new, long after other

styli are threatening irreparable damage to your record collection.

With the new Signet TK10ML, older records literally come back to life. New records transcend the limits of ordinary technology. Your entire system gets a new lease on life.

Visit your Signet dealer. Peek into his microscope to see this fantastic stylus. Then get the real proof. Listen.

But the proof of quality is in the playing.

**signet**

SIGNET, 4701 HUDSON DRIVE, STOW, OHIO 44224

Circle 20 on Reader-Service Card



### CDs on the Road?

There's little doubt that CD players will eventually find their way into cars. As a feasibility demonstration, Mitsubishi put together the system you see here for display at the Summer Consumer Electronics Show. The prototype player mounts over the transmission hump, in front of the gear box. All of the unit's normal "transport" controls—plus a volume-control slider and a neat four-way fader/balance joystick—are arrayed on a separate panel just forward of the player itself. Of course, reproducing a CD's fantastic dynamic range is beyond the capabilities of most car power amps, so Mitsubishi cooked up a special 100-watt amp to drive the car's four-speaker system. Contrary to early reports, CD players seem quite stable in the rough-and-tumble environment of a moving car. One that Philips installed in a bus impressed us with its ability to "track" discs accurately on all but the roughest roads.

Circle 31 on Reader-Service Card ▶



# NO NOISE IS GOOD NOISE.



3 Heads (Ferrite Play, Sendust Rec), 3 Motors, Direct Drive Capstan Motor, Dual Capstan, dbx, Dolby B & C NR, dbx Disc Position, Manual & Reference Bias/Level/EQ Calibration, Digital Real Time Tape Counter, 30-dot FL Bar Graph Meter, Monitor Sync, Auto Tape Select, Block Repeat (Memory Repeat), Auto Locator, Memory Stop/Play, Computomatic Program System, Power Assisted Eject Door, Pitch Control, Auto Spacer, Resonance Free Diecast Chassis, Remote Control.

Teac hates noise. So we've quietly gone about our business of stamping it out.

Our new Z-6000 cassette deck has not one noise reduction circuit, but four. Both Dolby\* B and Dolby C NR, plus the added benefits of dbx\*\* and dbx disc. Features usually found only on professional equipment, now standard with Teac. So your Z-6000 will never meet a tape it doesn't like.

You can make a tape that will play on any other machine. And you can play anyone else's tape on yours. Without a lot of hiss and distortion to get in the way.

At Teac we have a passion for reproducing music precisely the way it was originally intended. One noise reduction system probably would have been enough, but we wouldn't hear of it.

For your nearest Teac Dealer call us direct at (213) 726-0303.

## TEAC. MADE IN JAPAN BY FANATICS.

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\*DOLBY\* IS A REGISTERED TRADEMARK OF DOLBY LABORATORIES, INC. \*\*dbx\* IS A TRADEMARK OF dbx, INC.

# From lasers that play digital records to computerized tape decks that make digital recordings, nobody delivers the startling realism of digital sound like Technics.

The challenge: to eliminate the audible differences between live music and its recorded counterpart.

The solution: Technics digital audio technology.

Technics digital technology is not a conventional (analog) process of music reproduction as in ordinary turntables and tape decks. Instead, music that is recorded in the digital process is electronically translated into a numerical (digital) code. So sound is not only immune to the scratching and physical damage that can affect conventional records and tapes. But also to distortion that can ruin music.

When you play back a digital disc or tape, the numerical code is translated back into music. And the sound is indistinguishable from the original.

With all of this digital technology, Technics has emerged as the only manufacturer to bring you not one, but three digital components. For both tape and disc formats.

First there is the extraordinary Technics SL-P10 Compact Disc Player.

The SL-P10 uses a standard 4.7-inch grooveless, digitally encoded disc. This compact disc (CD) is not played in the conventional sense with a tracking stylus that can damage a record. Instead it is scanned by a computerized laser system. There is no wear on the disc, and the music is reproduced with a purity that could only be digital.

And the SL-P10 can be programmed to find a specific cut, play a series of cuts in any order or play a cut repeatedly.

Then there is the Technics SV-P100. The world's first compact, fully self-contained digital cassette recorder. It is a computerized marvel that uses ordinary video cassettes to record, store and play back the astonishing realism of digitally encoded music.

If you already have a video cassette recorder, the ingenious Technics SV-00 Digital Audio Processor connects to your VCR. This endows it with the same kind of computerized digital capability as our digital cassette recorder.

And whatever the future of audio holds, digital and beyond, Technics is committed to leading you to it.







Technics Compact Disc Player System SL P10

open/close



Circle 24 on Reader-Service Card

**Technics**  
The science of sound

# CrossTalk

Practical answers to your audio and video questions by Robert Long

## Dubbing Dilemma

*My present cassette recorder is a modest two-head model with Dolby B. I'm buying a three-head machine with a better transport and electronics in order to make dubs for listening in my car, so exquisite sound quality is not that vital. Which of the two machines should I use for the source, and which for recording?—Michael Alexander, East Hampton, N.Y.*

You don't give me much to go on; a lot of factors influence the choice. The conventional wisdom is to use the three-head deck as the source because its separate playback head is likely to be better at resolving the highs, while the dual-purpose head on the other deck may represent more of a compromise in playback than in recording. But a significant azimuth difference between the two decks can easily offset this, dulling the highs when tapes recorded on the old deck are played on the new one. So my best advice is to try it both ways, playing back both results in the car, and then decide for yourself.

## Stereo VHS?

*Once Sony's new Beta Hi-Fi was introduced, I was sorry I'd bought a portable VHS deck. And even though Panasonic's new four-head stereo VHS home deck doesn't have the specs of the new Beta, I'm considering buying one to complete my audio-video system. It would let me listen to the digital-audio VHS tapes from Mobile Fidelity. If I were to use the DBX NX-40 noise reducer to increase its dynamic range, would the Panasonic be a worthwhile investment? Or am I exaggerating the difference between Beta Hi-Fi and stereo VHS?—Bruce Johnson, Compton, Calif.*

What you didn't know when you wrote your letter was that the VHS people, too, are planning a Hi-Fi version of their format (though they seem less unified in their approach than the Beta group was, and at present both the commercial and the engineering considerations seem less thoroughly digested by those concerned). Both of the Hi-Fi systems have an advantage that conventional VCR audio—mono or stereo, noise-reduced or not—can't claim: virtual immunity to wow and flutter. As a music

lover, I find flutter the most irritating characteristic in the sound of ordinary videotapes—even professional ones. So for me the difference between Beta Hi-Fi (and eventually perhaps VHS Hi-Fi) and stereo VHS is very important.

As for DBX, it works very well when the basic performance of the deck is good. This unfortunately excludes most VCRs, which typically are rather poor audio recorders (Beta and VHS Hi-Fi machines being the prominent exceptions).

## Tinker, Tailor . . .

*I recently bought a pair of Fisher Model 3012 speakers. Would adding a three-way crossover system improve their performance? The Radio Shack #40-1299 network offers four options for the frequencies: 800/5,000, 800/7,000, 1,600/5,000, and 1,600/7,000 Hz. Which would you recommend? How should the crossover be wired in?—Kevin McCormack, Lake Ronkonkoma, N.Y.*

If you want to experiment, that's fine. But I can't honestly recommend this sort of second-guessing with competently designed modern speakers. The designer presumably knows far more about the acoustical, mechanical, electrical, and magnetic properties of the drivers than you can find out, simply because he has the necessary test facilities. The crossover he designs to fit these specifics therefore will probably suit the drivers better—even if he's shooting for low parts cost—than anything you can come up with in an all-purpose crossover. So, though I'm not familiar with your speakers, I find it hard to imagine that any such tailoring is likely to be a genuine improvement.

## For Playback Only

*Does Sony still make a playback-only tape deck? I'm not interested in recording but want to get my money's worth with this or any similar model.—Herbert Askanas, Philadelphia, Pa.*

You're doubtless thinking of the TC-PB5, which is still available from many dealers for about \$220. Though I haven't used it, it seems right for your purposes—or for anyone who needs a source deck for dubbing, as well. (One reader has suggested a Walkman for dubbing. But wow usually is some-

where between audible and excruciating on personal portables; on a proper home playback deck it should be completely inaudible.) What the TC-PB5 omits, which a two-head record/play machine would include, is an erase head, an erase/bias oscillator, a recording amp, and a metering system. In addition, it presumably has a narrower head gap than would be possible in a combination record/play head, for better high-frequency response. So the play-only format makes both technical and economic sense. Unfortunately, it commands only a tiny market: Most buyers want the recording function even if they don't plan to use it.

## Instrument Assist

*A local audio dealer claims that all phono cartridges should be checked and installed by a technician because three out of ten are defective. Is this true?—Ed Partilla, Roselle Park, N.J.*

The probability figure sounds inflated to me, but the principle is sound. Working with your turntable (or, more specifically, its arm and headshell, if any), a properly prepared technician can align the pickup for maximum channel separation and minimum distortion—that is, for optimum physical orientation—better than you can hope to on your own, in most cases.

## Dead Dokorder

*My Dokorder 7100 open-reel tape deck needs a new flywheel and capstan assembly. Local repair people can't find any suppliers of parts for Dokorder. Can you help?—Joseph Bucci, Stuyvesant, N.Y.*

If I were given to saying, "I told you so," I'd point out that "Too Hot to Handle" (the predecessor to this column) repeatedly discussed how Dokorder loaded its products with features at the expense of quality construction—a factor that doubtless contributed to the company's demise. Since I wouldn't dream of saying that, I'll content myself with suggesting that you sell what's left of the Dokorder for whatever you can (perhaps to someone who wants to scavenge it for parts) and buy something else.

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



# 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.

While XL II-S has a greater saturation resistance in higher frequencies resulting in an excellent signal to noise ratio.

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.

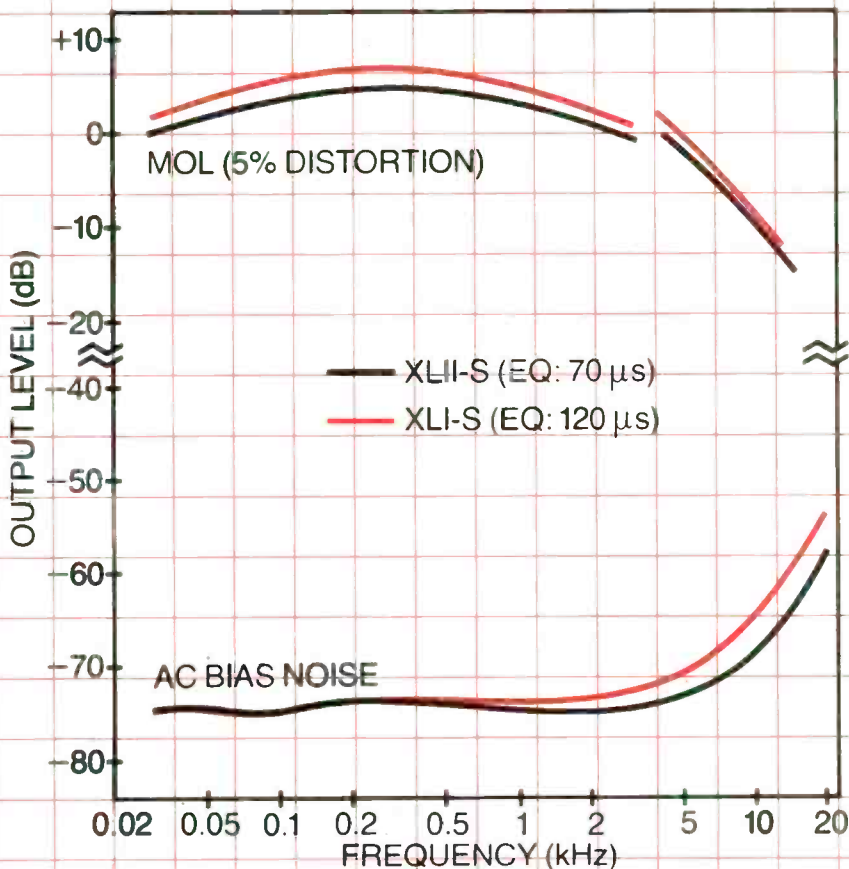
This increases maximum output level and reduces AC bias noise which in turn expands the dynamic range.

IMPROVED EPITAXIAL PARTICLE CHARACTERISTICS:  
 MORE UNIFORM COBALT-FERRITE LAYER | SMOOTHER PARTICLE SURFACE

GAMMA-FERRIC OXIDE

470Å

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.

© 1983 Maxell Corporation of America, 60 Oxford Drive, Moonachie, NJ 07074



# 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.

This pioneering effort constantly pushes the boundaries of existing knowledge. Over the years, the United States Patent Office has granted thirty patents that certify the results of this innovative and exploratory research. Each patent has exposed new areas of technology which leads to the superior performance of a McIntosh and exposed new areas of effort and thought that is unmatched by any other research group in this industry, in the world. McIntosh is truly the technological leader and McIntosh is dedicated to continuing that leadership. McIntosh still . . . the BEST.



**C33 Professional Stereo Preamplifier \$2299.00**  
cabinet extra

Price is merely the manufacturer's suggested retail price. The actual retail price charged by dealer is entirely up to the individual discretion of such dealers.

McIntosh Laboratory Inc. HF 10/3  
East Side Station, P.O. Box 96  
Binghamton, N.Y. 13904-0096

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# Basically Speaking

Audio concepts and terms explained by Michael Riggs

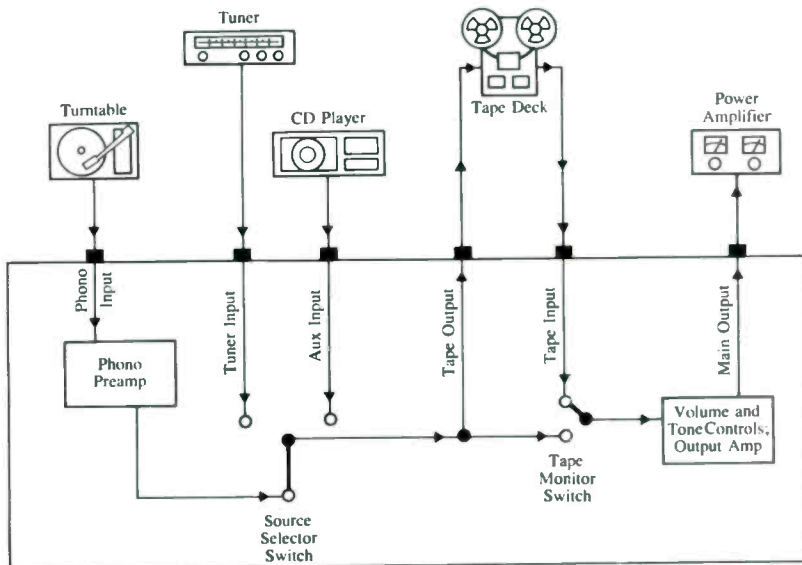
## How HF Tests Preamps: Part I

EVEN IF YOUR SYSTEM doesn't have anything called a preamp, it's still the part that you probably use most—to adjust the volume, switch sources, and so forth. That's because every integrated amplifier and receiver has a preamplifier section built into it. So whenever we review an integrated amp or receiver, Diversified Science Laboratories performs most of the tests that it would on a separate preamplifier.

There are, however, a few differences in how the results are reported, since mea-

surements on a separate preamp are taken primarily from its line-level main output, whereas measurements on integrated amps and receivers are mostly taken from the speaker outputs. The most important disparity is in how the sensitivity and noise figures are reported. For a separate preamp, they are referred to an output of 0.5 volt; for an amp or receiver, they are referred to an output of 0 dBW (1 watt) into 8 ohms. You should also bear in mind that distortion usually will be higher, frequency response less extended, and separation narrower for an integrated amp or receiver than for a separate preamp, because the test signals must pass through a power-amplifier section. And the output-at-clipping measurements are not at all comparable: Those for amps and receivers are in dBW and reflect the capabilities of the power amp, while those

for preamps proper are in volts and indicate the limits of the line-output stage. Many preamps are capable of quite prodigious outputs—sometimes 10 volts or more. But since virtually all amps can be driven to full power with a volt or two, a 1-kHz clipping level of 3 volts is usually sufficient and of 6 volts quite generous. This measurement (like the others) is made with the IHF standard load of 10,000 (10k) ohms in parallel with 1,000 picofarads (pF), which simulates a low-impedance power-amp input connected to the preamp with a long run of high-capacitance cable. This is worse than any loading a preamp is likely to encounter in normal use, which means that the output (as well as the distor-



Signal Path and Switching for One Channel of a Stereo Preamplifier

surements on a separate preamp are taken primarily from its line-level main output, whereas measurements on integrated amps and receivers are mostly taken from the speaker outputs. The most important disparity is in how the sensitivity and noise figures are reported. For a separate preamp, they are referred to an output of 0.5 volt; for an amp or receiver, they are referred to an output of 0 dBW (1 watt) into 8 ohms. You should also bear in mind that distortion usually will be higher, frequency response less extended, and separation narrower for an integrated amp or receiver than for a separate preamp, because the test signals must pass through a power-amplifier section. And the output-at-clipping measurements are not at all comparable: Those for amps and receivers are in dBW and reflect the capabilities of the power amp, while those

tion and frequency-response) figures represent the minimum performance you can expect from the product.

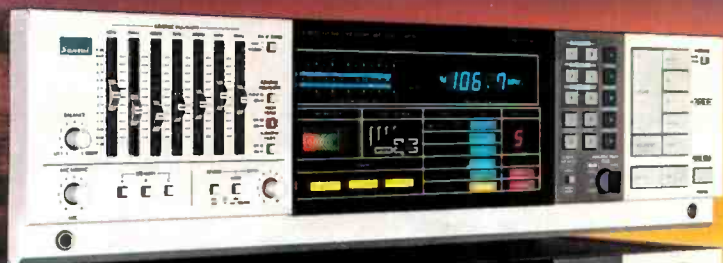
Total harmonic distortion (THD) is measured from 20 Hz to 20 kHz at an output of 2 volts. This is done twice: once through the phono input (to include the effects of the phono-preamp circuitry) and once through a high-level input. If the results are different, we report them separately. When we report only one, it is usually because the distortion through either input is less than 0.01 percent, which is as far down as we bother to go, even when the distortion is still measurable. And that's really a very conservative cutoff point, considering that distortion would have to be from 10 to 100 times higher to be audible in music—which is to say there's no reason at all to worry about anything less than 0.1 percent.

DSL measures frequency response through the auxiliary input. Deviations are referred to the output at 1 kHz and are reported over two ranges: between the frequencies at which response is ¼ dB down and between the frequencies at which it is 3 dB down. If, however, response is down more than ¼ dB at 20 Hz or 20 kHz, we report the response over the frequency range falling within that limit, rather than between the ¼-dB-down points. For example, if the response were down 1 dB at 20 Hz, we would take the -1-dB frequencies. An error of ¼ dB is about the smallest you can hear, so any device that is flat within that much from 20 Hz to 20 kHz is essentially perfect in this respect. (And, frankly, I would expect anything that stayed within that tolerance from 30 Hz to 15 kHz to be audibly indistinguishable from a unit with more extended response.) There is no advantage to wider bandwidth. In fact, some manufacturers include filters that roll off the response above or below the audio range to keep RFI (radio-frequency interference), infrasonic signals from warped records, and other out-of-band nasties from corrupting the desired audio information.

The RIAA playback-equalization curve is applied to signals passing through the phono-preamp section to reverse the equalization recorded into all phonograph records (to reduce noise and extend playing time) and thereby restore flat response. We show the accuracy of this equalization from 20 Hz to 20 kHz or between the frequencies at which response is down 1 dB relative to the output at 1 kHz—whichever comes first. It is not uncommon to see some slight rolloff at the very bottom of the audible range, especially if the phono preamp has a built-in infrasonic filter to keep warp signals from reaching your tape deck and power amp. This is a highly desirable feature, which is why we include a response measurement at 5 Hz—right in the heart of record-warp territory. Ideally, the phono response should be within  $\pm 1/4$  dB from at least 30 Hz to 15 kHz, but sharply attenuated at 5 Hz. Such extreme accuracy is not a necessity, however; I would say that a deviation of  $\pm 1/2$  dB still represents good performance and that  $\pm 1$  dB is usually acceptable, particularly if it is mainly attributable to an infrasonic filter starting to roll off a little early.

Concluding this two-part series next month, I will explain the other measurements we make on preamps, including signal-to-noise ratio, sensitivity, and input and output impedance. **HF**

Z-9000X



Z-5000X



Z-7000X



Z-3000X



## SANSUI DOESN'T CLAIM TO HAVE THE WORLD'S ONLY DISTORTION-FREE RECEIVER. NOW WE HAVE FOUR.

Unlike most high fidelity companies, Sansui doesn't reserve its most advanced technology exclusively for the top-of-the-line model.

That's why every model in our new "Z" Quartz Synthesizer Compu Receiver line (Z-9000X, Z-7000X, Z-5000X, Z-3000X) is distortion-free.

### Sansui puts its best Super Feedforward

Some competitive receivers herald the fact that they eliminate audible distortion. But only Sansui, with its highly acclaimed and exclusive Super Feedforward DC power amplifier system, banishes every conceivable type of audible and inaudible distortion—THD, TIM, intermodulation, envelope, switching, crossover, etc. And this unique distortion-destroying circuitry is built into every new Sansui "Z" receiver.

### The super intelligence of microprocessor control

Similarly, all models incorporate a high degree of automation, thanks to microprocessor

control. One-touch Simul Switching simultaneously turns on the power and one input—turntable, tape deck or AM, FM broadcast. The microprocessor also controls the Quartz-PLL digital synthesized tuning that presets 8 FM and 8 AM stations. The drift-free tuning, whether auto scan or manual, is so precise that in congested areas even the weakest station sounds as if it's just around the corner.

There's also a programmable digital quartz timer/clock with three daily independent memory functions. You can awaken to FM; fall asleep to cassette music; and arrive home to hear your favorite record.

The top-of-the-line Z-9000X makes listening even more pleasurable with a 7-band graphic equalizer, a built-in reverb amp, preset volume control, plus pre-amps for MC and MM cartridges.

### More music control across the board

Combine all this with power handling capability ranging from

130 to 55 watts, and you can appreciate why no other collection of receivers gives you so much control over your music.

Maybe you're wondering why Sansui doesn't give you less technology and fewer features, as others do. It's because we never compromise when it comes to music. And neither should you.

### Watts per channel

Minimum RMS, 20-20KHz, both channels driven into 8 ohms, at rated Total Harmonic Distortion.

|         |        |       |
|---------|--------|-------|
| Z-9000X | 130 w. | .005% |
| Z-7000X | 100 w. | .005% |
| Z-5000X | 70 w.  | .007% |
| Z-3000X | 55 w.  | .008% |



SANSUI ELECTRONICS CORPORATION  
Lyndhurst, NJ 07071; Gardena, CA 90248  
Sansui Electric Co., Ltd., Tokyo, Japan

Putting more pleasure in sound



# 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.

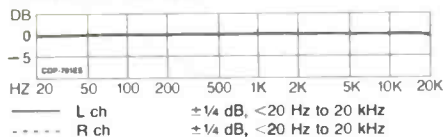


## Sony's Super CD Player

Sony CDP-701ES Compact Disc player, with wireless remote control. Dimensions: 17 by 4 1/4 inches (front panel), 15 inches deep plus clearance for connections. Price: \$1,500. Warranty: "limited," three years parts and labor. Manufacturer: Sony Corporation, Japan; U.S. distributor: Sony Corporation of America, Sony Dr., Park Ridge, N.J. 07656.

All data obtained using the Sony YEDS-7, Philips 410 055-2, and Philips 410 056-2 test discs.

### FREQUENCY RESPONSE



### DE-EMPHASIS ERROR

+0, -1/4 dB, 1 to 16 kHz

### CHANNEL SEPARATION

≥78 1/2 dB, <100 Hz to 20 kHz

### CHANNEL BALANCE

±0 dB

### S/N RATIO (re 0 dB; A-weighted)

without de-emphasis 100 3/4 dB  
with de-emphasis 105 1/2 dB

### HARMONIC DISTORTION (THD+N; 40 Hz to 20 kHz)

at 0 dB ≤0.062%\*  
at -24 dB ≤0.063%\*

### IM DISTORTION (70-Hz difference frequency;

300 Hz to 20 kHz)  
0 to -30 dB ≤0.014%

### LINEARITY (at 1 kHz)

0 to -60 dB no measurable error  
at -80 dB + 1 dB  
at -90 dB + 3 dB

### TRACKING & ERROR CORRECTION

maximum signal-layer gap ≥900 microns  
maximum surface obstruction ≥800 microns  
simulated-fingerprint test pass

WHILE EVERYONE ELSE has been scurrying to develop less expensive CD players, Sony seems to have moved in the other direction: The price of its CDP-701ES is fully two-thirds more than that of the CDP-101 with which the company launched the Compact Disc system in this country. (See "Digital Sound: It's Here!" December 1982.) There is an explanation, however. As its model number suggests, this new player is a member of Sony's premium ES Series, and, accordingly, it differs from the 101 in certain respects—some large, some small, but all aimed at maximizing performance and convenience of operation.

Many of the changes are internal and, therefore, invisible. For example, the 701 is built in a dual-mono configuration, with a separate digital-to-analog (D/A) converter for each channel, and the company says that higher-quality parts have been used in its construction. It also has an improved shock-mounting system, for reduced sensitivity to impact and vibration.

But for most people, the really important difference is the obvious one: an array of programming keys at the right end of the front panel. Along the top are two rows of five buttons each, numbered from one through zero; below these are the control keys for the two programming modes. The first of these is what Sony calls Random Music Sensor, which enables you to put a sequence of as many as eight track numbers into memory for playback in the order of

entry. To begin, you push the button labeled RMS. Then you enter the track number you want to play first, press TRACK (just to the right of RMS), enter the next selection, and so on until you've programmed all the tracks you want to hear or you run out of memory space. You then press START (the large key to the far right), and the player will begin with the first selection and continue in the programmed sequence to the last.

Indicators for elapsed time within the track being played and for total time remaining function normally in the RMS mode, except that the latter shows the time remaining in the programmed sequence, rather than from the pickup position to the end of the disc. And when you activate one of the repeat options (for the track in progress or for the entire program) during programmed play, the time-remaining readout disappears. The real quirk here is that switching off REPEAT doesn't bring the time-remaining display back: For that, you have to press PLAY, which takes the 701 out of programmed playback and puts up the elapsed time to the end of the disc. Since the program instructions are held in memory until you press CLEAR or turn the player off, you can return to programmed playback simply by pressing START again. This, however, will return you to the beginning of the first track in the sequence, not to where you left off. (You can, by the way, add to the track sequence at any time; the tracks you

**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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## AUDIO New Equipment Reports

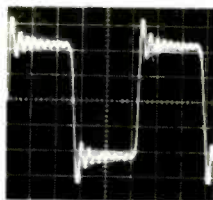
**MAXIMUM OUTPUT LEVEL**  
line (into IHF load)  
headphone (into 50-ohm load)

2.07 volts  
≥0.75 volt\*\*

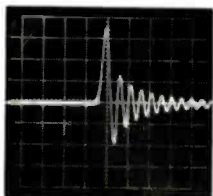
**OUTPUT IMPEDANCE**  
line output  
headphone output

360 ohms  
220 ohms

**SQUARE-WAVE RESPONSE (1 kHz)**



**IMPULSE RESPONSE**



\*From a 24.1-kHz "birdie" created by intermodulation between the 20-kHz test tone and the 44.1-kHz sampling frequency. Distortion is less than 0.01 percent from 40 Hz to 19 kHz.  
\*\*See text.

enter will be appended to those already in memory. But there is no way to check which tracks already are programmed.)

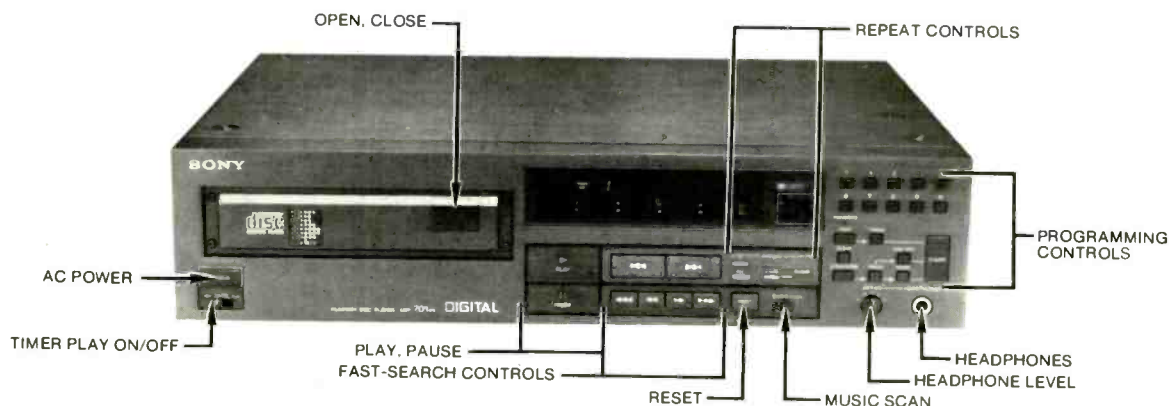
The second programming mode enables you to specify precisely where you want playback to begin, by track and index number or by track and time. For this, you press LOCATION (immediately below CLEAR), the number of the desired track, and then the key directly to the right labeled "track." This will cause the elapsed-time display to show the total running time of that track in minutes and seconds, with the minute number flashing.

Here your options branch again—which is graphically represented by the arrangement of the succeeding keys on the panel. One alternative is to enter the number of minutes into the track that you want and press the upper of the two buttons to the right of TRACK (MINUTES/SECONDS). The seconds indicator will then flash until you enter the number you want for that and press MINUTES/SECONDS again. Now when you press START, playback will begin at the programmed point and proceed to the end

well thought-out that running it is almost second nature. For human engineering, it is among the best we've seen.

We do, however, have a couple of complaints. The main one is that Sony hasn't provided for as many tracks as one would sometimes like in the RMS mode, especially if all you want is to take out one or two selections that you don't want to hear. (A delete mode might have helped here.) The other is that it would be nice to be able to start playback directly from a specified track in the location mode, bypassing the other buttons altogether.

Besides programmability, the CDP-701ES has several other new features, including separate displays for elapsed and remaining time, a graphic display of track and pickup positions, and a button that Sony calls Music Scan, which automatically samples 10 seconds from each track on the disc. Otherwise, operation of the new player is virtually identical to that of the CDP-101. The repeat functions, including phrase repeat between any two points on the disc, are retained, as is the horizontal slide-



of the disc. Or, if you want to start at the beginning of the track, you can bypass the time option by pressing MINUTES/SECONDS twice and then START.

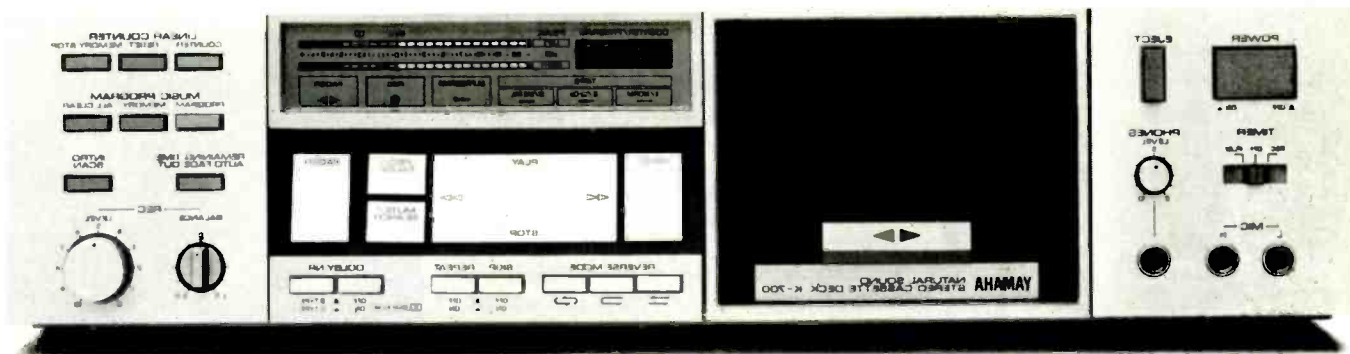
The other alternative is to enter an index number, instead of a time, press INDEX (the lower of the two buttons), and press START. Playback will then commence from the specified index point within the track. (Naturally, this will work only if the disc is indexed; if it isn't, exercising this option will start playback from the beginning of the track.) Regardless of which of these location options you choose, none of the settings will be stored in memory, and to find the same starting point again entails another round of button pushing.

All this sounds more complicated than it really is. You probably won't be able to figure out the programming procedures by inspection alone, but the manual is very clear, with a full set of explanatory diagrams. And once you've learned to program the 701—a matter of a couple of minutes—you'll find that the system is so

out disc-loading tray (the best system, in our view, since it makes loading and unloading easy, while it allows for component stacking and encourages correct disc handling). The transport controls are also the same, with illuminating indicators in the oversize play and pause buttons. The other six keys enable you to skip forward or backward a track at a time or to fast-scan forward or backward at either of two speeds. In the scan mode, you can still hear the disc being played at the proper pitch, albeit at reduced level and higher speed, and see the correct track and time indications on the display, which is a big help in keeping track of where on the disc you are and finding the passage you're looking for.

The CDP-701ES can be set for automatic turn-on from an external timer and includes a headphone jack with a volume control that provides 0 to 24 dB of attenuation in 6-dB steps. All of the important control functions except those relating to programming are duplicated on a convenient, if rather large, hand-held wireless





## 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.

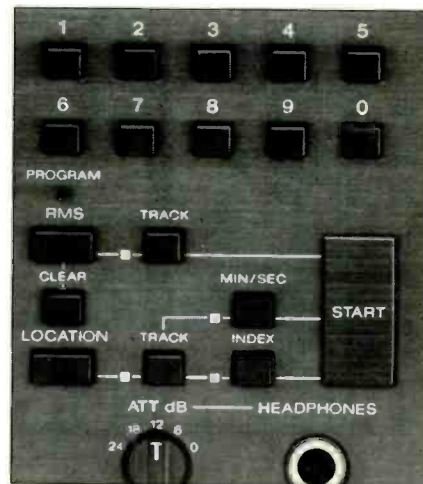
remote control. Plus, there is a simplified version of the location function, called Direct Music Select, that enables you to start playback from the beginning of any track by keying in its number and pressing a start button.

Diversified Science Laboratories' measurements show excellent performance in every respect. Frequency response is essentially dead flat, with what small error there is attributable in about equal measures to the de-emphasis network and the low-pass output-smoothing filter. Separation, which is more than 100 dB from 1 kHz down (113½ dB at 100 Hz), is still almost 80 dB at 20 kHz—far more than is necessary to support a proper stereo image—and channel balance is perfect. Perhaps most impressive, however, is the signal-to-noise (S/N) ratio, which is the best DSL has yet measured for a CD player. Note that the data show two S/N figures, one without de-emphasis and one with. Only the first one listed—the one made without the de-emphasis network engaged—is directly comparable to the noise measurements we have given in past reports. Virtually all commercial CDs are made with high-frequency pre-emphasis, however, and the new Sony YEDS-7 test disc enables us to document the resulting noise reduction.

Distortion is also in the championship class. For example, at 0 and -24 dB, total harmonic distortion and noise (THD+N) is below DSL's measurement limit from 40 Hz to 19 kHz, and even the very small amount recorded at 20 kHz consists not of harmonic components, but of a 24.1-kHz "birdie" generated by intermodulation between the test tone and the 44.1-kHz sampling frequency. These results are confirmed by the very low twin-tone intermodulation (IM) distortion readings, which range from 0.011 to 0.014 percent at typical recorded levels. We are also happy to see that distortion is not as high at very low recorded levels as it is in most other digital systems. Harmonic distortion reaches a mere 0.51 percent at -60 dB and only 5.6 percent at -80 dB—about half what we're used to seeing. Relative to 0 dB, this works out to approximately -105 dB, or 0.00056 percent, so you can rest assured that despite the seemingly high distortion at -80 dB, the actual level is so low as to be completely inaudible.

Linearity is likewise very good, with just a small amount of error at the very bottom of the range, where it will pass safely unnoticed in listening. And the square-wave and impulse responses are well behaved, showing only the usual overshoot and ringing from the steep low-pass output filters.

One of the most important tests DSL performs for us is of a player's ability to ignore or correct for scratches, dirt, and other surface defects. Here, too, the CDP-701ES excelled, reading the entire Philips tracking test disc without a stumble—the



*This keyboard enables you to program a sequence of as many as eight tracks for playback in the order of entry or to specify the exact point, by track and time or track and index number, at which you want playback to begin.*

first CD player in our experience to do so. The new Sony is also unusually immune to shock and vibration—again the best performer in this respect we have yet encountered. Output levels are acceptably high at both the line and headphone outputs (although DSL could not get an accurate maximum reading for the latter, since the headphone amp clips when it is fed a 0-dB signal with the VOLUME turned all the way up). And the output impedances are suitably low for any reasonable length of connecting cable.

For some time audiophiles have expressed concern about the phase shift introduced by the steep-slope low-pass filters used in all digital recorders and most Compact Disc players. As a result, some manufacturers have developed elaborate digital filtering systems for their CD players to minimize the alleged problem. But since this concern flies in the face of the ear's exceedingly low sensitivity to even very large amounts of phase shift in laboratory tests, we have remained skeptical. So, apparently, has Sony, which has stuck with high-order analog filters, arguing that with today's technology they provide the most complete and cost-effective removal of the ultrasonic noise produced by CD players and other digital systems. The presence of the CDP-701ES in our listening room gave us a chance to put the question to the test in careful A/B comparisons with a well-known player designed to produce minimum phase shift. So far as we could reliably determine, they sound identical: The great filter controversy seems to be a tempest in a teapot.

As for the CDP-701ES itself, it is a superb player—flexible, pleasing to the eye and ear, and capable of the highest level of performance. It may not be the least expensive player on the block, but we don't think you'll be disappointed.

## Test Report Reprints

Test Report Reprints cost \$2 each, \$5 for three, and \$1.50 for each additional one, prepaid. To fill your request, we need the following information: the type of product, the name of the product, the model number, the manufacturer, and the issue in which the test report appeared. Send your request, your check or money order, and a self-addressed stamped envelope to Test Report Reprints, High Fidelity, 825 Seventh Ave., New York, N.Y. 10019.



# Introducing the Sherwood S-2680CP Receiver.

## Some of its best reviews came out before it did.

Our new digital synthesized receiver has a lot in common with our highly acclaimed 6000 Series Separates. In fact, with the same phono preamp and tuning sections, our new receiver provides virtually the same sonic qualities as our 6000 Series Separates.

So when the experts raved about our 6000 Series, they were also (unknowingly) raving about our S-2680CP Receiver.

For example, about our S-6020CP Preamp, *High Fidelity's*™ January, 1983 issue stated: "...virtually beyond criticism."

"Its performance... is at a level we've rarely seen surpassed."

"We can't think of a preamp that offers more performance and flexibility for the dollar."

Our S-2680CP Receiver shares the very same circuitry, functions and specifications.

Regarding our S-6010CP Tuner, the April,



1983 *Audio* reported:

*"It pulled in fully as many stations with acceptable listening quality as tuners costing two and three times as much."*

The tuning section in our Receiver is identical, right down to the instant recall of 16 different sta-

tions at the touch of a button.

This remarkable Receiver delivers a squeaky clean 70 watts per channel, is protected from TIM and is totally stable into low impedance loads.

The S-2680CP is like our 6000 Series in one other important way: value. Its suggested list is under \$500.

If you like the sound of the 6000 Series reviews, you'll love the sound of our new S-2680CP Receiver.



**Sherwood**® 171C7 Kingsview Avenue,  
Carson, CA 90746. In Canada: The Pringle Group, Don Mills, Ontario

# HITACHI introduces the next generation in sound...



...and gives you  
a choice of styles  
and features.

## A technological breakthrough in audio that delivers finer sound reproduction than ever before possible.

The dream is now reality. Introducing the most perfect sound system in audio history. The Hitachi DA-1000 and DA-800 Compact Disc Players. This revolutionary breakthrough in audiotronics shatters the limitations of even the finest analog stereo system. There is greater dynamic range. Virtually no distortion. No wow and flutter. No acoustic feedback. No record wear. The result is the purest, cleanest sound, absolutely faithful to the original recording.

As a leader in this new frontier of digital



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

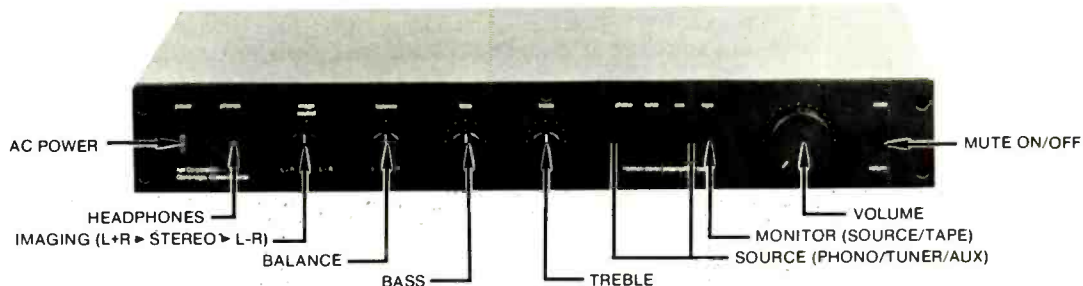
“be there” for the live performance without ever leaving your living room.

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A World Leader in Technology

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## Apt Builds a Baby Holman

**Apt Holman 2 preamplifier.** Dimensions: 17 by 2 1/4 inches (front panel), 8 inches deep plus clearance for controls and connections. AC convenience outlets: three switched (1,000 watts max. total). Price: \$420. Warranty: "limited," three years parts and labor. Manufacturer: Apt Corp., 148 Sidney St., Cambridge, Mass. 02139.

**OUTPUT AT CLIPPING** (1 kHz)  
main output (into IHF load) 8.3 volts  
headphone output (into 50 ohms) 1.45 volts

**HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)**  
aux or phono input <0.01%

**FREQUENCY RESPONSE**  
+ < 1/4, -1/4 dB, 20 Hz to 72.8 kHz;  
+ < 1/4, -3 dB, 14 Hz to 220 kHz

**RIAA EQUALIZATION**  
fixed-coil input ± 1/4 dB, 20 Hz to 20 kHz;  
-30 3/4 dB at 5 Hz  
moving-coil input + 1/2, -0 dB, 20 Hz to 20 kHz;  
-38 dB at 5 Hz

**SENSITIVITY & NOISE** (re 0.5 volt; A-weighting)  
sensitivity S/N ratio  
aux input 61 mV 98 dB  
fixed-coil phono 1.0 mV 78 dB  
moving-coil phono 170/54 μV 76 1/2/80 dB

**PHONO OVERLOAD** (1-kHz clipping)  
fixed-coil phono 130 mV  
moving-coil phono ("lo"/"hi") 237.2 mV

**INPUT IMPEDANCE**  
aux input 65k ohms  
fixed-coil phono 47.3k ohms; 41/95/135/245 pF  
moving-coil phono 100 ohms

**OUTPUT IMPEDANCE**  
tape output 550 ohms  
main output 550 ohms  
headphone output 15 ohms

**SEPARATION** (100 Hz to 10 kHz; aux input)  
≥66 dB

**INFRASONIC FILTER** -3 dB at 14 Hz; =20 dB/octave

WHEN WE REVIEWED the original Holman preamplifier—Apt's first (and still flagship) product—back in May of 1978, we found it to be one of a select company of components that are not only superbly crafted in the audio-electronics sense, but boldly original in meeting the challenges of their genres. Most challenging of all, to some prospective users, was the styling. Though most of us at HF admired the Holman's appearance, opinions ranged from ecstatic appreciation for its "minimalist elegance" to distaste for its "clunky homeliness." This most recent addition to the Apt line is a simplified version, with fewer controls clothed in slightly less spartan attire. But there's no doubt that this is still an Apt preamp.

It is named after Tomlinson (Tom) Holman, one of Apt's two founders. If any one principle guided his thinking in building the original model, it was that the whole is greater than the sum of its parts: A system's behavior often is influenced more by the interfaces between its components than by their individual performance. In particular, he studied the interaction between pickup cartridges and preamp phono stages, and provided enough adjustment range in the latter to satisfy most of the former. He also took pains to prevent RFI (radio-frequency interference) and to minimize mutual induction between signal paths, which can cause crosstalk between sources and impaired channel separation.

The most obviously radical departure, which is retained in the Holman 2, is the imaging (blend) control. At its detented center position, the two channels are independent of each other, providing the sort of stereo spread, with maximum separation, that you would get from other products. Turn this control to the left, and the separation is progressively reduced, adding right signal to the left channel and vice versa. At the extreme counterclockwise position, no separation remains: You are listening to full left-plus-right mono from both speakers. Conversely, clockwise rotation from the detent *subtracts* each channel from the other—that is, it progressively adds the opposite channel out of phase. So at full clockwise rotation, the left speaker reproduces an L-R signal, while the right speaker reproduces R-L: out-of-phase stereo.

The extreme rotation positions have their uses. The summing position will cancel stereo noise from an FM tuner whose mono mode is tied to some other (say, muting-off) that you don't want to invoke. The difference position can be used to get precise balance between phono channels (screwdriver adjustments are provided on the back panel for this purpose, as in the original Holman) by nulling a mono signal. But the intermediate positions are the most interesting. A restrained turn to the left, for example, tends to "blot up" a little of the ambience and tame exaggerated imaging; conversely, a little out-of-phase crossfeed tends to dramatize the spread, though at some expense in bass cancellation.

Also unusual is the front-panel MUTE. For once this feature is correctly named: Instead of attenuating the signal by 20 dB or so, it kills the output—except to the front-panel headphone jack. Thus it provides the option of speakers-off headphone listening without requiring switches on the power amp. A minor wrinkle is that the preamp itself remains on as long as the AC outlet to which it is connected is live; the front-panel power switch affects only the pilot LED immediately above it and the three back-panel convenience outlets.

The back panel is as logically arranged as the front. It works from the convenience outlets on one end (behind the power switch) through the line outputs (two set of jacks) and the high-level connections for tuner, aux, and tape, to the phono section. Separate inputs are provided for moving-coil and fixed-coil (moving-magnet and moving-iron) pickups. The former interposes an extra gain stage ahead of the phono preamp to compensate for the low outputs of typical moving-coil cartridges. The two input pairs are not intended for simultaneous connection, and the behavior of both is controlled by a single multiposition switch nearby. It has two gain positions for moving-coil pickups and four capacitance-loading options for fixed-coil pickups.

Diversified Science Laboratories' tests indicate that the nominal values of the switch positions are very closely approximated. The capacitance, marked 50/100/150/250 picofarads on the switch, is never more than a negligible 15 picofarads off, and the gain options for the moving-coil

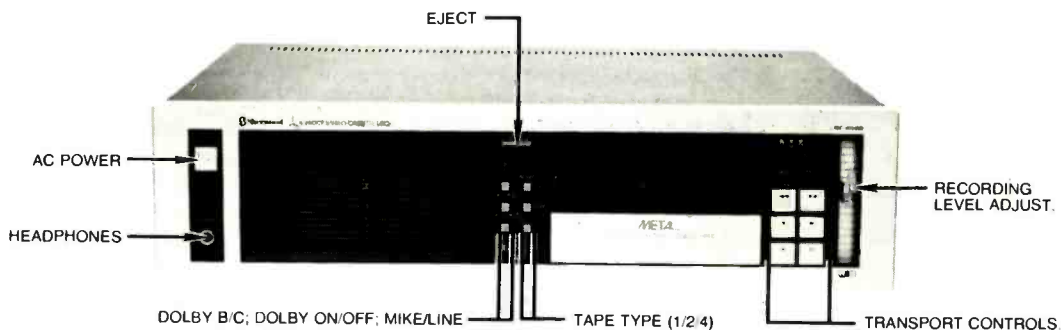
inputs are close to 15 and 25 dB at the low- and high-gain settings ("lo" and "hi"), respectively. (Most built-in head amps split this difference at about 20 dB.) The head amp also includes provisions for a high-frequency rolloff to compensate for the response peaks of typical moving-coil cartridges. The characteristics of this filter can be adjusted from flat (as delivered) to a 2½-dB cut at 20 kHz by plugging capacitors of the appropriate values into the *fixed-coil* inputs.

The tone controls are unusually well behaved. The TREBLE leaves the bass totally unaltered and vice versa, and both reach their maximum effect just at the edges of the audio band, with smooth, predictable behavior in between. As in the Holman 1, which pioneered scientifically correct bass-only loudness compensation, the bass control's action is contoured to serve as an adjustable LOUDNESS, although without the original's more conventional, switch-selectable peaking/shelving option. The extreme bass settings deliver a range of about ±14 dB at 25 Hz, ±13 dB near 200 Hz, and virtually flat response above 700 Hz. The TREBLE, which is designed to compensate for the standard treble equalizations ("house curves") used by many recording companies, runs about ±10 dB at 20 kHz, ±3 dB at 3 kHz, and flat below 1 kHz.

There is also a sharp, nondefeatable infrasonic filter to keep low-frequency garbage (from record warps and the like) from passing on to the rest of the system. Apt has wisely chosen to place this ahead of the tape output, where it can protect your tape deck as well as your power amp and speakers. The volume control is a true stepping design—not the flaky detented-rheostat variety with which so many models try to ape the "pros." Predictable increments of about 1½ dB are available throughout the most-used portion of the range, increasing to about 4 dB at very low levels.

Performance of the Holman 2 is in every way superb. It dispenses with a number of the Holman 1's extras: the second tape-monitor loop, the dubbing switches, the processor loop, the TONE DEFEAT, the high filter, the independent phono inputs, and the switching for left-only and right-only mono and reverse stereo. None of these—even the extra tape loop, which can be supplied by an outboard switching box—will be missed by most users. And the greater compactness and visual logic (to say nothing of the lower price) that their omission enables are certainly welcome. It should make one of the classics of modern componentry available and attractive to a wider audience than ever.

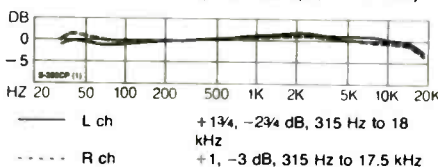
Circle 101 on Reader-Service Card



## A Budget Deck from Sherwood

Sherwood S-250CP cassette deck, with Dolby B and C noise reduction. Dimensions: 17½ by 4¼ inches (front panel), 14 inches deep plus clearance for connections. Price: \$230. Warranty: "limited," two years parts and labor. Manufacturer: made in Korea for Sherwood Div. of Inkel Corp., 17107 Kingsview Ave., Carson, Calif. 90746.

PLAYBACK RESPONSE (BASF test tape; -20 dB DIN)



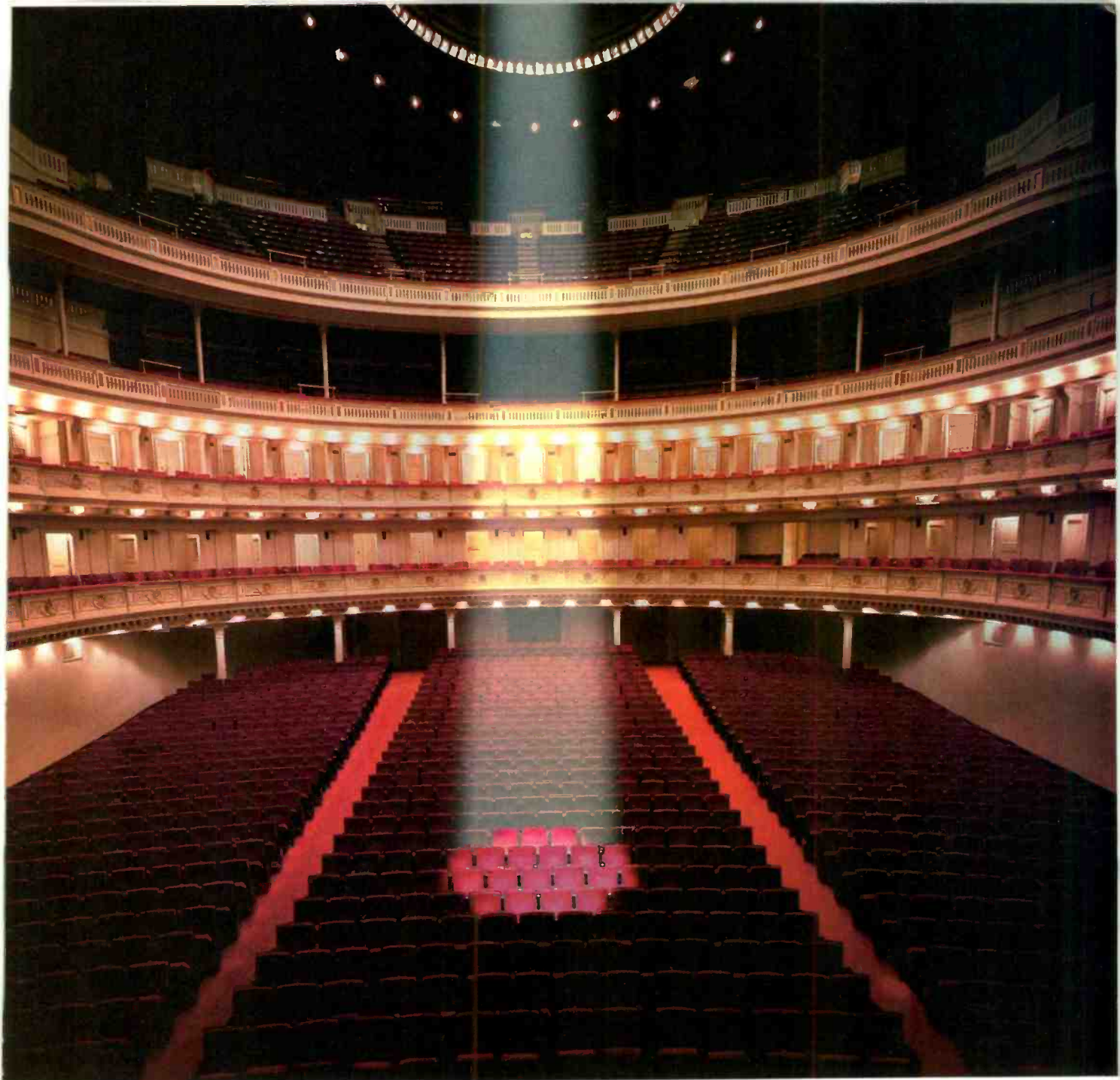
FOR MANY YEARS, the Sherwood name has meant good value in audio electronics, and its current products continue that tradition. Until fairly recently, tape equipment had not been a part of the Sherwood product mix, so we approached the S-250CP with some curiosity. As it turns out, the deck does offer good value for its very low price.

One's first impression of the S-250CP is of quiet iconoclasm. The cassette "well" breaks step with virtually every front-loading competitor by being on the right, rather than the left, where there is an oversize metering display instead. Basic setup switches are between these two elements, with the transport controls to the right of the cassette compartment. This layout makes

perfect sense, though some of the individual elements that comprise it leave something to be desired. It could be argued, for example, that the microphone inputs and multiplex filter switch, which are on the back panel, should have been more accessible. With a deck at this price, however, live recording is likely to be rare, and a case can be made for leaving the filter permanently in the circuit. From this point of view, the back-panel placement is cost effective.

More bothersome is the metering display. In filling such a large space, the display elements are so spread apart that they are difficult to relate visually to each other. Since both scales are about 1¼ inches away from the central calibration—and thus





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If you need some help in finding that one Kyocera dealer in twenty, contact: Kyocera International, Inc., 7 Powder Horn Drive, Warren, NJ 07060 (201) 560-0060.

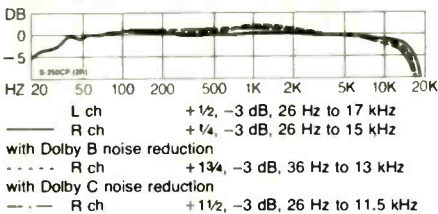


\*85 watts RMS per channel, both channels driven, at 8 Ohms with no more than 0.01% THD from 20-20,000 Hz.

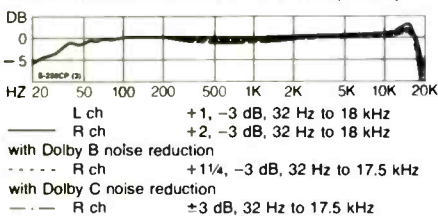


# AUDIO New Equipment Reports

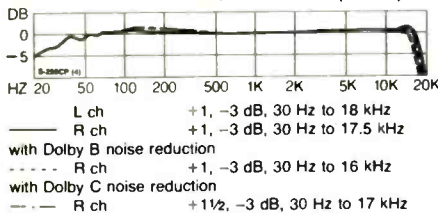
## RECORD/PLAY RESPONSE, TYPE 2 TAPE (-20 dB)



## RECORD/PLAY RESPONSE, TYPE 4 TAPE (-20 dB)



## RECORD/PLAY RESPONSE, TYPE 1 TAPE (-20 dB)



**MULTIPLEX FILTER (defeatable)**  
+1/4 dB at 15 kHz; -31 1/2 dB at 19 kHz

| S/N RATIO (re DIN 0 dB; R/P; CCIR/ARM-weighted) | Type 2 tape | Type 4 tape | Type 1 tape |
|---|-------------|-------------|-------------|
| without noise reduction                         | 53 3/4 dB   | 53 1/4 dB   | 52 dB       |
| with Dolby B noise reduction                    | 63 3/4 dB   | 63 1/4 dB   | 62 1/4 dB   |
| with Dolby C noise reduction                    | 72 1/2 dB   | 72 1/4 dB   | 71 1/2 dB   |

| INDICATOR READINGS FOR DIN 0 DB (315 Hz) | Type 2 tape          | Type 4 tape            | Type 1 tape            |
|--|----------------------|------------------------|------------------------|
|  | 0 dB (with 1.9% THD) | +1 dB (with 2.75% THD) | +1 dB (with 1.06% THD) |

| INDICATOR READINGS FOR 3% DISTORTION (315 Hz) | Type 2 tape               | Type 4 tape               | Type 1 tape               |
|---|---------------------------|---------------------------|---------------------------|
|   | +1 dB (for +1 1/4 dB DIN) | +1 dB (for +1 1/4 dB DIN) | +1 dB (for +1 1/2 dB DIN) |

| DISTORTION (third harmonic; at -10 dB DIN) | Type 2 tape             | Type 4 tape             | Type 1 tape             |
|--|-------------------------|-------------------------|-------------------------|
|  | ≤ 0.51%, 50 Hz to 5 kHz | ≤ 0.68%, 50 Hz to 5 kHz | ≤ 0.36%, 50 Hz to 5 kHz |

**ERASURE (100 Hz)** ≥ 72 dB

**CHANNEL SEPARATION (315 Hz)** 46 1/4 dB

| INDICATOR "BALLISTICS" | Response time | Decay time | Overshoot |
|------------------------|---------------|------------|-----------|
|                        | 4.6 msec      | ≈ 550 msec | 0 dB      |

**SPEED ACCURACY** 0.6% fast, 105 to 127 VAC

**FLUTTER (ANSI weighted peak; R/P)** ± 0.16%

| SENSITIVITY (re DIN 0 dB; 315 Hz) | line Input | mike Input |
|-----------------------------------|------------|------------|
|                                   | 87 mV      | 0.38 mV    |

**MIKE INPUT OVERLOAD (3% THD)** 8.5 mV

| INPUT IMPEDANCE | line input | mike input |
|-----------------|------------|------------|
|                 | 63k ohms   | 6.4k ohms  |

**OUTPUT IMPEDANCE** 800 ohms

**OUTPUT LEVEL (FROM DIN 0 dB)** 0.51 volt

some 3 1/2 inches from each other—signal values and stereo balance are considerably more difficult to assess than they need be. In addition, the usual color coding is reversed, with the "safe" signal area lighting red and the overload range green. This role reversal, however, occasioned no more than mild surprise and gave us no practical problems.

One facet of the otherwise interestingly different transport controls presents a more serious difficulty. The recording button is not an interlock: If you press it—and it is just below PLAY, where it can easily be pressed by mistake—the deck goes into the recording mode and begins moving the tape without further ado, erasing whatever is there already. If you press PAUSE first, the deck will begin metering the source and delivering it to the output terminals without moving the tape, in the usual manner. Pressing PAUSE a second time releases it to begin the recording.

While recording is in progress, all the control buttons except PAUSE and STOP are locked out. Similarly, you can't go directly from PLAY (or PAUSE/PLAY) to RECORD (or PAUSE/RECORD). If you try to go directly from PLAY to either of the fast-wind modes (without first pressing STOP), you get a cue mode: The wind speed is reduced, and some output is audible to help you identify your whereabouts on the tape.

The pause feature, too, is somewhat unusual. These days, most decks (including virtually all with solenoid controls) have a mute of a half-second or so built into the PAUSE to prevent the "chiff" created when a deck is recording while slowing to a halt or coming up to speed as the PAUSE is activated or released. In such decks, really tight editing—say between one record side and another of an opera you're dubbing—is impossible because of the mute, which at best sounds like a dropout under these circumstances. The S-250CP has no mute, but it acts so fast that it produces very little chiff when you use the PAUSE during music. And because the same head-gap is used for recording and playback, you can cue up to the end of one passage and know that you can begin recording the next at precisely this spot. If you try this with a monitoring deck—even one with both heads built into a single housing—the offset between gaps can produce an audible (if slight) stumble in final playback.

The tape table in Sherwood's clearly written owner's manual merits a special word because the company evidently has taken extra pains with it. It catalogs 58 formulations from 15 companies—many more than usual, even for a much more elaborate and expensive deck. Of these, 16 are designated as "recommended design reference tapes." We might presume from this that "design-reference" has been defined broadly enough to include all tapes that will deliver similarly good, if not identical, results but narrowly enough to exclude for-

mulations that might produce significantly different-sounding recordings. So far, the list looks superb.

From the many inclusions of discontinued tapes and exclusions of relative newcomers, however, it's clear that the list is two or three years old. (It also includes a number of unfamiliar formulations, some of which we recognize only from seeing them on sale in Japan, but these can be ignored.) And of the six recommended Type 1 brands, three are from TDK: OD, D, and AD—which at the presumed time this list was prepared were sufficiently different that it's hard to imagine how a reference definition could include all three and yet exclude so many of the remaining Type 1 tapes.

The three tape-selection buttons to the left of the cassette compartment are marked "normal," "CrO<sub>2</sub>," and "metal." At Sherwood's suggestion, Diversified Science Laboratories tested the deck with three TDK formulations: SA-X as the Type 2, chrome-compatible ferricobalt; MA as the Type 4 metal; and AD as the Type 1 ferric. SA-X, as a relatively recent addition to the TDK line, doesn't appear on the manual's list, which shows SA as a recommended Type 2 tape. DSL also checked the deck with SA, however, making comparison possible.

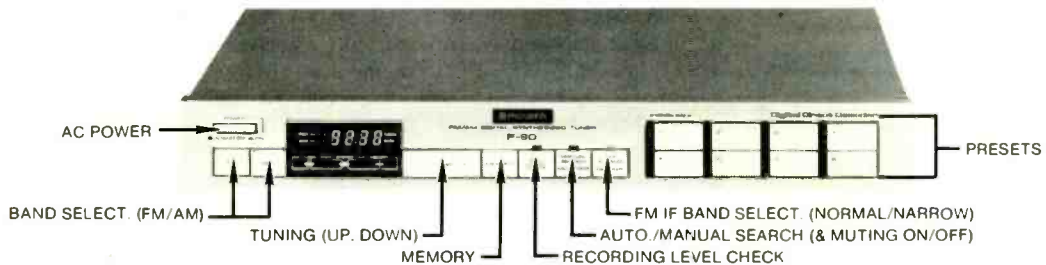
The differences are certainly not great. With SA-X, noise is very slightly lower: by less than 1 dB in all pertinent measurements. Headroom—both at high frequencies and in the midrange—is a little more generous, and high-frequency response is somewhat more extended. Third harmonic distortion at -10 dB actually is slightly higher (though total harmonic distortion remains virtually unchanged because of relatively high levels of the second harmonic). SA-X also proves a little more sensitive, with the resulting response curves a bit less flat in a way that strongly suggests a loss in Dolby tracking accuracy—which would further suggest that the S-250CP actually is adjusted for a tape with the sensitivity of SA, rather than that of SA-X.

The flatness of the curves is certainly very good for so inexpensive a deck, however, and they hold up well in the deep bass and fairly well at the top end by this standard. The signal display means what it says with unusual precision: There is no question of having to remember to drive the display so many dB "into the red" (or, in this case, the green) because the change in display color takes place just below the overload point. In most other respects, the measurements strike us as distinctly better than average for an under-\$250 deck, with erasure being particularly outstanding (among the best DSL has measured), and flutter perhaps a little disappointing.

It is certainly to Sherwood's credit that we take this deck seriously enough to level at it some of the criticisms we do. We have never encountered a deck in its price class

that could do everything an advanced recordist would want, but this one comes close enough to raise higher-than-usual

expectations. For less demanding users, or for anyone on a tight budget, it may prove a fine value.

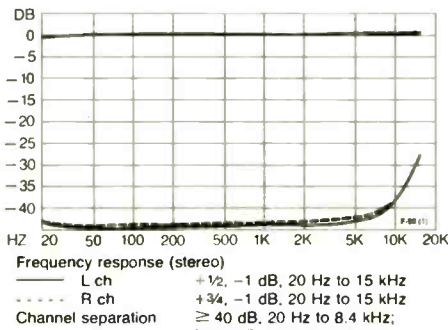


## Pioneer's Trailblazing Tuner

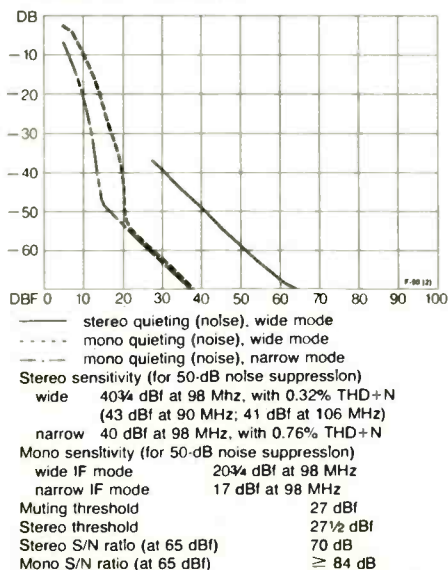
Pioneer F-90 AM/FM tuner. Dimensions: 16½ by 2 inches (front panel), 12 inches deep plus clearance for connections. Price: \$300. Warranty: "limited," two years parts and labor. Manufacturer: Pioneer Electronic Corp., Japan; U.S. distributor: Pioneer Electronics (U.S.A.), Inc., 1925 E. Dominguez St., Long Beach, Calif. 90810.

All data measured in the wide (normal) IF-bandwidth mode unless otherwise specified.

### FM RESPONSE & CHANNEL SEPARATION



### FM SENSITIVITY & QUIETING



IT'S BEEN A BIG YEAR for tuners, with more than the usual number of fascinatingly innovative products entering the market. We have therefore been uncharacteristically eager to get our hands on Pioneer's new F-90—the first tuner to incorporate the company's Digital Direct Decoder circuitry for FM detection and stereo demultiplexing. Pioneer credits this design with simplifying the signal path while (and partly as a result) achieving excellent immunity to adjacent-channel interference together with very low noise and distortion and very wide separation. Whatever the reason, the F-90 is not only a superb tuner, but an exceptional value.

The front panel is as unassuming as the \$300 price tag. A rather small window toward the left shows the tuned frequency and, with the aid of three LEDs, whether a station is being received, whether it is broadcasting a stereo pilot, and whether the station-preset memory is armed for storage of the frequency to which you're tuned. Three of the control buttons also have LEDs, which light when the buttons are depressed, to signal that nonstandard settings are in use. Specifically, they indicate that a 333-Hz recording-level calibration tone (at an output equivalent to that produced by 60-percent modulation, or about 4½ dB below 100-percent modulation) is replacing the broadcast signal, that the mono mode has been substituted for stereo, or that the narrow IF (intermediate-frequency) filter has been activated to tidy up the reception of problem stations.

From that description it's possible to deduce two omissions that constitute our only real regrets about the design: The loss of stereo in the manual tuning mode and the absence of any aids to antenna orientation. The latter is both the more serious drawback (at least, for users with antennas that can be reoriented) and the one that doubtless would cost the most to correct. But some sort of signal-strength or multipath indicator is probably necessary for obtaining the best possible reception in some sit-

uations. As for the manual tuning, you may not even want to use it once you've set the memory (which accommodates eight stations from each band) for your favorites. The problem is that when you do use it, even the stereo indicator is turned off; we found ourselves listening to stereo stations in mono simply because we didn't realize we had a choice.

Fortunately, the automatic scan tuning is unusually likable in its habits. Throughout our tests it invariably stopped precisely on each station strong enough to be listenable—never 100 kHz before, as many models do (though the actual tuning increment is, in fact, 100 kHz). The scan action is a little unusual in reversing direction automatically when it reaches the band ends, rather than "flopping" to the opposite end of the "dial." The back panel includes a 9/10-kHz AM tuning-increment switch (10 kHz is standard in the U.S.; 9 kHz, in much of the rest of the world) and an extra output intended for a stereo decoder, should you have a stereo AM station within receiving range and an appropriate decoder.

Also on the back panel is the usual array of binding posts for antenna connections, plus a threaded F connector for 75-ohm coaxial lead-ins—a welcome concession to the growing standardization on that design for both FM and TV antennas. The complement is rounded out by an AM loop antenna.

Diversified Science Laboratories' measurements reveal excellent performance, especially for a tuner so modestly priced. Response is top-notch, and separation is so good that DSL probably was measuring the noise floor, rather than the actual separation, up to a few kilohertz. Sensitivity is a little lower than we're used to seeing these days, but that may be intentional, given Pioneer's avowed design goal of linear front-end operation under the strong-signal conditions common in cities. The distortion and noise readings, however, are outstanding. In fact, the noise is so low (with the



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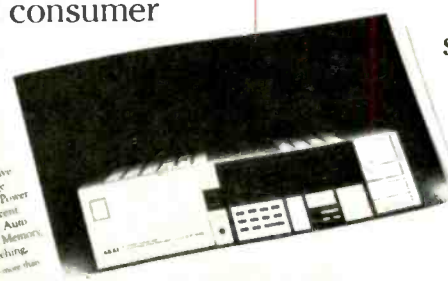
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Meter, Dual Quartz Synthesizer Tuning, Phasemeter,  
Dial/LED Function, 10 AM/FM Pre-Set and Auto  
Scan, Capable Random Access Tuning, Accurate Memory,  
Auto Fade, Tape Dabbling, A & B Speaker Switching,  
FM Scan (107.9-107.999 MHz), FM Subcarrier (RDS) - more than  
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## AUDIO New Equipment Reports

|                                   |                   |           |        |
|-----------------------------------|-------------------|-----------|--------|
| CAPTURE RATIO                     | wide              | narrow    |        |
|                                   | 1¼ dB             | 2 dB      |        |
| SELECTIVITY                       | wide              | narrow    |        |
|                                   | alternate-channel | 23¼ dB    | 64½ dB |
|                                   | adjacent-channel  | 2 dB      | 15½ dB |
| HARMONIC DISTORTION (THD + N)     | Wide IF mode      | stereo    | mono   |
|                                   | at 100 Hz         | 0.050%    | 0.044% |
|                                   | at 1 kHz          | 0.042%    | 0.038% |
|                                   | at 6 kHz          | 0.116%    | 0.088% |
|                                   | Narrow IF mode    |           |        |
|                                   | at 100 Hz         | 0.15%     | 0.046% |
|                                   | at 1 kHz          | 0.11%     | 0.155% |
| at 6 kHz                          | 0.26%             | 0.130%    |        |
| STEREO PILOT INTERMODULATION      | wide IF mode      | 0.16%     |        |
|                                   | narrow IF mode    | 0.22%     |        |
| INTERMODULATION DISTORTION (mono) | wide IF mode      | 0.019%    |        |
|                                   | narrow IF mode    | 0.065%    |        |
|                                   |                   |           |        |
| AM SUPPRESSION                    | wide IF mode      | 76 dB     |        |
|                                   | narrow IF mode    | 75½ dB    |        |
| PILOT (19 kHz) SUPPRESSION        |                   | 63 dB     |        |
| SUBCARRIER (38 kHz) SUPPR.        |                   | 82½ dB    |        |
| OUTPUT (from 100% modulation)     |                   | 0.68 volt |        |
| OUTPUT IMPEDANCE                  |                   | 900 ohms  |        |

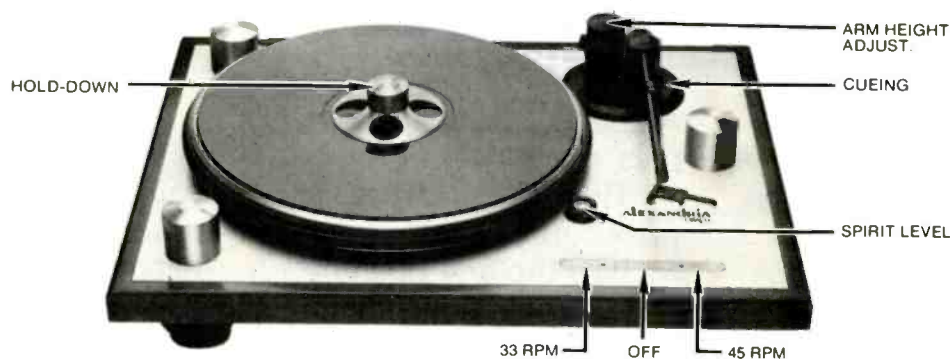
stereo S/N ratio bottoming out at 72¼ dB at 85 dBf input) that the figures in our data column probably reflect the limits of DSL's instrumentation rather than of the tuner's actual performance.

The graph plots mono quieting for both IF modes; stereo noise performance (or, conversely, sensitivity) improves only slightly in the narrow mode, so only the wide-mode stereo curve is shown. The IF bandwidth affects both selectivity and distortion. In shaving off the IF "skirts" to enhance selectivity and prevent interference, the narrower filter generally produces some extra distortion. Here the increase is remarkably small, while the concomitant increase in selectivity is substantial. Alternate- and adjacent-channel rejection jump from commonplace to excellent in NARROW. And in both IF modes, the AM sup-

pression is spectacular—by far the best we can remember seeing. This, together with the F-90's low capture ratio, should afford unusually high immunity to the ill effects of multipath interference.

Moreover, the tuner is exceptionally uncomplicated to use. Operation is so straightforward—we might even say obvious—that getting the best out of the F-90 quickly becomes second nature. Recordists will find the reference tone an aid to quick level setting (though different stations observe different practices in controlling levels, so optimum final adjustment is a matter for hand tweaking). The IF-bandwidth switch raises the tuner above the everyday without tarnishing its simplicity of concept. In short, we think this is a pretty nifty little tuner.

**Circle 100 on Reader-Service Card**



## Oracle's Integrated Turntable

Oracle Alexandria two-speed (33 and 45 rpm) manual belt-drive turntable with automatic end-of-side tonearm lift. Dimensions: 19¼ by 15¼ inches (top), 6¼ inches high with cover closed; additional 11¼ inches clearance above and 2¼ inches behind required to open cover fully. Price: \$895. Warranty: "limited," three years parts and labor (excluding drive belt). Manufacturer: Trans-Audio Corp., Ltd., 505 Rue Boucherville, Sherbrooke, Que., Canada J1L 1X7.

**SPEED ACCURACY** no measurable error, 105-127 VAC, at either speed

**SPEED ADJUSTMENT RANGE**  
at 33 rpm ±2.8% to -2.5%  
at 45 rpm +3.9% to -3.3%

**WOW & FLUTTER (ANSI weighted peak)**  
average ±0.050%  
maximum ±0.063%

TRANS-AUDIO'S FIRST ORACLE (test report, July 1982) was in many ways simply a well-designed, well-built belt-drive turntable—albeit a little unusual in appearance. But, as in the new Alexandria, there were important differences between it and others of its kind—differences aimed at preventing extraneous vibration from being transmitted to the stylus and thereby coloring the sound. One avenue of attack was through the suspension. Like most other high-quality belt-drive turntables, the Oracle mounts the platter and the tonearm on a floating subchassis suspended at three points by springs tuned to a resonance frequency of a few Hertz. This filters out most air- and surface-borne vibration, including any produced by the motor, which is mounted on the main chassis and decoupled from the platter by an elastic belt. But Trans-Audio took the concept several steps further.

One was to hang the subchassis from the springs, rather than perch it atop them, and to put its center of gravity at the same height as the springs' fixing points—both to combat any tendency to rocking or swaying (which might manifest itself as wow or flutter). Another was to make the subchassis itself as inert as possible, by making it a multilayer laminate of metal and damping material. (The platter is also damped with an outer ring of rubbery material that Trans-Audio calls a Peripheral Wave Trap.) The last was to make the main chassis as vestigial as possible, to eliminate it as a source of vibration pickup. This is why the original Oracle, and the Oracle Premier, have such a skeletal appearance: There is no conventional surrounding base to shield the subchassis from view.

The Oracle's second line of defense was a screw-down clamp that flattens



# Will KEF's new Standard Series Loudspeakers meet the standards of the British Hi-Fi reviewers?

*Here's what the British Hi-Fi press said about the original Standard Series:*

CARLTON

"As we have come to expect from KEF, the construction and finish are exemplary."

"...very precise and detailed... quite good depth discrimination."

"...output well in excess of what people would tolerate in their home."

"This well made and most reasonably priced loudspeaker offers very good performance, with minimal coloration, good efficiency and excellent power handling. Clearly, it earns a definite recommendation."

*HI-FI NEWS & RECORD REVIEW  
1982*

"Sensitivity noticeably above average... bass performance easily the best we have heard from the models in this group (Standard Series)... well worth auditioning as a possible upgrade investment for a medium-priced audio system."

*GRAMOPHONE  
November, 1981*

CODA

"It looks like you're getting a lot for your money, and looks don't deceive in this case."

"The Coda is very, very good. Far better in fact than its price tag would suggest."

"...a very solid and life-like representation of the signal it's presented with."

"The Coda is a remarkably articulate, musical loudspeaker. Developed and

musically refined far beyond its price level, it can only be strongly recommended."

*PRACTICAL HI-FI  
January, 1982*

"The Coda has a very good performance, which many vastly more expensive speakers might envy."

*HI-FI NEWS & RECORD REVIEW  
December, 1982*

"...a good match for any domestic amplifier at this budget end of the market; a very pleasing design which looks like a genuine bargain."

*GRAMOPHONE  
November, 1982*

*Hear the new, significantly improved Standard Series today at your KEF dealer and judge for yourself.*



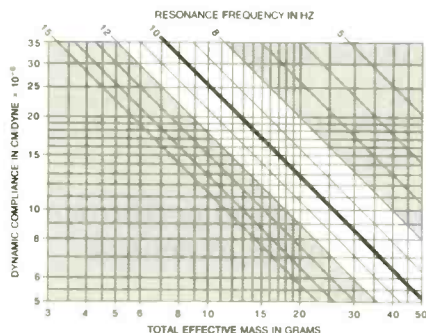
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|                             |                      |
|-----------------------------|----------------------|
| TOTAL AUDIBLE RUMBLE (ARLL) | ~65 $\frac{3}{4}$ dB |
| EFFECTIVE TONEARM MASS      | ~10 grams            |
| TOTAL LEAD CAPACITANCE      | 107 pF               |

## Tonearm/Cartridge Matching Graph



By means of this nomograph, you can quickly and easily determine the compatibility of any cartridge and tonearm we have tested. Ideally, the arm/cartridge resonance frequency (indicated by the diagonal lines) should fall at 10 Hz, but anywhere between 8 and 12 Hz will assure good warp tracking and accurate bass response. (It is usually okay to let the resonance rise as high as 15 Hz, although we don't normally recommend this.)

Begin by looking up the weight and dynamic compliance shown in the cartridge report and the effective mass listed in the turntable or tonearm report. Add the weight of the cartridge to the effective mass of the tonearm to get the total effective mass. Then find the point on the graph where the vertical line for the total effective mass intersects the horizontal line for the cartridge's dynamic compliance. For a good match, this point should fall in the white region, between the 8- and 12-Hz diagonal lines.

When necessary, you can back-figure compliances and effective masses for cartridges and tonearms tested before we began reporting these figures directly (in January 1983). For cartridges, look up the vertical resonance frequency (measured in the SME 3009 Series II Improved tonearm) and the cartridge's weight. Add 15 grams (the SME's effective mass) to the cartridge weight to get the total effective mass. Then find the intersection of the vertical line representing that mass with the diagonal line representing the measured resonance frequency. Now you can read off the compliance from the horizontal line passing through the point of intersection.

For tonearms, look up the vertical resonance frequency as measured with the Shure V-15 Type III cartridge. Find the intersection of the diagonal line for that frequency with the horizontal line representing the Shure's dynamic compliance of  $22.5 \times 10^{-6}$  cm/dyne. Reading down the vertical line on which the point of intersection lies will give you the total effective mass of the arm with the Shure V-15 Type III mounted in it. Then subtract 6.3 grams (the weight of the V-15 Type III) to get the tonearm's effective mass.

Because of differences in measurement techniques, manufacturers' specifications for compliance and effective mass often differ from our findings and may therefore yield inconsistent results if used with this graph.

records into intimate contact with a specially designed compliant platter mat. Thus, any vibration induced in the disc is immediately damped out. Given that the surface of a disc can act as a crude, but nonetheless effective, microphone diaphragm, this is an important point.

All of these features have been carried over into the new Alexandria, although they have in some cases been modified to reduce manufacturing costs and improve the unit's appearance. There is, for example, a handsome wooden base with three leveling feet. But it has a very slim profile, to minimize acoustic pickup. Gone too is the expensive laminated subchassis, replaced by a single, computer-designed casting with strategically placed ribs and applications of damping compound that are said to provide almost the same degree of rigidity and inertness. And the Alexandria comes with its own tonearm (available separately as the Prelude), which allows the suspension to be pretuned at the factory for optimum performance.

This arm is itself an interesting item. Trans-Audio says it used computerized vibration analysis to achieve a high degree of rigidity combined with excellent internal damping and low effective mass. It comes with two counterweights of different masses, to facilitate balancing with a wide variety of cartridges, and uses a simple weighted-lever-and-thread arrangement for antiskating compensation. Arm height is adjusted by means of a knob on top of the pillar next to the bearing housing, which can be twisted to raise or lower the base of the arm very gradually, permitting precise adjustment of the stylus-rake and vertical-tracking angles, even while a record is playing. (We don't think this adjustment is as critical as some have made it out to be—an opinion supported by our experience with the Alexandria—but the mechanism is a real convenience for those of us perfectionists who like to get everything spot-on anyway, just in case.)

Another nice touch is the inclusion of an autolift that cuts in when the stylus approaches the record label, picking it up out of the groove. The system is cocked automatically anytime you cue the stylus down. The way this is done, however, is a little unusual, since you must apply downward pressure on the cueing lever until it locks into place; to cue the stylus up, you just pull up on the lever to unlock it, and the arm rises on its own. The system takes a little getting used to, and its descent rate is

greater than we would prefer, but otherwise it seems eminently sensible.

Neither the arm tube nor the headshell is detachable, but, by loosening a set screw in the arm pillar, you can twist the arm tube to adjust stylus azimuth. Trans-Audio supplies a plastic "calibration disc" that aids in this operation as well as in setting VTA, stylus overhang, and speed. A set of three flush-mounted buttons on the top plate selects 33 rpm, off, or 45 rpm, plus there is a fine-tuning thumbscrew artfully concealed below the front edge of the base.

To prevent stiff lead-out cables from fouling the suspension, the tonearm leads proper are short, flexible wires that terminate in gold-plated RCA pin jacks on the back of the base, next to the connector for the turntable's external power-supply box (intended to minimize hum). These wires and the internal arm wiring contribute 39 picofarads of shunt capacitance, while the supplied 6-foot connecting cables add another 68, for a total of a mere 107 picofarads. As in the other Oracles, the subchassis can be leveled from above, if necessary, via an integral spirit level.

We found setting up the Alexandria a time-consuming, but relatively straightforward task. The instructions are clear, with plenty of illustrations, and aside from the usual cartridge-mounting hassles, there are no special difficulties. We do think, though, that Trans-Audio should either have threaded and calibrated the counterweights or supplied a stylus-force gauge. Although anyone buying a product such as this should own such a gauge, not everyone will, and sliding the weight back and forth to achieve proper balance makes the procedure more tedious than it need be. We also found the antiskating thread to be a little slack when the arm was in its rest, but this is very easily remedied.

Once assembled and adjusted, the Alexandria performed superbly, both in use and on the test bench. Diversified Science Laboratories' measurements show perfect speed accuracy and very low flutter and rumble. The arm's effective mass is moderately low, in a range that should be compatible with a wide variety of cartridges. And rejection of acoustic and mechanical feedback is virtually complete, ranking the Alexandria with the best turntables we have tested in this respect. If you're looking for a top-quality manual turntable with tonearm, this very handsome and capable unit deserves your serious consideration.

**Circle 102 on Reader-Service Card**

## A Quick Guide to Tape Types

Our tape classifications, Type 0 through 4, are based primarily on the International Electrotechnical Commission measurement standards.

**Type 0** tapes represent "ground zero" in that they follow the original Philips-based DIN spec. They are ferric tapes, called LN (low-noise) by some manufacturers, requiring minimum (nominal 100%) bias and the original,

"standard" 120-microsecond playback equalization. Though they include the "garden variety" formulations, the best are capable of excellent performance at moderate cost in decks that are well matched to them.

**Type 1** (IEC Type I) tapes are ferrics requiring the same 120-microsecond playback EQ but somewhat higher bias. They sometimes are styled LH (low-noise, high-output) formulations or "premium ferrics."

**Type 2** (IEC Type II) tapes are intended for use with 70-microsecond playback EQ and higher recording

bias still (nominal 150%). The first formulations of this sort used chromium dioxide; today they also include chrome-compatible coatings such as the ferricobalts.

**Type 3** (IEC Type III) tapes are dual-layered ferrichromes, implying the 70-microsecond ("chrome") playback EQ. Approaches to their biasing and recording EQ vary somewhat from one deck manufacturer to another.

**Type 4** (IEC Type IV) are the metal-particle, or "alloy" tapes, requiring the highest bias of all and retaining the 70-microsecond EQ of Type 2.





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come to expect. You get these remarkable little speakers with a standard phone plug adaptor plus an extra set of foam covers.

Now you're saying you never bought a Walkman. Glad you thought of that. Because we also have this neat little radio. Take seven normal filter cigarettes. Line 'em up in a row. That's the size of it. Really, it's that small. Plus it comes with its own headphone set, and it's powered for up to 24 hours straight by two normal AAA batteries. Get the FM stereo version for \$22.50 or the slightly larger AM/FM model for \$27.50. Both include headphones exactly like the ones we've described.

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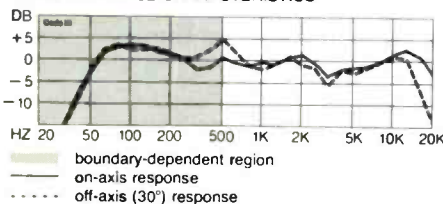
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## KEF Cooks Up a Winner

KEF Coda III loudspeaker, in wood enclosure with simulated walnut laminate finish. Dimensions: 11 by 8½ inches (front), 8¾ inches deep. Price: \$300 per pair. Warranty: "limited," five years parts and labor. Manufacturer: KEF Electronics, Ltd., England; U.S. distributor: Intratec, P.O. Box 17414, Dulles International Airport, Washington, D.C. 20041.

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) 18¼ ohms

IF BRITISH LOUDSPEAKERS enjoy a good reputation in other lands, it is partly because of the efforts of those the English still call "Messrs. KEF." At first look, the least expensive speaker in KEF's unpretentious Standard Series would not appear to be the stuff whereon international reputations are founded. Unlike many other models from this company, it has no aura of uniqueness; it's not even exceptionally small. But, after listening, we're convinced that, whatever else it may or may not be, it's exceptionally endearing.

The Coda III, like the II before it, is a compact two-way system, with a 1-inch tweeter crossed over at 3 kHz to an 8-inch dome woofer in a sealed enclosure. The treble driver uses an impregnated-cloth diaphragm, driven by an aluminum former and coil operating in a ferrofluid gap. Connections are made at extra-heavy binding posts recessed into the back panel. There is no hole in the post for positive connection of bared wires; you can use large spade lugs or single banana plugs. The woofer cone is made of impregnated pulp, which is said to achieve unusually high consistency in mass production. That in itself is a tipoff that we are not dealing here with the sort of hand building that goes into the most impressive of the speakers manufactured by KEF and its compatriots.

On the other hand, the Coda III is delivered in matched pairs, like the redoubtable Model 105, complete with documentation in the form of factory response curves superimposed on the same sheet—which dramatizes even the most niggling disparities. The two are within an eyelash of each other from the third-order low-frequency rolloff (designed to minimize the possibility of overload from strong extreme bass or infrasonic signals) to beyond 2 kHz and again through most of the tweeter range. Where the two curves do diverge, it's never by more than 1 dB or so—barely enough to convince us that somebody didn't slip up and measure the same speaker twice.

Typically, KEF has taken care that buyers of the Coda III understand its high-frequency propagation characteristics. With the speakers standing vertically (as they are designed to be used), the tweeter's "beam" is directed slightly upward (by about 5 degrees) and is fairly narrow in the vertical plane. Keeping this in mind, we tried various placements, both for measurement at Diversified Science Laboratories and for our listening tests. We ended up with the speakers on the floor, which resulted in the smoothest overall response and the most impressive bass. In a room where seating is not unusually low, however, this puts ear level at little above the optimum treble plane. DSL compensated for this by tilting the speakers; we opted for low seating in much of our listening.

Not that the tweeter "window" is particularly critical in this speaker. Best results

will be obtained when you observe KEF's caveat, but tonal balance and stereo imaging don't suffer radically when you move out of the prime listening area. And within it, both are very fine for so modest a design. With high-quality digital material, the verisimilitude can be uncanny. The Codas may not possess *all* the clarity and the even, easy reproduction of speakers like the big KEFs, but many times during our listening tests we found the differences vanishingly small.

The impedance curve, as measured at DSL (and substantially confirmed by KEF) is not particularly smooth, though it lies high enough that it should represent a comfortable load to most amplifiers. The minima, in the midrange and the high treble, fall to the neighborhood of 6 ohms. Near the crossover region, there is a maximum of just over 37 ohms. Considering that spread, it's somewhat surprising to find that the impedance at bass resonance (about 75 Hz) is less than 15 ohms—and actually lower than the average over the primary music band, shown in our data table. The "bottom line," however, is that you needn't worry about the Coda III loading down your amp; most should even accept paralleled pairs with perfect equanimity.

Sensitivity is squarely in the range where most speakers fall these days, meaning that you don't need a big power plant to achieve solid sound-pressure levels. And like most other speakers its size, the Coda III cannot handle enormous amounts of power. In DSL's 300-Hz pulse test, waveform distortion became evident (both on an oscilloscope and as a marked change in sound quality) with a drive of 44 volts peak—the equivalent of 23¼ dBW (240 watts) into 8 ohms.

KEF says that you can drive the Coda III with as little as 10 watts. That may be a little optimistic, but certainly most users would find about 15 dBW (30 watts) quite adequate, and another 5 or 6 dB (to more than 100 watts) should not overtax its drivers under normal circumstances. We found its dynamic range entirely satisfactory for home listening, though this is another area where top-ranked speakers can outperform more modest ones when pushed to extremes. Distortion, which averages less than ½ percent over the working frequency range at 85 dB SPL, creeps steadily upward with each 5-dB increase in level, and is in the 1-percent region at 100 dB—not at all bad for a speaker of this size and price, but not as good as the very best models.

Perhaps it's unfair to make that comparison, and we probably wouldn't if we weren't so impressed by this little KEF. Its sound is honest, smooth, and musical; its stereo imaging, clear and convincing. If you want to impress (or outrage) your neighbors, the Coda III is not ideal. If you want a fine, natural-sounding speaker at an affordable price, it might be just what you're looking for.

Circle 103 on Reader-Service Card



# RIGHT SELECTING THE RECEIVER

## A STEP-BY-STEP, NO-NONSENSE SHOPPING GUIDE FOR THE NONTECHNICAL AUDIOPHILE

**T**HE RECEIVER is the most popular of all high-fidelity components. The combination of a preamplifier, tuner, and power amplifier into a single chassis is convenient, compact, and cost-efficient. While the dyed-in-the-wool audiophile will probably always prefer separate components, the best modern receivers are versatile and perform well enough to be considered by the most serious listener. And if you want remote control, a receiver will be your preferred choice.

When you shop for a receiver, the salesman will talk about three things: power, features, and price. These factors must be properly weighed, but what matters most is how the unit sounds with your other equipment, specifically the turntable and phono cartridge, the FM antenna, and the loudspeakers. The following checklist will help you make the right choice.

### TEST THE SYSTEM AS A WHOLE

**1** The cardinal rule in shopping for a receiver is to remember that the sound of the system is determined far less by the receiver itself than by what you connect to it. Operated within their power limits, all receivers sound very much alike. However, the phono-input stages of receivers differ from model to model in the impedance they present to phono cartridges, and that will affect the sound of a particular receiver/pickup combination. And there is always the basic sound of the cartridge itself to consider. When you listen to receivers in a store, use the cartridge you are planning to buy.

*E. Brad Meyer is an independent audio consultant. He is also president of the Boston chapter of the Audio Engineering Society and serves as editor of the Boston Audio Society's journal.*

At the other end of the chain, loudspeakers have such a strong effect on the sound of your system that no listening test is valid unless the receiver is driving the speakers you plan to use. To compare receivers, don't use the most expensive speakers in the store unless they're similar to the ones you own or plan to buy.

### REMEMBER THE DBW

**2** The first question everyone asks when buying a receiver is, "How much power do I need?" The answer is primarily influenced by the nature of the hearing process. In HIGH FIDELITY's test reports on power amplifiers and amplifier sections of receivers, all outputs are expressed in

| WATTS | dBW | WATTS | dBW |
|-------|-----|-------|-----|
| 1.00  | 0   | 32    | 15  |
| 1.25  | 1   | 40    | 16  |
| 1.6   | 2   | 50    | 17  |
| 2.0   | 3   | 63    | 18  |
| 2.5   | 4   | 80    | 19  |
| 3.2   | 5   | 100   | 20  |
| 4.0   | 6   | 125   | 21  |
| 5.0   | 7   | 160   | 22  |
| 6.3   | 8   | 200   | 23  |
| 8.0   | 9   | 250   | 24  |
| 10.0  | 10  | 320   | 25  |
| 12.5  | 11  | 400   | 26  |
| 16    | 12  | 500   | 27  |
| 20    | 13  | 630   | 28  |
| 25    | 14  | 800   | 29  |

(FIGURE 1)

dBW, or dB relative to 1 watt. Figure 1 shows the correlation between watts and dBW, and it is apparent that an increase in sound level of 10 dB requires a corresponding increase in amplifier output (by a factor of 10). Psychoacoustic experiments have shown that most people perceive a 10-dB increase in loudness as a mere doubling in sound level. This means that a small amount of additional loudness carries a very high price tag. But the cloud has a silver lining: You can use a smaller and cheaper amplifier without sacrificing much loudness.

**\$100**



*A rock-bottom price for receivers, \$100 buys you minimal power and features. The Sanyo DCR-100 (above) has a rated power output of 17 watts (12½ dBW) per channel, and its features complement is spartan: one tape monitor loop, a loudness control, a single pair of speaker outputs, and just one auxiliary input. Specifications for such inexpensive receivers are hardly earth-shaking. Be wary of the tuner section's sensitivity and AM rejection.*

## \$200



*Though power output is still quite limited in \$200 receivers, usually about 30 watts (14¾ dBW) per channel, overall performance specifications can be quite good. The JVC R-K11 (\$190) has minimal features and outputs for only a single pair of speakers, but its tuner section has a nice auto-blend feature for improved reception of weak stereo signals. Spending an additional \$60 for JVC's R-K22 won't get you more power, but it will buy you a receiver with a built-in five-band graphic equalizer, a digital frequency-synthesis tuner section with 12 station presets (six for AM and six for FM), and two pairs of speaker outputs.*

## \$300-\$400



*A very popular price range for receivers, \$300-\$400 generally buys you a unit with about 50 watts (17 dBW) of power per channel, a good tuner section, and a decent complement of features, which often includes high-level inputs for TV-audio and CD sources. The Sansui Z-3000X (\$400) has only one high-level input (labeled AUX/DA, for digital audio) but does include two tape monitor loops and a clock/timer function.*

### CONSIDER THE ROOM AND THE MUSIC

**3** The size of your listening room and the acoustic properties of its furnishings can easily multiply your power requirements by a factor of 10. For example, speakers placed in a large room with wall-to-wall carpeting and heavy draperies will require more power to produce a specific sound level than the same speakers placed in a smaller, more reflective environment. As it happens, the store will probably be at least as hard to fill with sound as your living room, so a system that performs well there will probably do so at home, too.

The type of music you prefer and the volume at which you like to play it can also affect your power requirements drastically. These needs can be accounted for simultaneously by a simple, in-store test: Play your favorite music through speakers of the same sensitivity ("efficiency") as your own and turn the system up as loud as you usually do at home. If it sounds okay, the receiver is powerful enough.

### DON'T WORRY ABOUT POWER-AMP SPECIFICATIONS

**4** The section on the spec sheet covering the power amplifier gives almost no useful information. All modern receivers have low distortion at their rated power; that's how the manufacturer chose the power at which to rate the unit in the first place. But some receivers can deliver that rated power into the relatively low-impedance, reactive load presented by a real loudspeaker, and some cannot. Clues as to which can and which cannot are in HF's test report data under the heading "output at clipping." Especially important here is the output of the receiver into a 4-ohm load. What actually moves the speaker cone is the current passing through the voice coil, not the voltage across it. If the receiver has the capacity to deliver lots of output current, the 4-ohm figure will be a dB or two higher than the corresponding 8-ohm value. If the power at clipping is actually lower at 4-ohms than at 8, choose another model.

Reading the spec sheet in this way can help you rule out a weak-kneed receiver, but turning up the volume in the store will reveal the truth even more clearly. There is, in fact, a power level for every amplifier beyond which the distortion suddenly goes through the roof. All you really need to know is where that point lies with respect to

the power output dictated by your speakers, room, and listening habits. By the way, don't worry about buying more power than the speakers are rated for. Unless you like to listen to rock music at disco levels, you're not likely to damage your speakers.

### CHECK THE TUNER SPECS

**5** The performance you realize at home from the tuner section of your receiver depends on your antenna and your geographic location, in the same way that the performance of the power amplifier section depends on the speakers and the room and of the preamp section on the phono cartridge. But you can't even come close to duplicating your home reception conditions in a store, so in your early deliberations you must rely on specifications. The most important ones for urban and suburban use are capture ratio and AM suppression. These are performance figures that best correlate with the tuner's immunity to multipath distortion. Capture ratio should be 1½ dB or less; AM rejection, 55 dB or more. If you want to pick up distant stations, check the sensitivity for 50 dB of quieting in stereo. A rating of 40 dBf is fair, 36 dBf is very good, and below 34 dBf is excellent. Finally, if you live in the environs of two or more major cities, you may need good, i.e., 70 dB or more, alternate-channel selectivity to prevent interference between stations.

Frequency response and distortion in the FM tuner are relatively unimportant specifications, because most modern tuners are so much better in both departments than virtually any radio station. These and specifications such as the old mono "usable sensitivity" have little bearing on how the tuner will sound.

### TRY THE MUTING CIRCUIT

**6** It's nice to be able to scan the dial to see what's playing, but unless the muting circuit is adjusted correctly, you'll be forced to lower the volume every time you do so. Check the efficacy of the receiver's muting circuit by tuning smoothly up or down in frequency. The stations should appear and disappear cleanly, without annoying bursts of noise.

### LISTEN TO THE PHONO PREAMP

**7** The phono preamp must have accurate RIAA de-emphasis and low noise, and it should retain these properties regardless of the phono cartridge you use. As with the



loudspeakers, listen to a cartridge you already have or to one you're planning to buy rather than use an expensive model chosen to show the electronics to best advantage. Then, you'll know if a particular preamp section and cartridge don't match before you take them home. If any annoying characteristic is audible on many different records, try another receiver or cartridge.

You can check the noise of the phono preamp at the same time as you put the power amp section through its paces. With the music turned up loud, lift the stylus from the record and see how close you must get to the speakers before you hear the hiss. (Don't just turn the volume control all the way up, though; that can be misleading.) If all is well, you should be no more than about 4 feet from the grille cloth before the noise becomes audible. If you want to use a low-output moving-coil cartridge, this test is especially important, as the high gain required of the preamp makes stringent demands on the electronics.

#### LOOK AT THE FILTER SPECS

**8** A good phono preamp will have an infrasonic filter with a slope of at least 12 dB per octave (18 dB per octave is even better). This is particularly important if your speakers have vented enclosures. Designs of this type are especially sensitive to large infrasonic signals. A good infrasonic filter will also make life easier for the power amplifier section and, if it is ahead of the tape output, your tape deck as well. But beware—a 6-dB-per-octave filter isn't steep enough to do much good. The 12-dB-per-octave criterion also applies to high- and low-frequency filters for removing hiss and rumble.

#### THINK CAREFULLY ABOUT CONTROLS AND FEATURES

**9** If all you plan to do with your system is listen to two or three FM stations and play records or tapes, there's no point in buying a fancy microprocessor-controlled receiver that traces the signal path on a fluorescent block-diagram display, mutes the sound automatically when the phone rings, and turns on your coffeemaker in the morning. On the other hand, many of the newest features, including wireless remote control, offer real improvements in convenience and operating flexibility. Here are a few items to consider:

- If you plan to do a lot of tape recording, look for a separate tape-out switch. This switch lets you record from one source while you listen to another. If you own two tape decks, you might also want two tape monitor loops with dubbing facilities.

- There may be a Compact Disc player in your future or some source of high-quality television sound—or both. If so, look for high-level inputs *in addition to* the aux input. On some new receivers the aux input has just been relabeled "CD" or "Video," so don't be fooled into thinking you're getting something extra.

- Extra tone controls, including everything from a simple midrange adjustment to a built-in multiband equalizer, can help compensate for faulty source material. A separate tone-defeat switch can help you use these capabilities wisely by making it easy to hear your corrections. If there is a separate loudness control to compensate for the ear's altered response at low sound levels, its action should be adjustable to match the actual sound levels in the room; a simple button or switch is unlikely to yield an accurate correction.

- Finally, consider a receiver with its own internal timer control, especially if you plan to use it in the bedroom. It's very nice to let music waft you gently into dreamland.

#### PLAY WITH THE CONTROLS

**10** Most modern receivers are reliable enough to last many years; any faults in the unit's human engineering will have plenty of time to drive you to distraction. Spend a long time in the store just playing with the controls to make sure you enjoy using them.

Avoid push-button volume controls: A knob works better in every way for this function. Push-button presets for FM tuning are fine, but make sure you can scan across the dial easily, too. Look out for front-panel layout or labeling that doesn't make sense to you: If after 10 or 15 minutes you still have to think about which button to press, move on.

There are so many receivers on the market that you're certain to find more than one good candidate, whatever your needs. The guidelines presented here should help you avoid wading through a lot of technical jargon in order to buy wisely. And as with any important purchase, it pays to shop at a store that offers seven-day exchange privileges: Even the canniest shopper can make a mistake.

HF

**\$500**

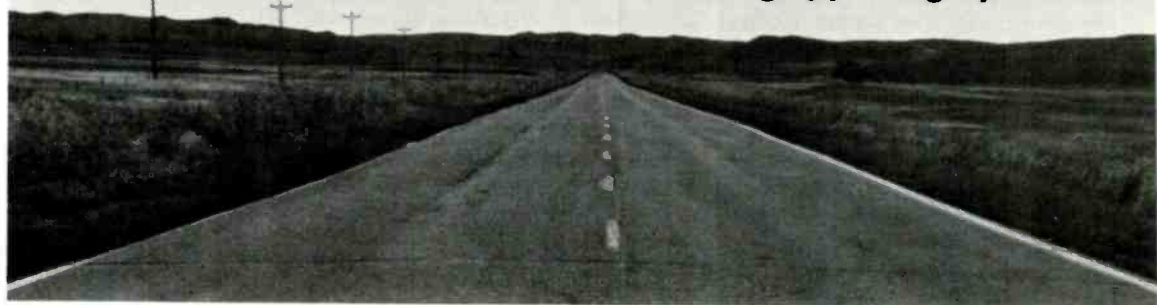


*In their \$500 receivers, manufacturers start competing chiefly on features. The Sony STR-VX750 (\$490), for instance, is only 1½ dB more powerful than a typical 50-watt/\$400 receiver, but its complement of goodies makes it exceptionally attractive. The tuner section gives you the usual tuning modes, plus direct access to a particular frequency via a numerical keypad. In addition, there are two high-level inputs, two tape monitor loops, and a marvelously flexible switching arrangement that lets you dub the audio from any source to any recorder, audio or video—what Sony calls an Audio/Video Control Center. And should you wish to add remote control to your system, the STR-VX750 has a built-in infrared sensor that can be activated via a remote unit.*



# ALL SYSTEMS GO

## FOR '84



BY

GARY STOCK

### **Multifunctional front ends, docking electronics, and supercharged subwoofers are some of the goodies introduced at the Summer Consumer Electronics Show.**

One of the most interesting audio statistics of 1982 confirms a suspicion I've had for a couple of years: that Americans spend as much on car-stereo products as they do on the homebound variety. That fact combined with signs of a strengthening economy provided the impetus for making this past Summer Consumer Electronics Show a virtual wonderland for the car-stereo buff, as manufacturers took the wraps off scores of intriguing new products.

The importance of the car-stereo market is confirmed in the number of home-audio makers that have jumped on the car-stereo bandwagon in the past two years. At this year's CES the few remaining holdouts yielded to the call of the road. Acoustic Research, the company that essentially invented the compact high-fidelity loudspeaker, brings its expertise to car speakers with a three-model line consisting of an enclosed two-way system; a panel-mount, two-way model; and a smaller, full-range speaker for less demanding applications. And JVC surprised everyone with the sheer quantity of its front-end units, signal processors, power amps, and speaker systems. JVC's top-of-the-line front ends are unique in their inclusion of both a graphic equalizer and ambience-enhancement circuitry. And a number of the company's best speakers use materials specially formulated to make them resistant to moisture. The JVC front ends range in price from \$300 to \$180, and the speakers from \$150 a pair to \$30 a pair.

European autosound makers also have decided to push their wares in the U.S. Grundig, a major name in European audio circles, is offering four new AM/FM/cassette

units. Though they blaze little new territory in performance specifications, their control layouts and sleek styling lend them panache. In particular, the top-of-the-line GCE-9900 (\$450) with its rocker-plate volume and tuning controls and pictographic markings is the kind of stereo component I could imagine sending off to Catherine Deneuve, if she would deign to accept a gift from a devoted admirer. Deneuve might also like Canton's self-enclosed Pullman speaker system to mount on the rear deck of her Rolls. Canton has come up with the most luxurious and easy-to-install speaker system I've ever seen. The Pullman mounts across the rear deck with two bolts and is available in black or white.

All this is not to say that Blaupunkt, the best-known name in European automotive sound, was left behind at this CES. It has been busy exporting one of Europe's best car-stereo ideas to the New World: an automatic traffic-monitoring system called ARI (Automatic Radio Information). To use ARI, you'll need a specially equipped front end from Blaupunkt or, in the near future, from Jensen or Grundig. Of course, a radio station in your area must be enlisted, as well. The ARI receiver will automatically tune to a special traffic report when news of changing traffic conditions is being transmitted. The broadcast, carried on a local station's subcarrier frequency, automatically preempts regular FM reception or tape play and is reproduced loud enough to get your attention. The system has been in use in West Germany, Austria, and Switzerland since the mid-1970s, and Blaupunkt hopes to get it set up in 25 American cities by 1985.

This summer's show also marked the debut



The New **Boston** C700.

# Good enough for your living room. Tough enough for your car.

This is the new Boston C700 two-way automotive speaker system. We designed it to meet the same high standards we set for our home speakers.

The C700 is a component-quality speaker system. It has a long-throw 5¼-inch polypropylene woofer, our optical-precision CFT/2 1-inch copolymer dome tweeter, and a five-element crossover network.

Both drivers use high-technology materials that survive extremes of temperature and

humidity that can destroy ordinary car speakers. We have baked the C700 to make sure it would play on sunny days, and frozen it in dry ice to make sure it would play on cold days. We have submerged it in water, taken it out and played it, to make sure it would play on rainy days. To provide better protection against accidental overload, we added a "smart" tweeter protection circuit that makes changing fuses a thing of the past.

Although the C700 will probably be the most reliable part of your car music system, it is also a Boston Acoustics speaker. We designed it, we build it, and we expect you to judge it on the basis of its acoustic excellence. When you do, we think that you will choose the C700, even over car speakers that cost more. It delivers the performance and value that have quickly earned Boston's reputation among listeners and reviewers around the world.



*Thinline housing takes only one inch above panel.*

*Genuine two-way speaker system with L/C crossover at 3,000 Hz.*

*Exclusive CFT/2 1-inch copolymer dome tweeter.*

*Paralign™ magnet structure for exact, permanent alignment of critical voice coil and magnet structure components.*

*Long-throw 5¼ inch woofer delivers solid, deep bass.*

*Only 1½ inches clearance needed under mounting panel.*

**Would you like to talk with us?**

Send us this coupon (or write us) to receive a free, full-color leaflet describing the C700. If you wish (it isn't necessary), write in your daytime phone number; we'll call you, give you the name of your nearest C700 dealer, and answer any questions about the C700 or other Boston products.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Daytime telephone (optional) \_\_\_\_\_

Area Code \_\_\_\_\_ Number \_\_\_\_\_

Boston Acoustics, Inc.  
(C700)  
247 Lynnfield Street  
Peabody, MA 01960

**Boston**Acoustics

c u t h e r e c u t h e r e c u t h e r e



## CAR STEREO

In control-panel layouts, the newest front ends differ radically. Kenwood's complex KRC-800 contrasts with Grundig's spartan GCE-9900. Sansui, which this year introduces a line of in-dash front ends, takes a middle road, with enough controls to satisfy the dedicated audiophile, but organized in a neat, user-friendly layout. In high-end electronics, Audiomobile offers a remarkable group of modular packages: The MDX-340 is composed of three amplifier modules, an electronic crossover network, and a fader control. At \$2,900, it costs as much as a good used car. With Fujitsu Ten's Air Transfer Super Woofer you won't have to add any amplification to achieve thunderous bass; the self-enclosed woofer is self-powered. And to better withstand the hardships of the road, there's a new cassette from Fuji with a heat-resistant shell and special tape formulation.



**KENWOOD**  
KRC-800



**SANSUI**  
CX-990



**GRUNDIG**  
GCE-9900



**AUDIOMOBILE**  
MDX-340



**FUJITSU TEN**  
SB-6002



**FUJI**  
GT-1 cassette

of a slew of new products embodying ideas that seem almost obvious in hindsight. Chief on the list is Sony's new XR-100 (\$650) AM/FM/cassette player with diversity reception. Radar mavens will tell you that diversity reception is an exotic technique for ensuring the best-possible reception and involves the use of two or more antennas; in the Sony system, one antenna is positioned a couple of feet behind the other. Circuitry within the receiver samples the signal from both antennas at a fantastically rapid rate and at each sampling interval picks the stronger and clearer of the two signals to feed into the tuner. Since most picket-fencing and multipath problems are caused by local, short-term reflections, the switched-antenna approach may really improve FM reception in a moving car.

Audiomobile, a stalwart in the high-end autosound electronics field, came up with another sensible idea: Its entire line of power amplifiers and electronic crossovers is now modular and designed to be docked together end to end. Aside from the obvious advantages to the installer, the components are as sleek as a thoroughbred with specs to match. Audiomobile's top modular system consists of three power amps, an electronic crossover, and a fader, and costs \$2,900.

Another good idea comes from Visonik, the California-based speaker and amplifier manufacturer. In this case, though, it's a service rather than a product that's being offered. The company is sponsoring a traveling autosound "clinic" that is touring the country. The test equipment consists of an Apple computer, a specially developed test program, a low-power FM transmitter, and an amiable-looking dummy with calibrated microphones for ears that takes your place in the driver's seat. Visonik says the whole test procedure takes about 10 minutes to pinpoint acoustic problems in your car.

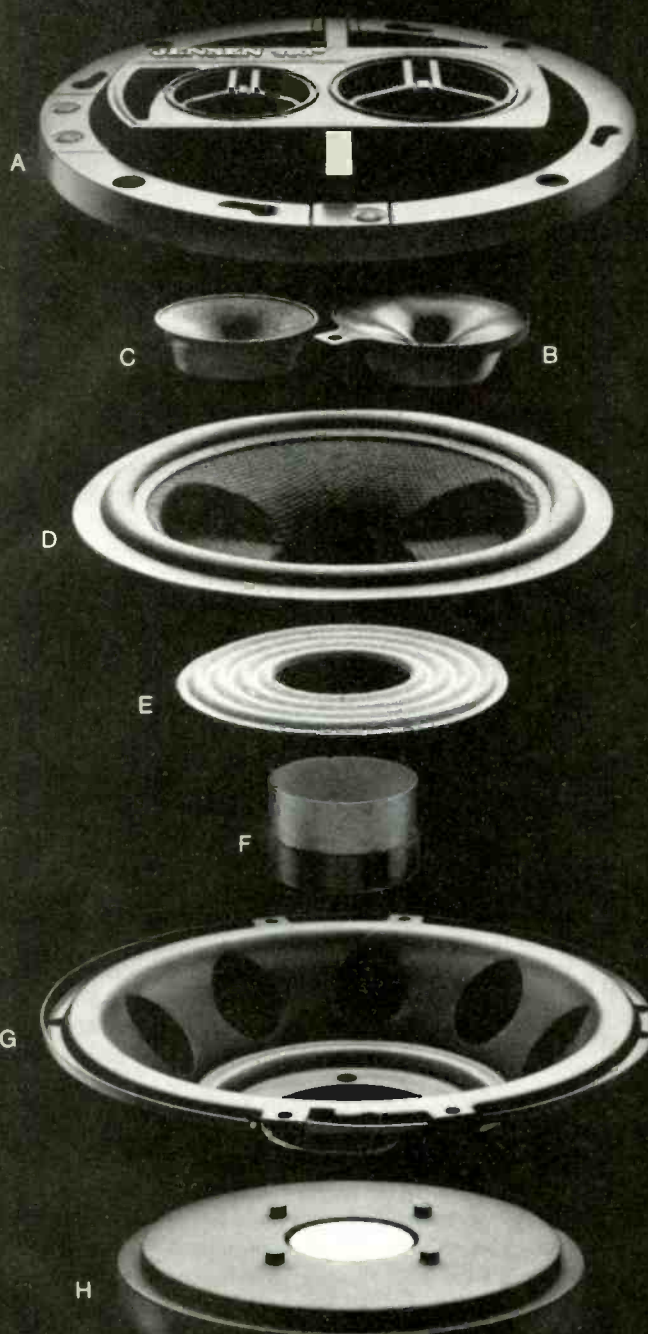
Tapemaker Fuji rounds out the "it's about time" list with a cassette tape made specially for the car. Called GT-1, the cassette has a heat- and dust-resistant shell and tape that is formulated to have a rising high end when recorded with normal Type I bias and equalizations settings. Especially nice are embossed markings on the shell that make it possible for the driver to distinguish tape sides by touch.

The two most chronic complaints of autosound buffs are about loudspeakers: They are a pain to install and are quirkily dependent on the car's interior acoustics. This year's crop of speaker designs seems to be solving both problems. Jensen has a new line of flush-mount speakers called the 3000 Series. Notable for their smooth sound, shallow mounting depths, and handsome bayonet-lock grilles, the Jensens range from 4½-inch round models to 6-by-9-inch rear-deck ovals. Each demands less than two inches of mounting depth, which enables you to install a triaxial three-way system in a door panel. They're priced right, too; the top-of-

Circle 15 on Reader-Service Card ►



# Series 3000 car speakers capture every piece of the action.



## The Jensen® 6½" TRIAX®

- A **Tweeter/Midrange Bracket:** designed to give the tweeter and midrange proper baffling for maximum performance.
- B **Midrange:** a 2" piezoelectric midrange with a phenolic impregnated cone that smooths out the mid-frequencies for a cleaner, richer sound.
- C **Tweeter:** a 1½" piezoelectric tweeter that has no voice coil to burn out. Starts working at 6,000 Hz and keeps going to 40,000 Hz, well past the range of human hearing.
- D **Cone:** molded from a new blend of polymer and cellulose called P28.™ It delivers excellent transient response, less distortion, and cleaner sound. P28 resists aging, cracking, heat, humidity, and water.
- E **Spider:** long excursion, high efficiency design for producing high volume levels with less distortion.
- F **Voice Coil:** two layers of pure copper wire precision wound on a high temperature Nomex® bobbin for high efficiency and high power handling.
- G **Housing:** special steel housing resists twisting and buckling and will keep all the parts of the loudspeaker in exact alignment even when mounted on an uneven surface.
- H **Magnet Assembly:** new strontium magnets offer 11% more useable power over that of other materials.

The series 3000 speakers are also available in 6"x9" TRIAX, 6½" and 4½" COAX formats.

**Other Features:** Tweeter/Midrange wiring to main terminal connection is made without passing through the woofer cone. This allows the woofer to move more freely resulting in less distortion and higher acoustical efficiency. (6"x9" TRIAX, 6½" TRIAX and COAX.)

Grilles are acoustically transparent, perforated metal that is ultrasonically welded to the frame to prevent rattles. The 6½" and 4½" speakers also have a unique twist-lock feature that insures firm attachment to speaker and prevents them from falling off when installed in a door.



# JENSEN

CAR AUDIO

**When it's the sound that moves you.**

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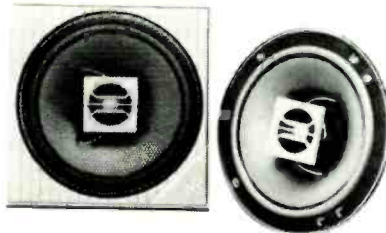
CAR STEREO

Finding the right speaker for your car is getting a lot easier: Jensen's new 3000 series speakers, in coaxial and triaxial formats, require no more than 2 inches of mounting depth. JVC's new speakers are said to be moisture-resistant, making them especially suitable for door-panel placement. Any flat panel will suit AR's two-way system. And for good high-frequency distribution from a rear-deck speaker, there's Pioneer's new angled speakers.

• Four radio stations in the New York metropolitan area are cooperating in Blaupunkt's ARI traffic-bulletin system. To use it, you must have an ARI-equipped front end and tune to one of these four FM stations. Regular bulletins are transmitted every 15 minutes during rush hours on the station's SCA sub-carriers, preempting regular FM reception and tape play. Curiously, there is no Zone 1 in the New York area: Blaupunkt tells us that radio stations objected to any numbering scheme that would suggest a hierarchy. Ah, politics.



JENSEN  
3013 coaxial



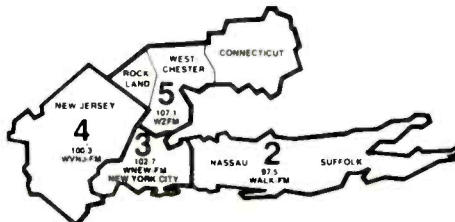
Jvc  
CS-620 coaxial



AR  
1-CS two-way



PIONEER  
TS-1690K two-way



• BLAUPUNKT'S ARI IN NEW YORK  
Local zones for traffic news

the-line J-3003, a 6-by-9-inch triax, costs \$160 a pair.

Pioneer, Philips, and Sansui are all taking similar approaches to distributing sound toward the driver when the speaker faces upward (as in most rear-deck installations). Each showed new two- and three-way systems with tiltable panels that enable the installer to aim mid- and high-frequencies forward. EPI is expanding its line to include a new series of extra-shallow 5¼-inch flush-mount speakers. And Alpine has solved the mounting-depth problem in another way—with a midrange/tweeter array that mounts on the surface of a door and is only as thick as a pack of cigarettes.

Speaking of bass, the bottom octaves of the musical spectrum are receiving a fair share of engineering attention this year. Audio Pro, a Swedish company that makes a particularly interesting powered subwoofer for home use, has a car version—the B2-07 (\$600)—enclosed in a slim, wedge-shaped box that can be mounted in a trunk or on the rear deck. Fujitsu Ten has something it calls an Air Transfer woofer—a self-powered, deep-bass reproducer with a built-in electronic crossover and level controls. And Alpine is offering a 6½-inch subwoofer with a massive voice coil assembly that contributes to the driver's rated power handling capability of 100 watts.

Especially noteworthy for its quiet insistence on quality, ADS has two new power amps based on the very successful P-100 Power Plate. The new P-80 (\$260) and P-120 (\$330) are rated at 40 and 60 watts of output into 4 ohms, respectively. Alpine, one of the leaders in high-end automotive audio, has improved six of its front-end units by including a new tuner section that it dubs the T-10 circuit. The T-10 is said to afford greater resistance to overload and crossmodulation under strong signal conditions, and in weak-signal areas improves reception by subtly tailoring frequency response to reduce noise. The new tuner circuit is included in a broad range of Alpine front ends, from the \$600 Model 7347 to the \$200 Model 7151.

And for those of you who lust after gadgets, Kenwood has a new front end with a control panel so crowded with buttons and lights that an imaginative driver might fantasize that he was seated in the cockpit of a 747. By actual count, the KRC-800 has 31 assorted buttons, switches, and knobs, with another 18 indicator lights. In a similar vein, Fujitsu Ten will sell you a six-band frequency spectrum analyzer—a component designed solely to monitor the relative frequency levels in your car, not change them—with a 60-LED display. And one of my favorites from the Winter CES, American Audio's front end with a built-in TV receiver, has been reduced in price from \$1,200 to \$1,000. If your fantasies about taking a ride with Catherine Deneuve in the country can be satisfied with a television image smiling out at you from the dashboard, then this audio-video device is for you. I'll wait for the real thing.

HF





## 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

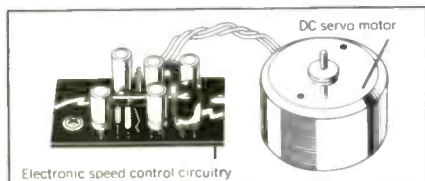
For extraordinarily clear FM reception, the Concord HPL-532 has an exclusive 4-gang digital tuner that provides exceptional station sensitivity & selectivity.

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

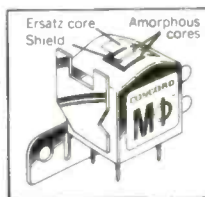
We've designed an exclusive electronically controlled DC servo tape transport drive.



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.

The difference is worth the difference.

\*Dolby is the registered trademark of Dolby Labs.  
\*\*dbx is the registered trademark of dbx.

**CONCORD®**  
Anything else is a compromise.

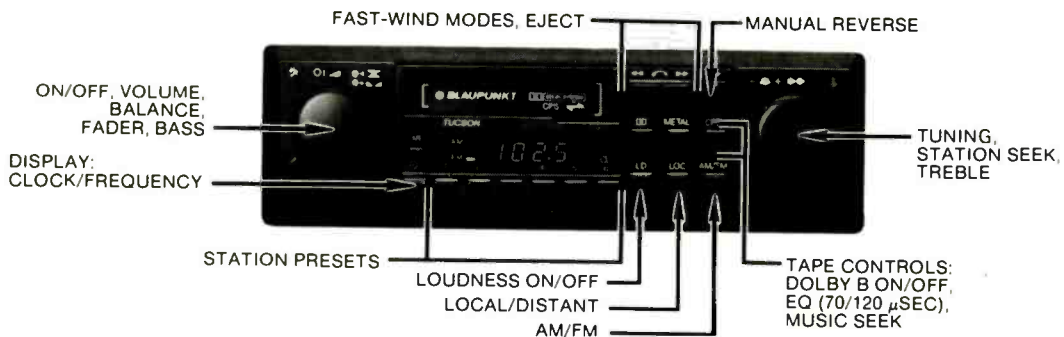
CONCORD ELECTRONICS, 6025 Yolanda Avenue,  
Tarzana, California 91356 (213) 344-9335

**SPECIFICATIONS:** Tuner Section Sensitivity: 30dB Quieting 1.0 Microvolts 11.2dBf, Stereo separation: min. 35dB, Frequency responses:  $\pm$  2dB, 30-16,000 Hz Tape Section Frequency response:  $\pm$  2dB, 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



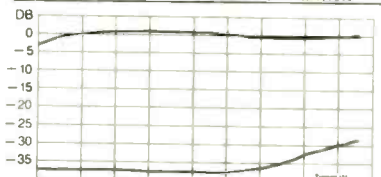
# BLAUPUNKT TUCSON TUNER/TAPE DECK

**Blaupunkt Tucson AM/FM/cassette front end, with Dolby B noise reduction, automatic reverse, and built-in clock. Dimensions: 7 by 2 inches (chassis front), 5 1/4 inches deep; escutcheon, 7 1/2 by 2 1/4 inches; 4 1/8 by 1 1/8 inches; main shafts, 5 1/2 inches o.c. Connections: flat male (or fused bare-wire adapter) for ignition; narrow flat plug (or bare-wire adapter) for battery; narrow flat male for power antenna; 7-pin DIN female for front and back signal pairs, signal ground, system ground, and power-amp switching; standard coaxial jack for antenna input. Fuse: 5-amp in ignition-line adapter. Price: \$500. Warranty: "limited," one year parts and labor. Manufacturer: made in Japan for Blaupunkt, West Germany; U.S. distributor: Robert Bosch Sales Corp., 2800 S. 25th Ave., Broadview, Ill. 60153.**



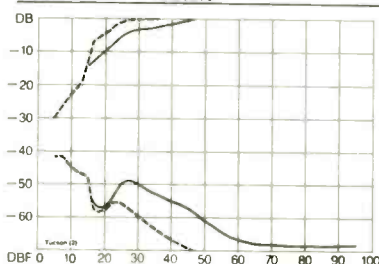
## FM TUNER SECTION

### FREQUENCY RESPONSE & CHANNEL SEPARATION



Frequency response  $+3/4, -3$  dB, 23 Hz to 15 kHz  
Channel separation  $\geq 30$  dB, 20 Hz to 9 kHz

### FM SENSITIVITY & QUIETING



— stereo quieting (noise) & output  
- - - mono quieting (noise) & output  
Stereo sensitivity (for 50-dB noise suppression)  
35 dBf (see text)  
Mono sensitivity (for 50-dB noise suppression)  
17 dBf (see text)

|                                 |       |
|---------------------------------|-------|
| CAPTURE RATIO                   | 5 dB  |
| SELECTIVITY (alternate-channel) | 72 dB |
| AM SUPPRESSION                  | 63 dB |

**T**HERE'S SOME TRUTH to the proposition that Blaupunkt is to automotive radio what Mercedes is to the automobile. The solidity and European feel of this front end, together with its exceptional performance, certainly put it in the same class, though its \$500 price seems a bit modest, comparatively speaking.

The tuner is described as ARI-ready, meaning that it will accept a Blaupunkt Automatic Radio Information adapter as a direct plug-in to a multipin socket on the back of the chassis. The system—already in operation in the Greater New York area—lets traffic bulletins from local radio stations preempt whatever music is being received.

Also out of the ordinary is the mounting system. The Tucson is designed with traditional nosepiece and flanking main shafts to fit most cars, but it comes with spacers and springs

so that it can be slipped directly into the large rectangular openings in some European and Japanese models. The springs, mounted at the sides of the chassis, latch behind the front panel to anchor the Tucson when it is slipped in (from the front). The unit's knobs are treated with a rubber surface that is both soft and resilient (it's comforting to know they won't wound you in a sudden stop), providing a sure grip when you manipulate them.

Blaupunkt, following the European custom, uses symbols instead of language to identify the main controls. The reliance on symbols breaks down somewhat in the minor controls, which carry abbreviations of the English names ("LO" for loudness, for instance, and "METAL" for 70-microsecond tape equalization), but the organization is so logical that the labeling hardly matters. Note, however, that the Dolby B noise reduction, which is among the

Laboratory data for HIGH FIDELITY's autosound equipment reports are supplied by Diversified Science Laboratories; road testing and text are by Robert Long. 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.



electrical controls for the tape section, also decodes Dolby FM broadcasts and that switching from Dolbyized tape play to FM without turning off the Dolby will result in less than ideal reproduction—unless you're tuning to a Dolby broadcast. And LOUDNESS influences tape playback, of course, although it is grouped with the tuner controls.

The Tucson's overall quality may certainly be high, but the tuner section is outstanding—above all because of the way it handles fading and multipath-laden FM signals. Under these conditions, the stereo spread blends so smoothly into mono reception (and its greater quieting) that audible side effects go almost unnoticed; as signal strength falls still lower, output tails off into silence. There is no sharp muting threshold for the tuner to flip-flop across, nor is there a clear-cut stereo threshold. The result is the most enjoyable listening afforded by any tuner or receiver HF has yet tested in both the low-signal and the high-multipath sections of our "test track."

A consequence of this behavior is that the measurements from Diversified Science Laboratories don't mean quite what you might expect. At the stereo sensitivity rating point (the signal strength required to produce a signal-to-noise ratio of 50 dB), separation at 1 kHz is only 8½ dB. It's a moot point whether or not this constitutes "true stereo," though separation is rising rapidly with signal strength at this point, and "true stereo" will fall somewhere in that neighborhood by anybody's definition. Conversely, as the signal weakens separation diminishes: to 6¼ dB at 29 dBf, 3½ dB at 25 dBf, and 1 dB at 22 dBf—though the stereo pilot remains lit for stereo stations throughout this process. Again, the point is not that you lose the stereo effect (which eventually you do), but that you gain listening pleasure from minimizing the noisy side effects of stereo reception in a

moving car. The local/distant switch not only prevents overload on strong stations, but adjusts the sensitivity of the seek function to include or exclude weak stations.

At "full" signal strength, FM response and separation are exemplary—essentially what you might expect in a home radio. The AM section also offers unusual clarity of sound, thanks to its relatively flat and extended passband and very sharp cutoff above it. Tape response also is very good. Though the numbers involved won't win any "specsmanship" awards in showdowns with home decks, the consistency between the two directions of tape travel is remarkable for a car unit: Response is virtually identical in both directions. The flutter measurement is good (if not outstanding), and the performance is not audibly degraded by the bumps and turns of our test road.

The tone-control action is fairly standard at roughly ±10 dB for each control. The LOUDNESS adds considerable bass (about 10 dB below 100 Hz at DSL's test setting) and some treble (say, 3 dB above 7 kHz or so). Because the bass range of the Tucson is inherently quite flat, the effect of this much compensation is rather overbearing; many listeners may prefer a little bass-control boost at low listening levels, instead.

EVERYTHING ABOUT the Tucson is exceptionally graceful. The organization of the controls helps, as do the lighting indicators that communicate to the user how the unit is responding. The one exception is the rather awkward process of setting the built-in clock (which involves simultaneous use of the memory button and the tuning knob), but that's presumably a one-time operation that needs only occasional checks. In a word, the Tucson is a superlative tuner/tape deck, about which the bench measurements, good as they are, tell only part of the story.

## HOW WE TEST CAR STEREO EQUIPMENT

Diversified Science Laboratories taps line-level outputs to measure tuner, tape, and "preamp" performance; for those front ends equipped with a power-amp stage (what we call car receivers) but lacking line outputs, DSL takes data from the speaker connections. For our road testing, we use an ADS amplifier/crossover/speaker setup, bypassing the power-amp stages of receivers.

AM sensitivity is given in microvolts, and the lower the number, the better. For FM, we plot both the audio signal level and the noise level as a function of RF input. Since car tuners may have various reception modes, a number of curves may appear on the same graph. Finally, some tuners cannot be assigned a 50-dB stereo quieting figure because they are already in mono at that quieting level.

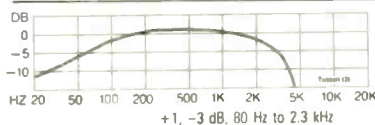


### DISTORTION (THD+N)

|           | stereo | mono  |
|-----------|--------|-------|
| at 100 Hz | 0.68%  | 0.54% |
| at 1 kHz  | 0.43%  | 0.36% |
| at 6 kHz  | 2.10%  | 2.95% |

### AM TUNER SECTION

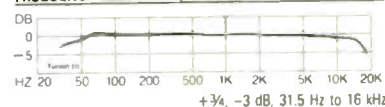
#### FREQUENCY RESPONSE



|             |        |
|-------------|--------|
| SENSITIVITY | 2.4 μV |
| SELECTIVITY | 45½ dB |
| AVC RANGE   | 71 dB  |

### CASSETTE TRANSPORT SECTION

#### FREQUENCY RESPONSE (forward)



|                          |   |
|--------------------------|---|
| <b>WOW &amp; FLUTTER</b> |   |
| forward                  | ±0.18% average; ±0.26% peak                           |
| reverse                  | ±0.20% average; ±0.27% peak                           |
| <b>SPEED ACCURACY</b>    |   |
|                          | ≤ 0.2% fast at 15.4 volts;<br>0.4% fast at 10.8 volts |

### PREAMPLIFIER SECTION

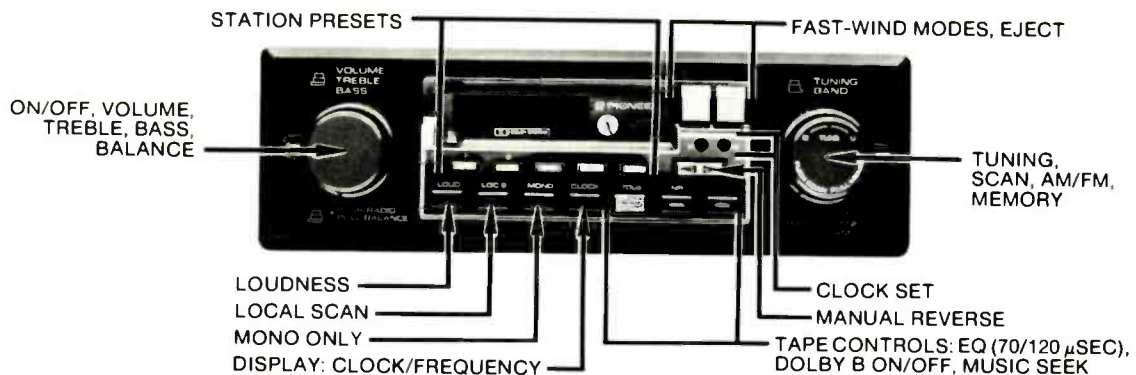
|                  |                        |
|------------------|------------------------|
| BASS CONTROL     | +9¼, -13¼ dB at 100 Hz |
| TREBLE CONTROL   | +9¼, -12 dB at 10 kHz  |
| OUTPUT IMPEDANCE | 600 ohms               |



CAR STEREO

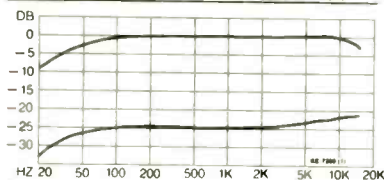
# PIONEER KE-7200 RECEIVER/TAPE DECK

Pioneer KE-7200 AM/FM/cassette car receiver, with Dolby B noise reduction, automatic reverse, and built-in clock. Dimensions: 7 by 2 inches (chassis front), 4 3/4 inches deep; escutcheon, 7 1/2 by 2 1/2 inches; "nose," 3 3/4 by 1 1/4 inches; main shafts, 5 - 5 3/4 inches o.c. Connections: round male pins for ignition, battery, and speaker ground (2); flat female for power antenna; round female for speaker "hot" (2); standard coaxial female for antenna input. Fuses: 2-amp in ignition line, 1/2-amp in battery line. Price: \$380. Warranty: "limited," one year parts and labor. Manufacturer: Pioneer Electronic Corp., Japan; U.S. distributor: Pioneer Electronics (U.S.A.), Inc., 1925 E. Dominguez St., Long Beach, Calif. 90810.



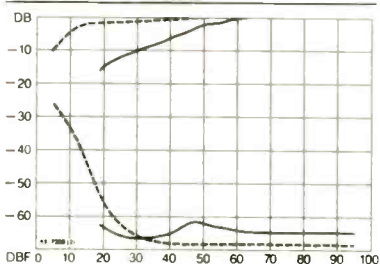
## FM TUNER SECTION

### FREQUENCY RESPONSE & CHANNEL SEPARATION



Frequency response +1/4, -3 dB, 45 Hz to 15 kHz  
Channel separation ≥22 dB, 20 Hz to 8 kHz

### FM SENSITIVITY & QUIETING



|   |           |
|---|-----------|
| stereo quieting (noise) & output                          |           |
| mono quieting (noise) & output                            |           |
| Stereo sensitivity (for 50-dB noise suppression) see text |           |
| Mono sensitivity (for 50-dB noise suppression) 18 1/2 dB  |           |
| CAPTURE RATIO   | 5 dB      |
| SELECTIVITY (alternate-channel)                           | 65 dB     |
| AM SUPPRESSION  | 53 1/2 dB |

**T**HIS CAR RECEIVER, the first Pioneer automotive product we've tested, makes an interesting point about all such equipment: that there is no such thing as "uncompromising audio" for on-the-road listening. To some extent, compromise between the demands of reproduction accuracy and those of listening ease (particularly when FM signal strength starts to fade) is a necessary ingredient of any successful car-stereo product. If the measurement data you see here don't all resemble those for Pioneer's home products, therefore, you shouldn't be surprised; the design objectives are significantly different, and circuitry appropriate for one application cannot be equally appropriate for the other.

At first glance, you might assume that the KE-7200 is designed for some exotic locale because the tuning-band selector has positions for AM, FM-1, and FM-2. The latter is not a separate band, however, but an option to fit a second set of FM stations onto the five preset buttons—for a total of 10 FM and five AM stations. If you're unfamiliar with the local stations, just

tap the tuning knob; the tuner responds by seeking out the next available station up the dial. In a welcome variation on this seek feature, the LOCAL-SEEK raises the threshold signal strength when you press in the button, giving you two acceptability criteria for the search. The mono-only button acts in the usual way to suppress stereo switching in FM for maximum stability and minimum noise on weak or multipath-ridden stations.

You can find the next selection on tape by pressing SEEK and then engaging one of the fast-wind buttons. This music-peek button, that for tape EQ, and the Dolby-B button all light up when they're engaged (indicating the 70-microsecond and Dolby-on options of the last two). The noise reduction is just for tape: You cannot decode Dolby FM broadcasts.

Transport direction can be changed manually by tapping a button; the tape is ejected when you press both fast-wind buttons simultaneously.

The frequency readout also functions as a clock (working in 12-hour format but without am or pm

HIGH FIDELITY



indications). This adds the final flourish to a design that accommodates the needs of an in-transit driver very well, even in the dark. The only caveat is that setting the station memory, which involves pulling out the tuning knob for memorization, probably is best left for a passenger (or a pause at a stoplight), but few long-distance travelers will bother memorizing new finds as they go.

**T**HE DATA FROM Diversified Science Laboratories were taken at the speaker connections because the KE-7200 provides no line-level outputs. The built-in amplifier section is fairly typical of today's car radios. The BASS and TREBLE, each with its own control collar around the volume knob, are fairly aggressive, though the bass boost rolls off below 100 Hz and thus does not really compensate for the inherent rolloff in the deep bass, particularly discernible in the FM graph. The LOUDNESS adds a moderate bass boost (about 6 dB in the region below 100 Hz at the lab's test setting) and no appreciable treble boost, so it can be used without blowing you out of the car—and will doubtless be left on permanently by many owners.

The tape transport is quite capable and remarkably consistent between the two directions of tape travel. Whether or not the high-end peakiness visible in the response curve will yield unwanted zing in playback depends on the azimuth agreement between the deck and your tape. It didn't unduly exaggerate the "pinginess" of the piano tone on my standard test tape. The tone remained reasonably steady and true with the car stopped and picked up no discernible extra wow or flutter on the bumpy hairpin turns of the road test. Reversing and fast-wind features are accompanied by no extraneous noises.

The Pioneer spotlight shines brightest on the tuner section—or Supertuner III as the FM circuitry is called. On the road, FM reception is unusually free of what these reports have identified as "spitting"—the bursts of high-frequency noise and distortion that result from fluctuating multipath and accompany mono/stereo switching and the like. They can still be heard down under the signal on the stretches of road where they always are encountered but are very much softened (almost as though the noise bursts were going through a low-pass filter) compared to the results with typical tuners. Pioneer thus

significantly mitigates the most intrusive annoyance of listening to FM—particularly stereo FM—in a moving car.

We assume that part of this improvement may derive from Pioneer's Pulse Noise Suppression circuitry, but the bench test reveals some other contributing factors—in particular, the tuner's tight control over stereo separation. Even at the standard test level of 65 dBf and above (representing strong stations), separation is only about 25 dB throughout the midrange—though sufficient for good stereo effect. And as the signal strength fades, so does the separation. With moderate signal (55 dBf), 1-kHz separation drops to 14 dB; at 46 dBf it is 6 dB. And as you drive through an area of severe multipath, you can hear the separation on weak stations collapsing and opening up. This does lend a sort of instability to the sound, but it's far preferable to the noise bursts that could result from the combination of weak signal and broad separation.

On the quieting curves, you can see how much more rapidly stereo output (the upper trace) is attenuated at low signal strength than is mono output. This, too, helps attenuate the noise as signal strength drops, but it also means that the volume increases when the tuner switches from its near-mono blended stereo to full mono or when you press the mono-only button on a weak station. And if you try to lessen noise that is not multiplex-related by pressing that button, the disconcerting result is that the noise (along with the signal) becomes louder. And AM performance, though not essentially superior to that of competing models, is quite serviceable. Reception is fairly free from intrusive noise, which seems more a function of the limited AM bandwidth than of any special design consideration.

**O**VERALL, THIS Pioneer front end strikes us as particularly well designed. In fact, you would be hard put to find one that is easier to listen to and use in a moving automobile. If you're not looking for the extra power or features of expensive automotive separates, the KE-7200 has a lot going for it. **Circle 108 on Reader-Service Card**

#### TEST REPORT REPRINTS

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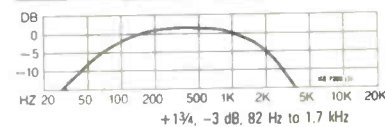
CAR STEREO

#### DISTORTION (THD+N)

|           | stereo | mono  |
|-----------|--------|-------|
| at 100 Hz | 1.60%  | 0.72% |
| at 1 kHz  | 0.94%  | 0.56% |
| at 6 kHz  | 0.96%  | 0.87% |

#### AM TUNER SECTION

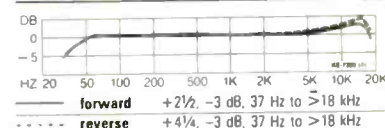
##### FREQUENCY RESPONSE



|             |             |
|-------------|-------------|
| SENSITIVITY | 1.5 $\mu$ V |
| SELECTIVITY | 47 dB       |
| AVC RANGE   | 7 1/2 dB    |

#### CASSETTE TRANSPORT SECTION

##### FREQUENCY RESPONSE



|                   |                                       |
|-------------------|---------------------------------------|
| WOW $\pm$ FLUTTER |                                       |
| forward           | $\pm$ 0.18% average; $\pm$ 0.23% peak |
| reverse           | $\pm$ 0.25% average; $\pm$ 0.30% peak |
| SPEED ACCURACY    | $\leq$ 0.3% fast, 10.8 to 14.4 volts  |

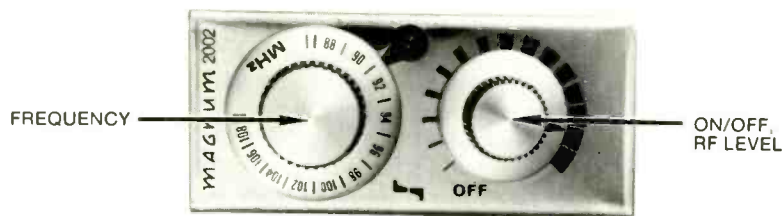
#### PREAMP/AMPLIFIER SECTION

|   |                               |
|---|-------------------------------|
| BASS CONTROL                                  | +11 1/4, -10 3/4 dB at 100 Hz |
| TREBLE CONTROL                                | +11 1/2, -10 3/4 dB at 10 kHz |
| OUTPUT (per channel into 4 ohms; at 3% THD+N) |                               |
| at 100 Hz                                     | 3 1/4 watts (5 dBW)           |
| at 1 kHz                                      | 4 1/2 watts (6 1/2 dBW)       |
| at 6 kHz                                      | 4 1/2 watts (6 1/2 dBW)       |



# MAGNUM 2002 FM ANTENNA AMPLIFIER

Magnum 2002 Mobile Power Sleuth FM antenna amplifier. Dimensions: control head, 3½ by 1¼ inches (front), 1¼ inches deep; amplifier module, 6 by 3½ by 1½ inches. Connections: bare wire for ignition connection (power), standard coaxial female for antenna input and male for output to receiver's antenna input. Price: \$200. Warranty: "limited," five years parts and labor. Manufacturer: Magnum Electronics, Ltd., Canada; U.S. distributor: Castle Marketing, P.O. Box 219, Alexandria Bay, N.Y. 13607.



IT'S NOT THAT CAR RADIOS lack sensitivity: They behave so badly on weak stations because signal strength fluctuates drastically in a moving car. Changing surroundings alter both the direct radiation from the station and the multipath reflections that interfere with it. One way to make unlistenable stations listenable is to boost the antenna signal so that RF levels never fall into the range where any of the tuner's circuitry is turning on or off—that is, above threshold values for muting, stereo reception, output attenuation, and so on.

A number of RF (radio-frequency) boosters are available for cars, usually as "black boxes" that you insert into the antenna line. The Magnum is rather different. It has a black box (literally) with a socket for the coaxial lead from your antenna, a similar coaxial lead and connector to mate the box to the antenna input of your radio or front end, a power wire that you connect to the ignition switch, and an umbilical connecting the box to a small chrome-plated control module with a bracket for under-dash mounting. The difference lies in the flexibility offered by the Magnum's switching and controls. In fact, there are two controls: one for RF gain and another for RF tuning.

The ability to alter actual RF level is desirable, particularly if your radio has a finicky front end, to prevent

overload on strong signals without compromising the gains to be won on weak ones. The tuning of the RF can be an even better idea when you're trying to fish for a weak station among stronger competitors because it will increase the effective selectivity of your receiver by attenuating signals outside the tuned band. The actual bandwidth rating of the tuned circuit is 600 kHz—making it three-FM-channels wide, so to speak, or narrow enough to do some good without becoming overly fussy about precise tuning. Maximum gain is rated at 30 dB, so a 35-dBf signal (at or below the stereo thresholds of typical car tuners) would be boosted to 65 dBf—generally regarded as the "full-signal" level and the one at which tuner signal-to-noise ratios are rated, for example.

In road-testing receivers, I've tried the Power Sleuth on a variety of front ends and receivers. All benefited from it in receiving weak stations, though the degree of benefit varied somewhat depending on the equipment attached to it. In general, those receivers that handle fluctuations most gracefully benefit least on moderately weak stations, while all receivers will bring in very weak stations more cleanly with the amplifier than without it.

It performs at its very best when you have selected a station you want to hang onto as you drive. If you tune the frequency knob for clearest reception

with the gain control at minimum (but not off) and then turn up the gain, as necessary, to maintain clear reception, you can expect the station to come in better at greater distance than it would without the device. But if you drive into an unfamiliar town and decide to seek out the best of the local broadcasts, you should turn off the Power Sleuth until you've decided on a station.

THE MAGNUM'S frequency tuning is fairly critical, and it's easy to pull in the wrong station by mistuning—especially for frequencies located toward the middle of the dial. Since the dial calibration is too crude to rely on (and it isn't illuminated in the dark), you must get the station's sound and programming firmly in mind before you start tuning if you want to end up with the right transmission.

For this reason, an important detail of the Power Sleuth's design is that it passes antenna signals straight through when it's turned off. The device would be of questionable value if you were forced either to leave it on or to suffer a loss in signal strength. As it is, you can hook it up and then take it or leave it, as your mood and signal conditions dictate. If you're fussy about your FM programming, you may find yourself more and more unwilling to leave it as you learn to appreciate its value.

Circle 109 on Reader-Service Card



## MANUFACTURERS' COMMENTS

We invite rebuttal from those who make the equipment we review. The comments printed here are culled from their responses.

**N**akamichi TD-1200 tuner/cassette deck, July 1983. Thank you for the very favorable review of the Nakamichi TD-1200. We have great respect for the accuracy of your test data as determined by Diversified Science Laboratories. Therefore, we were very surprised at two figures that appear in the review: those for the alternate-channel selectivity of the FM tuner and for the wow and flutter of the tape transport.

Nakamichi takes great pride in specifying its products conservatively, and we usually find that our equipment exceeds specifications by a wide margin. We rate the TD-1200's alternate-channel selectivity at 60 dB, whereas you show 33 dB—a discrepancy so great that we suspect an error in either measurement or reporting. If, in fact, the unit you tested had such poor selectivity, we are surprised that it performed so well on the road!

The wow and flutter figures are a bit more problematic. We specify less than 0.045 percent WRMS and less than  $\pm 0.09$  percent weighted peak, whereas you report  $\pm 0.09$  percent "average" and  $\pm 0.11$  percent "peak." It is not clear whether "average" means RMS, nor is it clear whether the measurement was weighted. We would also like to point out that many prerecorded flutter test tapes have residual flutter as large as the values you report for our unit. For this reason, we test the TD-1200 with a flutter test tape recorded on the Nakamichi Dragon, to be certain that the recorded flutter is not the limiting factor.

Ken Ohba  
Director of Business Development and  
Communications  
Nakamichi U.S.A. Corp.

Our apologies: The 33-dB figure we reported as FM alternate-channel selectivity actually is the selectivity of the AM tuner section. Diversified Science Laboratories has been making this measurement on every car AM tuner, but since it found one whose AM selectivity could not be determined by the standard method, we chose not to publish any of the results until we accumulated more data. For the record, the Nakamichi TD-1200's AM selectivity is the best we've found to date. DSL measured the TD-1200's FM alternate-channel selectivity at 65½ dB, which is substantially better

than Nakamichi's spec.

DSL advises us that the flutter figures we reported could indeed have been inflated by the residual flutter of the test tape. In fact, it is for this very reason that we stopped reporting "play-only" flutter on home decks. Since these decks could both record and play, we believed that record/play (R/P) flutter was the more meaningful and accurate figure.

Unfortunately, a car deck cannot record its own tape, so DSL must use a prerecorded one, and propriety dictates that it be an "independent" test tape (in this case from TDK) rather than one recorded on any particular manufacturer's deck. We had not expected this to be a

problem, since past experience suggested that car decks typically have much greater flutter than home decks. The TD-1200 proves that this need not be the case.

To distinguish these flutter measurements from those made on home decks, we report both an average and a peak flutter figure. The peak figure is the maximum peak weighted flutter measured in strict accordance with ANSI standards. The average figure is an "eyeball average" of the antics of the flutter meter. It too is a weighted peak measurement per the ANSI standard, but one in which occasional short-duration maxima are ignored.—Ed.

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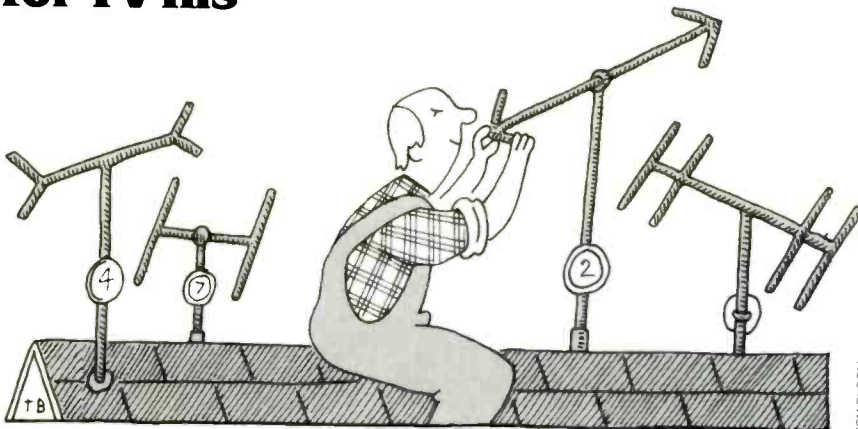
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# Retsoff's Remedies

Simple solutions to common audio and video system problems by Alexander N. Retsoff

## A Rooftop Rx for TV Ills



TOM BLOOM

IT'S BEEN SAID that the Compact Disc will reveal hidden problems in your stereo system. Similarly, a high-definition TV monitor will emphasize every video defect that derives from poor reception. So, if you're planning on investing in a component TV system (or just want to improve the picture on your current set), you'd be well advised to consider upgrading the old antenna.

The hallmarks of a good TV antenna are directionality and sensitivity (or antenna gain). A highly directional antenna can be aimed to minimize ghosts—the video equivalent of FM multipath interference. Ghosting occurs when a direct broadcast signal is mixed with later-arriving reflections. The direct signal usually results in the strongest image on the screen, while the weaker reflections appear as progressively dimmer repetitions to the right.

A stationary antenna can be aimed in only one direction, of course, and is suitable for locales where all broadcasts emanate from one transmitting tower—often the situation you'll encounter near a big city. If the stations you want to receive are scattered about the compass, a motor-driven rotatable antenna that can be aimed correctly for each broadcast usually works best. Some people, however, can receive only a few channels under the best of circumstances, and in such cases it may be wise to install separate antennas for each station and switch between them via controls in the house. Though the notion of a rooftop festooned with separate antennas—each aimed in a different direction—might seem ridiculous, such a setup would also give you maximum gain.

The reason is that the most efficient antennas are those that are tuned to receive

a specific frequency. Just as the length of a piano string determines the note or frequency that it emits, so the length of an antenna element determines the frequency to which it is most sensitive. Usually an antenna will be tuned to a frequency whose wavelength is two times the length of the active elements. Channel 2 has the lowest broadcast frequency of any TV channel, and its median wavelength is 17 feet 3 inches. An antenna tuned to a half wavelength of that channel will, therefore, be approximately 100 inches long. Channel 6 is broadcast on a higher frequency, and an antenna tuned for it would be only 69 inches long. Channels 7 through 13 are higher still, with half wavelengths of 34 to 27 inches. And in the ultra-high-frequency (UHF) band, half wavelengths can go down to 6½ inches. In other words, with the exception of special antennas tuned for one particular channel, all TV antennas are compromises.

Antenna designers make the best of this by using multiple active elements tuned at intervals across the band, and formulas have been worked out to establish the best element lengths and spacing for uniform gain. Most of the elements in such multi-element designs are electrically connected or active, but not all. The last and longest element is a reflector, which is simply grounded to the frame. Its job is to eliminate pickup from the rear and reinforce frontal sensitivity. There may also be short passive elements in the front: These so-called parasitic directors sharpen the antenna's directionality, thereby minimizing multipath pickup.

As a general rule of thumb, the more elements an antenna has, the greater its gain and directionality will be. For two antennas

with the same number of elements, the one designed to receive the most channels will have the lower gain per channel. And, more likely than not, the broader an antenna's channel coverage, the less predictable will be its directionality. Because of these intricate relationships, it is impossible to generalize about which antenna is best for your particular area. An antenna with particular strengths and weaknesses might be ideal in one locale but a failure in an area that poses a totally different set of reception problems.

Lest you despair of ever finding a suitable antenna, there is an almost foolproof method that involves nothing more than walking down your block. Look at the antennas your neighbors are using. The most popular design is probably the best. Antenna installers usually settle on one type for a particular area after lots of trial and error, and you can make use of their empirical investigations and save yourself the cost of a professional installation.

There are some general pointers I can offer, however, that should be helpful no matter what your reception conditions. I would avoid units that are said to work equally well from Channel 2 to Channel 83. Such antennas are invariably composed of a VHF section and a separate UHF array stuck out in front. The UHF elements can interfere with VHF performance, and reception of one or the other usually is compromised. I would rather use separate antennas and mount them one above the other. An additional benefit of such an approach is that signals from each antenna can be brought to the receiver via separate lead-ins. Round coax cable works fine for the VHF band, but UHF signals exhibit less loss when brought down with 300-ohm twin-lead cable.

Mounting your antenna the correct height above the roof is also important for good reception. Roof reflections will be minimized if you mount it at least as high as the wavelength of the lowest frequency available in your area. The tallest mast, therefore, would be for Channel 2, which has a wavelength of 17¼ feet. Make sure the antenna is not pointing directly at nearby obstructions, and then aim it carefully to minimize ghosting. Finally, don't try to get by with a cheap low-gain antenna and an RF booster. No amplifier can solve multipath problems, and all amplify noise (snow) as much as the signal itself. Only if you must feed multiple receivers from a single antenna is the use of an RF amplifier justified.

HF



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# CC030 CAMERA



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## DIGITAL AUDIO'S NEXT STEP MAY BE THE AIRWAVES, AS FULLY DIGITAL RADIO TRANSMISSION NEARS REALITY.

**B**Y NOW, MOST MUSIC lovers have either read about or heard for themselves the incredible reproduction offered by digital Compact Discs. But that's only part of the digital-audio story. The technology that makes CDs possible—digital encoding and error-corrected playback—is also being applied to a variety of broadcasting techniques. In the not too distant future, it should be possible to get high-quality digital programming over the airwaves.

You probably won't be listening to fully digital FM broadcasts, however. Transmitting digital audio information requires at least 20 to 50 times more

bandwidth than is needed for analog signals. And since FM station allocations are already in place and millions of radio receivers are set for them, it's not likely that digital audio will ever appear on the FM band. Some FM stations are now broadcasting CD recordings, but in many cases it's hard to hear any improvement in sound quality at the receiving end: No matter what the source, the signal must still be routed through the station's compressor.

*Charline Allen is a New York-based free-lance writer with a special interest in new communications technologies.*

BY

CHARLINE ALLEN

limiter, and often antiquated transmitter.

One medium that does have the bandwidth necessary for digital audio transmission is the coaxial cable used in cable television. If you have a cable, all you would need is a special digital-to-analog (D/A) converter, a stereo amplifier, and speakers. Such was the theory behind the Home Music Store (HMS), a direct-to-home digital service that died on the vine in June of 1982.

HMS was the brainchild of William Von Meister, the developer of

The Source, a popular videotex service. His idea was that HMS would operate like a record store, with subscribers paying \$10 a month to receive five cable-fed channels of commercial-free audio programming via a leased digital tuner/decoder. In addition, two extra channels would be available for taping of specially requested complete LPs.

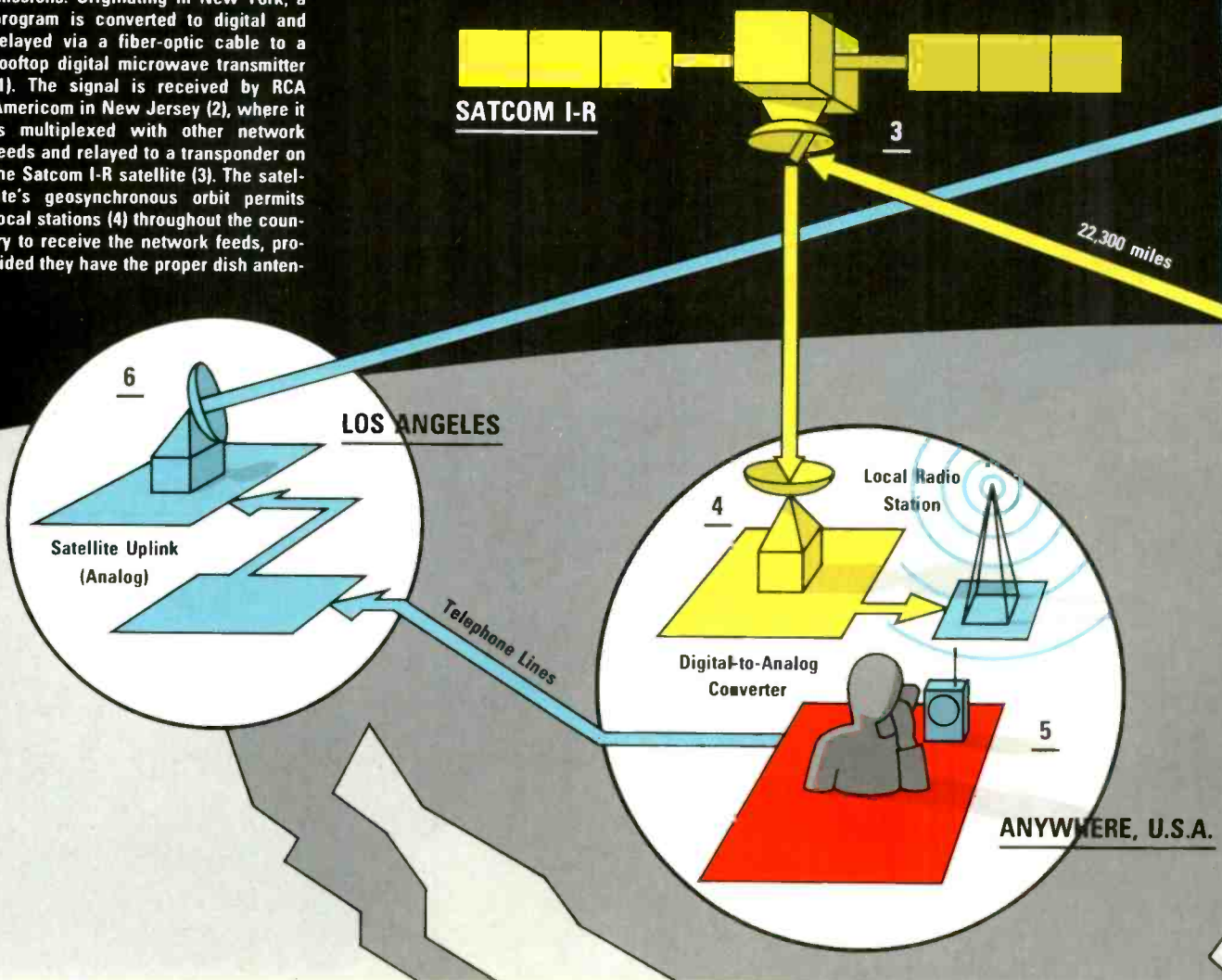
By calling a central computer via a Touchtone telephone, an HMS subscriber could choose from some 400 albums each month. The central computer would send a signal to the

decoder box, which would receive and decode the signal and even activate the subscriber's tape deck.

HMS intended to use first-generation digital copies of master tapes, so if the subscriber owned a tape deck capable of doing justice to the quality of the transmission—the specs for the system cited a maximum dynamic range of 96 dB—he would end up with a more faithful recording than that offered on LP. Moreover, HMS was to charge from \$2 to \$3 less than the cost of an album for each

## THE SATELLITE CONNECTION

Several radio networks are distributing their programs to local stations using satellite-relayed digital transmissions. Originating in New York, a program is converted to digital and relayed via a fiber-optic cable to a rooftop digital microwave transmitter (1). The signal is received by RCA Americom in New Jersey (2), where it is multiplexed with other network feeds and relayed to a transponder on the Satcom I-R satellite (3). The satellite's geosynchronous orbit permits local stations (4) throughout the country to receive the network feeds, provided they have the proper dish anten-





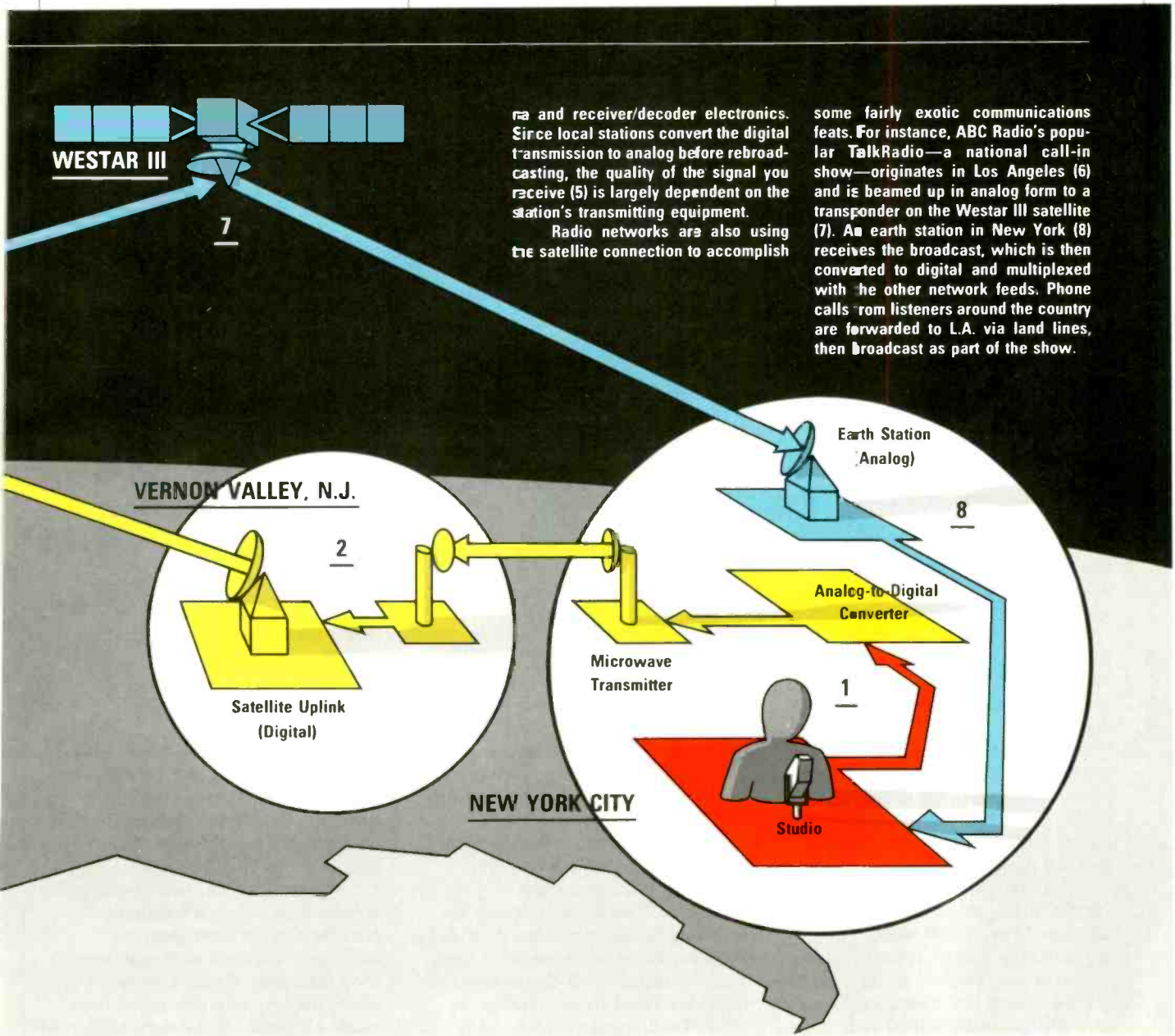
transmission. And there lay the rub. Retailers, understandably, howled their complaints to the record labels that had expressed interest in Von Mesiter's scheme, and HMS slowly faded into oblivion. Von Meister still argues that store owners would have profited from the sale of blank cassettes, but that's hardly compensation enough for the retailer, whose major stock-in-trade was being threatened.

If FM and—at least for the time being—cable are ruled out as digital-audio media, what's left? The answer

may very well lie in the heavens—by way of satellites. In fact, satellite-relayed digital audio transmissions from the major radio networks are probably already reaching your home, albeit in an analog form. ABC Radio, for instance, began digitally transmitting six of its network feeds to some of its local affiliates in April and promises that just about all 2,000 of them will be equipped to receive digital transmissions by the end of the year. CBS, NBC, and RKO are also going digital, and all have agreed on one

encode-decode and satellite transmission system: RCA Americom's Audio Digital Distribution Service (ADDS).

There are many impetuses for this very expensive undertaking. One is quality. For many years, radio network programs have been distributed via telephone land lines, which are notoriously low-fi (the bandwidth is less than 5 kHz) and noisy—especially when the signal must be diverted to microwave relays for part of its journey. Digital transmission cures the



and receiver/decoder electronics. Since local stations convert the digital transmission to analog before rebroadcasting, the quality of the signal you receive (5) is largely dependent on the station's transmitting equipment.

Radio networks are also using the satellite connection to accomplish

some fairly exotic communications feats. For instance, ABC Radio's popular TalkRadio—a national call-in show—originates in Los Angeles (6) and is beamed up in analog form to a transponder on the Westar III satellite (7). An earth station in New York (8) receives the broadcast, which is then converted to digital and multiplexed with the other network feeds. Phone calls from listeners around the country are forwarded to L.A. via land lines, then broadcast as part of the show.

quality problem right off: The ADDS system's specified frequency response is 20 Hz to 15 kHz,  $\pm 0.1$  dB, and its companded digital encoding is said to be capable of handling a dynamic range in excess of 80 dB.

The other major problem with land-line transmission is that just one program at a time can be fed to a local station. For a network that offers several different program options, that means that different feeds must be staggered; the local station, therefore, is forced to either schedule its broadcasts around the network or rebroadcast from taped material. The situation for a local station gets even more complex when it chooses to subscribe to several networks, each of which is carried on a separate telephone line. Digital transmissions, however, can carry several programs at once: ABC says it will broadcast 19 feeds simultaneously, while CBS, NBC, and RKO will each program six channels. The affiliate will be able to choose between them with a flick of a switch on his satellite receiver.

**A**ND THANKS to the Satcom I-R satellite, placed in a geosynchronous orbit around the earth by the Challenger space shuttle in April, reaching local affiliates is no problem. Beamed up to one of the satellite's transponders from an uplink station in New Jersey, the multiplexed network programs are amplified and rebroadcast in a footprint that reaches all of the nation's radio stations. Receiving the broadcasts is simple: Scientific-Atlanta, a company specializing in digital communication systems, offers complete earth-station packages consisting of a 9½-foot-diameter dish antenna, a low-noise amplifier, receiver electronics, and a digital processing unit. The \$10,000 to \$15,000 radio stations have to part with to buy these downlinks was an initial stumbling block to the implementation of the system, but late reports indicate that most stations have seen the light.

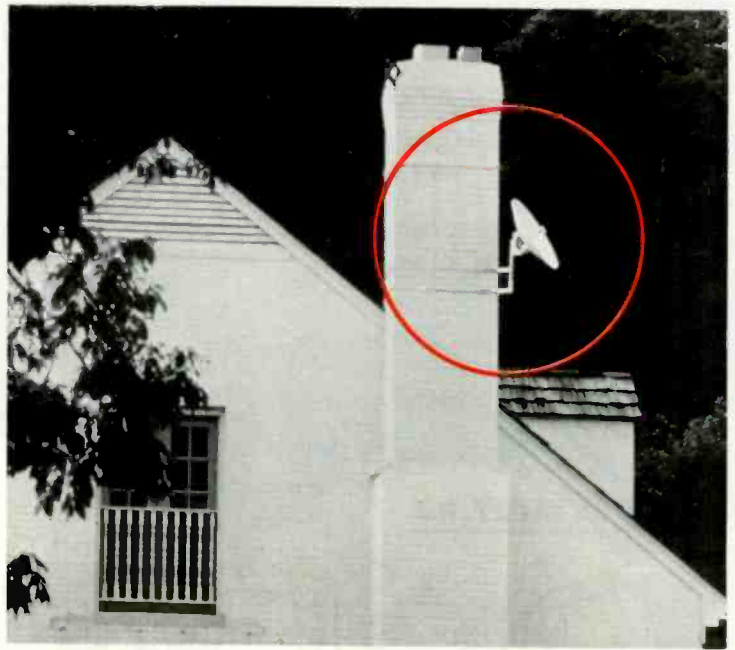
Will digital networking make an audible difference in your radio reception? In terms of what programming will be available, the answer is yes. Because of the poor quality of land-line transmission, some networks gradually shifted their emphasis from music to talk shows. But, with the satellite-relay system now

available, many network executives are promising more high-quality music programming. It may well be that access to high-quality audio feeds will also spur radio stations to upgrade their broadcasting equipment. If that happens, the basic quality of your radio reception should improve as well.

Can you tap into the network feeds yourself, bypassing your local radio station? Perhaps, but it's an ambitious undertaking. If you already own a backyard dish antenna for receiving satellite-relayed analog video broadcasts, you are only half way

dish, DBS subscribers need purchase only a smaller 3½-foot rooftop antenna because of special high-power satellite transponders that demand less gain at the receiving end.

Seven companies have received licenses from the Federal Communications Commission for the DBS system, and all are planning to start out with video broadcasts aimed at homes that are not currently reached by cable television systems. When questioned about the likelihood of digital audio on DBS, representatives of United Satellite Communications



**IN THE NEAR FUTURE** it will be possible to receive satellite-relayed broadcasts at home with a small, rooftop-mounted dish antenna.

there. The Scientific-Atlanta receiver and decoder electronics necessary to tune in the digital transmissions are incredibly complex, and it will probably be some time before some enterprising manufacturer offers affordable home versions.

A much more likely option for receiving digital transmissions at home is scheduled to begin operation next year. Its name is self-descriptive: direct-broadcast (from) satellite, or DBS. The transmission scheme of DBS is identical to that used by the radio networks, but instead of a 9½-foot

and Satellite Television Corp.—the two companies that plan to implement the system first—noted that it is certainly feasible to broadcast digitally on DBS, but that primary channel allocations will be for video.

Considering the pace of change in broadcasting today, it's entirely possible that the limitations we commonly associate with radio may soon disappear. As the Compact Disc points the way to a new era of home-music playback, digital networking and DBS promise a profound change in music delivery systems.

HF



# One of the best pieces of audio equipment you can buy



## is a piece of video equipment.

### Introducing Beta Hi-Fi.™

Throughout the years, when it came to enjoying great home video, something was always missing from the picture. Great sound.



(Dynamic Range, measured in dB, is the ratio of the softest to the loudest sounds an audio medium can handle.)

Stereo VCR's didn't solve this problem. With a dynamic range of about 46 dB (only slightly better sound than AM broadcasts), they fell way short of bringing the "true theater experience" into your home. So you still couldn't find a VCR with sound quality in tune with picture quality.

That was until now.

Sony brings you the best sound system ever developed for home video: Beta Hi-Fi.

Beta Hi-Fi boasts an incredible 80 dB of full-color sound when hooked up to your audio system, and wow and flutter so low it can scarcely be measured (less than 0.005%).

That's sound quality superior to all but the most advanced digital audio sys-

tems. And that makes this piece of video equipment just about the best piece of audio equipment you can buy.

Unlike other stereo VCR's, Beta Hi-Fi records both stereo sound and video using the rapidly spinning video heads, with a tape-to-head speed over 200 times faster than conventional VCR audio recording.

The result: Fantastic, full-fidelity sound to match the brilliant picture quality of a Sony Betamax.®

Imagine being able to see your favorite movies and to feel them as well, as this true-to-life sound explodes onto the screen.

Experience all the moving intensity of *An Officer and a Gentleman*, the non-stop action of *The Road Warrior*, and the melodic vibes of Lionel Hampton in concert. Or start your own video collection of your favorite rock artists with Video 45's.™

And, since Beta Hi-Fi also lays down a standard monaural track, it's fully compatible with existing Betamax equipment and Beta videocassettes.

But don't just take our word for it; experience it for yourself at your nearest Sony dealer.

Beta Hi-Fi. It's like nothing you've ever seen... or heard.



## SONY®

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*News and  
new equipment*

### DIGITAL BITS

A digital audio recorder for less than \$200! Sounds impossible, but Seiko is offering just that in its MGN-01M wristwatch. Tap the record button on the watch, and up to eight seconds of voice will be stored for recall—either manual via the play button, or automatic if the alarm setting is used. The watch uses a delta-modulation



technique to translate voice into digital information, which is stored in a 16-kilobit CMOS RAM (random-access memory) chip. Though the words are intelligible, the reproduction is extremely low-fidelity. The delta-modulation coding process uses only one-bit-long digital words, and the sampling rate in the eight-second recording mode is just 4 kHz. . . . **If you want to hear** truly extraordinary digital voice reproduction, drop a quarter into Atari's Star Wars next time you're passing a video-game arcade. Atari's designers are taking sound effects very seriously these days: The game has a separate processor board dedicated to speech and sound-effects generation. Star Wars features 18 segments of the film's dialogue as spoken by the characters themselves. (Atari selected the dialogue it wanted

from soundtrack footage it obtained from Lucasfilm.) The sound was then digitally coded and stored in ROM



(read-only memory) chips in the game console. The action is typical shoot-'em-up fare, but as you are zooming in over the Death Star with the Empire's laser canons blasting at you, it's comforting to hear Alec Guinness say, "Remember, the Force will be with you, always." . . . **A more musical** application of digital audio technology is Technics's new SV-110 PCM processor. This home version of the SV-100 portable processor, which we reviewed in August, not only records digitally onto a VCR but also enables digital dubbing between two VCRs. The processor includes improved error-correction circuitry, so that recordings can be made at a VCR's slowest speed, and uses EIAJ-standard 14-bit quantization. At \$800 it is the least expensive PCM processor on the market. ●

### CASIO KEYBOARD



Electronic keyboards are getting smarter and cheaper, and the aspiring musician can do some pretty sophisticated things with them. Casio's PT-50, for instance, costs less than \$200, but offers 16 background rhythms and eight instrument sounds. Especially welcome is its ability to store musical compositions in active memory, on cassette, or in battery-equipped RAM (random-access memory) packs. The 31-key device will also play preprogrammed tunes via ROM (read-only memory) modules. Casio's ROM packs sell for about \$30, and each contains approximately 15 songs. The unit also has a small LCD screen that displays a graph of the keyboard itself; during playback of preprogrammed tunes, a cursor highlights the note being played, providing visual feedback for the novice. Circle 139 on Reader-Service Card



**COLOR ME TINY**

A marvel of miniaturization, Panasonic's CT-101 is being touted as the world's smallest color TV set. Its screen measures a mere 1½ inches high (diagonally), and the set will operate on eight AA cells. Though it has a built-in tuner section and can receive VHF and UHF broadcasts, the CT-



101's chief appeal is its composite-video input, which makes the 1½-pound unit a dandy color monitor for on-location taping.

Circle 140 on Reader Service Card

**DIGITAL RECORDERS:  
THE NEXT GENERATION?**

With stationary-head digital recorders quickly fading from the prototype scene (see our coverage of the Summer CES in last month's issue), Sony is quietly working on a whole new approach that combines a rotary-head mechanism with a tape cartridge one-half the size of a Compact Cassette. Early reports describe the system as a PCM encoder/decoder that uses 16-bit quantization and a 44.1-kHz sampling rate (the same as the Compact Disc). The rotary head in combination with metal-alloy tape is said to make possible a recording density of 52 kilobits per inch, a density five times greater than possible on a VCR with standard videotape. This high packing density, in turn, reduces tape consumption to about one-quarter of that necessary for analog recording on a Compact Cassette and allows for access to musical selections at about 200 times normal speed. But here's the real corker: Sony says that the new machine will make three-hour recordings. ●

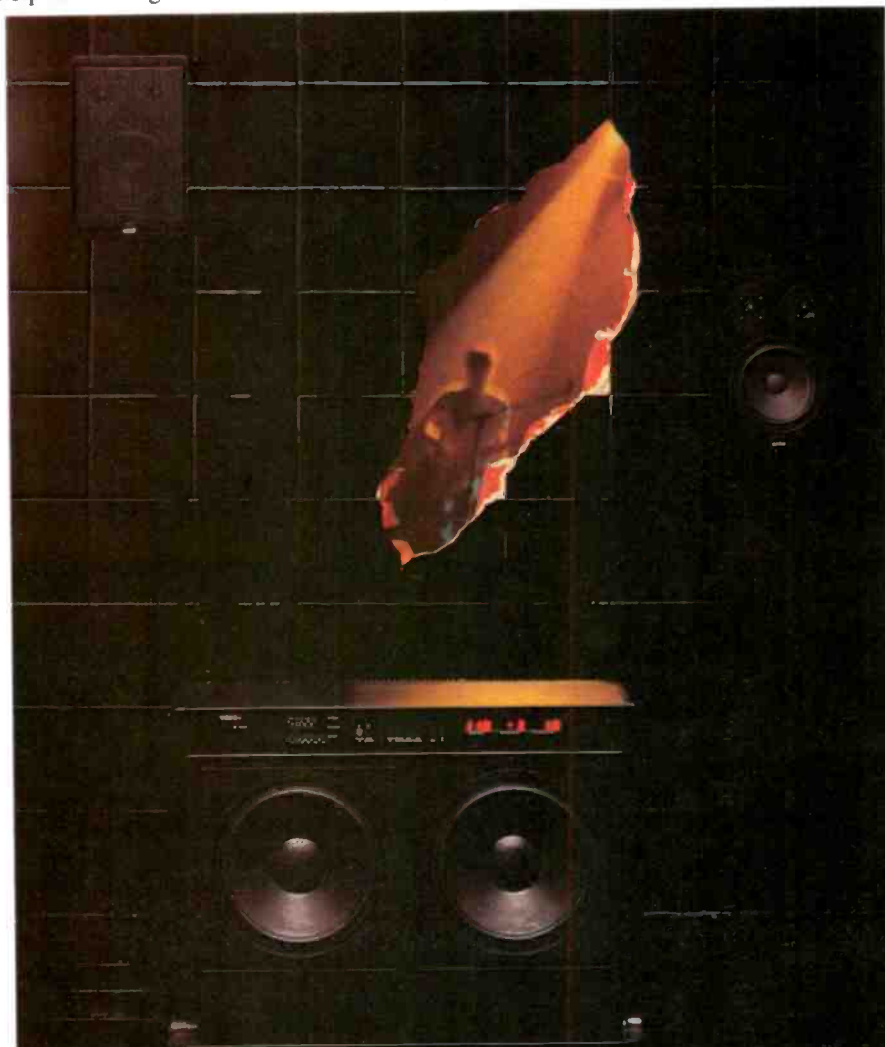
**COUCHLESS CASTING**

A company called Five Star Productions has found yet another use for the optical videodisc: an auditioning medium for casting directors. The company has prepared a sampler, appropriately titled *New Faces*, to replace the traditional print-media (or glossy-plus-bio) casting guides. The computer printout that accompanies the disc supplies cross-referencing according to talents and attributes to help the casting director zero in on

those faces most appropriate to the needs of the moment. ●

**A MEMORY EXPLOSION**

NEC recently announced that it is working on a chip capable of storing 1 gigabit of digital data. The chip, which takes advantage of magnetic "twists" on the surface of a single-crystal garnet film, might have applications for buffer memory in the number-crunching circuits of video and audio signal-processing equipment. ●



Pictured above, the Canton "Plus A" digitally controlled super subwoofer, generating 310 watts of bi-amplification, shows 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**

The product of German research and German craftsmanship

Canton North America, Inc. 254 First Avenue North Minneapolis, MN 55401 U.S.A. (612)333-1150

Principal sales offices in: Germany, United States, Italy, Spain, British Hong Kong, Canada, South Africa, Norway, Sweden, Saudi Arabia, Greece, Argentina, Luxemburg, Netherlands, Republica Dominicana, Switzerland

Circle 33 on Reader-Service Card



# State Of The Art Television Just Moved To Another State.

The Mitsubishi CM-1901 component video system shares a great deal more than a striking resemblance to the electronic exotica of the professional.

For it marks the first time ever that professional quality video and audio has been made available for the home.

Far more than components separated

for cosmetic reasons that some call "pro" television, it delivers performance that is professional in every aspect.

Except price.

The CM-1901 brings this lofty level of performance and technology into the home in the form of a High-Definition Diamond Vision™ picture tube.



From a standard broadcast signal, the CM-1901 monitor will produce well in excess of 330 horizontal lines of resolution. That adds up to a stunning 400 lines from video discs. For computers, that translates into the faithful reproduction of 2000 bright, legible characters and high-density graphics.

*Mitsubishi's fine-pitch design delivers 36% more resolution.*



*High-definition (.4mm) CRT.*



*Conventional (.63mm) CRT.*

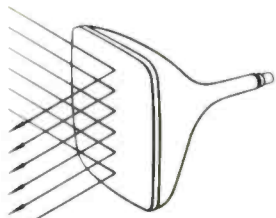
**36% MORE  
RESOLUTION,  
40% MORE COLOR.**

The CM-1901's ability to discern such fine detail is made possible by a 0.40mm fine-pitch black-matrix striped phosphor screen. In conjunction with the reduced beam spot size of its multi-step focus electron gun and the extended high frequency output of the video amplifiers, this results in 36% greater resolution than a conventional screen.

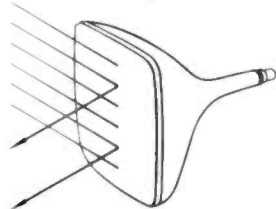
Further separating CM-1901's screen from the conventional is a feature that can be legitimately called one of the most significant innovations in the color picture tube ever.

**Diamond Vision.**

The Diamond Vision screen selectively transmits only the most desirable light wavelengths of the phosphors, producing truer, cleaner primary colors. The special chemicals mixed into the screen also absorb ambient light striking the faceplate. With color impurities filtered out and less light reflected back at you, the range of colors that can be reproduced is improved



*Conventional screen reflects most ambient light.*



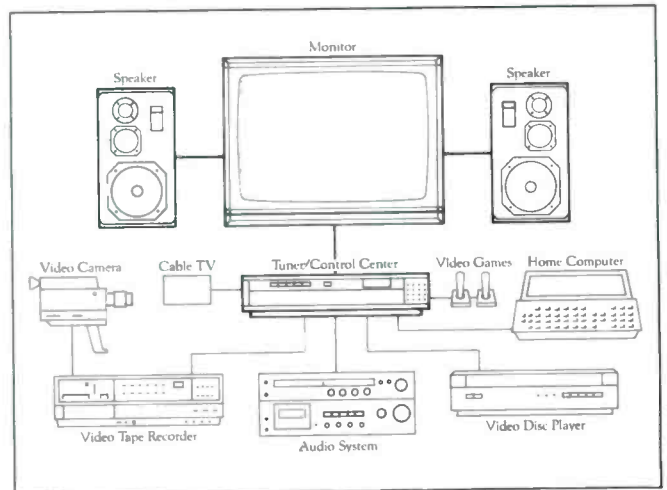
*Diamond Vision absorbs most ambient light.*

dramatically — as much as 40%. Subtle shades and hues are revealed. The picture takes on a more three-dimensional quality.

When used with a computer, an additional high-contrast tint helps reduce the eye-strain associated with long hours spent in front of the monitor.

The "nerve center" of the system is the TX-102R Control Center. Besides functioning as a sophisticated routing network integrating your entire system, it offers 139 channel cable-ready tuning, phase-locked-loop, frequency-synthesized, with the convenience of random access and remote control, plus twin video outputs, twin antenna inputs, and an RGB input for direct access to your computer.

The audio side of the CM-1901 system features a pair of three-way bass-reflex, acoustically-tuned speakers that deliver astonishing realism from tapes or videodiscs.



*The CM-1901's Component System is flexible, capable of expanding with your needs.*

Spend the money for the CM-1901 Component System and you can be sure of one thing. State-of-the-art's new home is yours.

**MITSUBISHI**

Even If You Can't Have The Best Of Everything,  
You Can Have The Best Of Something.

Mitsubishi Electric Sales America, Inc., 3030 E. Victoria St., Rancho Dominguez, CA 90221.

# "...Jensen has gone far beyond any other company in developing the first totally integrated audio/video system."

Video Review, March 1983

The experts who write for the leading home entertainment magazines don't just know video, they live it. That's why we want you to know what they think about Jensen Audio + Video™ Components.

## THE RECEIVER

**"Amazingly well thought out... its flexibility and provisions for future expansion put it in a class by itself."** High Fidelity, June 1983

That's what they said about the AVS-1500™ Audio + Video Receiver, the only electronic component which can provide access to every form of audio or video entertainment. It incorporates an AM/FM tuner, 133 channel cable-ready video tuner and 50 watt per channel stereo amplifier. (50 watts per channel continuous output power, minimum RMS into 8 ohms, with no more than .05% total harmonic distortion.) Performance is further enhanced by such features as DNR™ noise reduction system, simulcast tuning circuitry, micro-processor controlled switching and completely independent headphone circuitry. A wireless remote control is standard equipment, of course.

## THE MONITOR

**"We strongly suggest you see the AVS-3250 monitor in operation."**

Video, April 1983

The 430 lines of horizontal resolution stem from Jensen's LumaChrome™

high resolution picture circuitry which also provides superior color transient suppression, full bandwidth flat luminance signal and improved chrominance signal. The result is a picture of startling clarity and realism which is easily distinguished from ordinary television.

## THE SPEAKERS

**"State of the art loudspeaker technology and design."**

Sight & Sound Marketing, September 1982

The magnets in conventional high fidelity speakers distort television pictures so as to be unrecognizable. Jensen AVS-5250 speakers have specially designed and shielded magnets. The result is the first high fidelity speaker designed for video applications. The sound that video programming has always deserved is now possible.

## THE SYSTEM

**"... a rare combination of good taste, good engineering and functional design."** Stereo Review, January 1983

The real beauty of Jensen Audio + Video Components is in how they work together. Incredible sound. Unprecedented picture. Total control

of all audio and video needs in the palm of your hand.

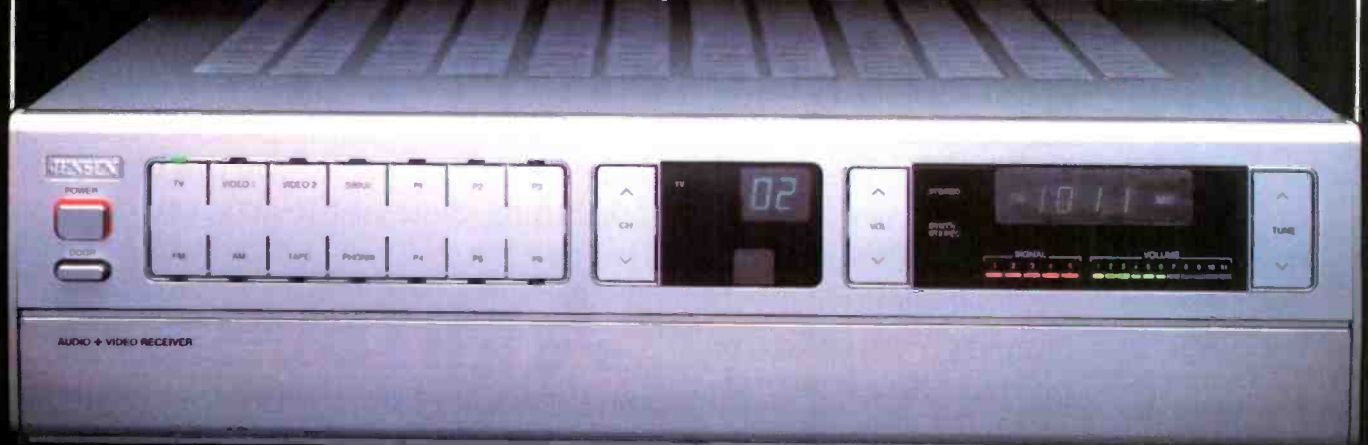
Once you see a Jensen demonstration, you'll see why *Video Review* said "Its features and flexibility will... be copied by many manufacturers who want to cater to the needs of those videophiles who appreciate superb sound reproduction."

For complete reviews, product information and a list of Jensen retailers, write Jensen Audio + Video Components, Dept. 10, 4136 N. United Parkway, Schiller Park, IL 60176 or call 1-800-621-0660.



**AUDIO + VIDEO™  
COMPONENTS**

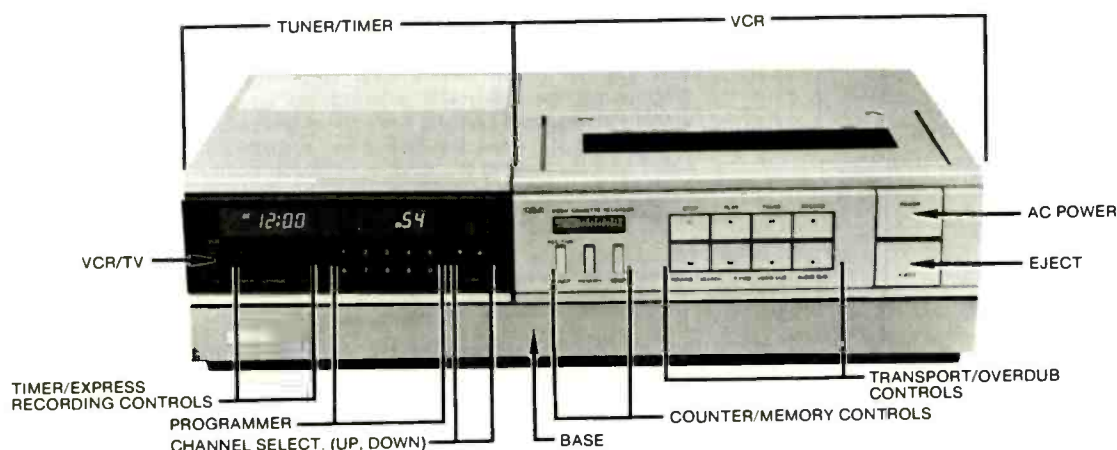
**Only from  
JENSEN®**





# RCA VJP-900 CONVERTIBLE VCR

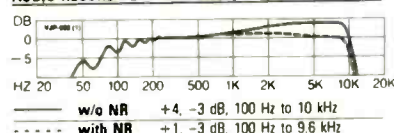
RCA SelectaVision VJP-900 Convertible VHS videocassette deck, with 21-day/eight-event programmable tuner/timer, detachable recorder module, stereo audio with switchable noise reduction, and wireless remote control. Dimensions: complete assembly, 17 by 4¾ inches (front panel), 10¾ inches deep plus clearance for connections; VCR module alone, 10¼ by 3½ inches (front panel), 10½ inches deep. AC convenience outlets: one unswitched (300 watts max.). Price: \$1,300; optional NB-009 rechargeable battery, \$50; optional PJP-600 AC adapter and battery charger, \$100. Warranty: "limited," one year parts, 90 days labor. Manufacturer: made in Japan for RCA Consumer Electronics, 600 N. Sherman Dr., Indianapolis, Ind. 46201.



## VCR SECTION

Except where otherwise indicated, data are for all speeds—SP, LP, and EP (SLP). All data were taken at the direct audio and video outputs, with test signals applied to the direct audio and video inputs. The 0 dB reference input level is the voltage required to produce 3 percent third harmonic distortion at 315 Hz; the 0 dB reference output level is the output voltage from a 0-dB input. "NR" stands for "noise reduction."

### AUDIO RECORD/PLAY RESPONSE, SP (-20 dB; mono)



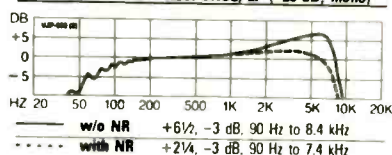
**T**HE RCA VJP-900 may well be the precursor of the next generation of portable VCRs. Of course, portable video recording is nothing new, and the decks have become progressively smaller and lighter, but, when using the portable at home, you had to settle for a separate

tuner with unsightly umbilical cords tying the two together. No more! The VJP-900's portable recorder docks into its mating tuner/timer/power-supply so that the combination looks just like an ordinary one-piece home recorder.

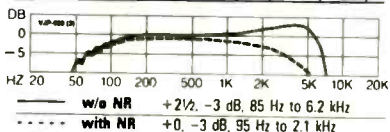
As a portable, the VJP-900 is a bit larger and heavier (8 pounds) than the

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.

**AUDIO RECORD/PLAY RESPONSE, LP (-20 dB; mono)**



**AUDIO RECORD/PLAY RESPONSE, EP (-20 dB; mono)**



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

|    | Without NR | With NR |
|----|------------|---------|
| SP | 38 dB      | 42 dB   |
| LP | 37¼ dB     | 42¾ dB  |
| EP | 39¼ dB     | 43¾ dB  |

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

|    |        |
|----|--------|
| SP | ≤ 3.0% |
| LP | ≤ 6.0% |
| EP | ≤ 2.7% |

**CHANNEL SEPARATION (315 Hz)**

|  |       |
|--|-------|
|  | 30 dB |
|--|-------|

**FLUTTER (ANSI weighted peak; R/P)**

|    | Average | Maximum |
|----|---------|---------|
| SP | ±0.13%  | ±0.16%  |
| LP | ±0.19%  | ±0.22%  |
| EP | ±0.25%  | ±0.34%  |

**SENSITIVITY (for 0 dB output; 315 Hz)**

|            |         |
|------------|---------|
| line input | 62 mV   |
| mike input | 0.35 mV |

**AUDIO OUTPUT (from 0 dB input; 315 Hz)**

|  |           |
|--|-----------|
|  | 0.34 volt |
|--|-----------|

**VIDEO RECORD/PLAY RESPONSE**

|             | SP      | LP      | EP      |
|-------------|---------|---------|---------|
| at 500 kHz  | -1 dB   | -1 dB   | -2½ dB  |
| at 1.5 MHz  | -10½ dB | -9¾ dB  | -11¼ dB |
| at 2.0 MHz  | -16½ dB | -16½ dB | -19 dB  |
| at 3.0 MHz  | -18½ dB | -17 dB  | -15½ dB |
| at 3.58 MHz | -15 dB  | -20 dB  | -5 dB*  |
| at 4.2 MHz  | **      | **      | **      |

**LUMINANCE LEVEL**

|  |          |
|--|----------|
|  | 10% high |
|--|----------|

**LUMINANCE NONLINEARITY (worst case)**

|    |      |
|----|------|
| SP | ≈ 3% |
| LP | ≈ 6% |
| EP | ≈ 6% |

**CHROMA LEVEL**

|    |           |
|----|-----------|
| SP | 1½ dB low |
| LP | 2½ dB low |
| EP | 2½ dB low |

**CHROMA DIFFERENTIAL GAIN**

|    |       |
|----|-------|
| SP | ≈ 10% |
| LP | ≈ 10% |
| EP | ≈ 13% |

**CHROMA DIFFERENTIAL PHASE**

|  |        |
|--|--------|
|  | ≈ ± 7° |
|--|--------|

**AVERAGE CHROMA PHASE ERROR**

|    |        |
|----|--------|
| SP | ≈ + 4° |
| LP | ≈ + 4° |
| EP | ≈ + 5° |

\*Fluctuates. This is a peak reading.  
\*\*Too low to measure

smallest of its peers, but totable nonetheless. It's rated for one hour of recording from a fully charged battery, which slides into a slot in the back. A special circuit reduces power consumption after five minutes in RECORD/PAUSE while keeping the camera active so that recording can continue immediately after you release PAUSE. The battery (an optional accessory) recharges through the tuner/timer, and a battery indicator tells you when a recharge is required. The recorder also will operate from a car

Dolby, since we found no sign of the Dolby logo either on the machine or in the owner's manual) can be switched on to improve dynamic range.

The tuner/timer can be programmed for unattended recording of as many as eight different programs over a 21-day period. It also can be set to record the same program every day or week. If you've already begun recording a program and want to go out or hit the sack, the VJP-900's "express-recording" feature will turn the system off after a preset interval



**SECONDARY CONTROLS** are concealed behind a flip-down door at the bottom of the base unit. The left end, shown at top, holds the buttons for clock setting, timer programming, day-of-the-week selection, and for specifying that the unit should record a programmed time slot every day or week plus the VCR's tracking control. The right end of the panel, at bottom, has an audio-input switch for selecting the sound from the tuner or a camera, a mono direct-audio input, or a stereo direct-audio input and a speed selector switch. The last three controls are inoperative when the VCR is removed from the base unit.

battery via an optional accessory cord. Other options include a carrying case, a shoulder strap, and an AC adapter/charger that will operate the recorder independently of the tuner.

The VJP-900 records and plays at all three VHS speeds—SP, LP, and EP (SLP), although its special effects (still frame, frame advance, variable slow motion, reverse, and active search) function only in the SP and EP modes. It offers both audio and video dubbing, so that you can overlay not only a soundtrack, but a portion of the video program as well. In audio dubbing, the video track is left unscathed; in video dubbing, the audio remains untouched. The VJP-900 records and plays in stereo or mono, as you desire. A noise-reduction system (presumably not

from 30 minutes to four hours in 30-minute increments.

The tuner is designed to receive all VHF and UHF broadcasts (Channels 2 through 83) as well as cable. You can choose between the two via a switch (NORM/CATV); a second switch (STD/ICC/HRC) selects the tuning system compatible with your cable hookup. You can tune any channel directly by punching up its number on a front-panel keypad (a zero must be entered before single-digit channel numbers) or scan up and down the band via a set of push-buttons replicated on the infrared remote control. And you can "erase" whatever channels are unused in your area to speed up the scan.

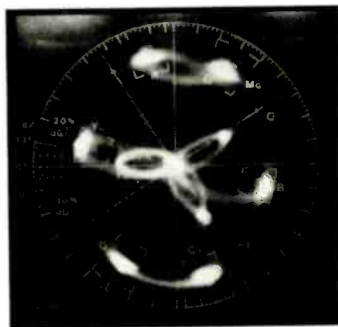
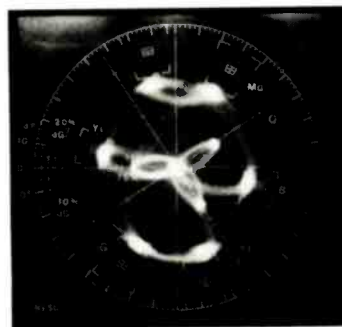
The remote enables you to turn the system on and off, switch between



VCR and TV viewing, scan through the channels, and control the normal VCR transport functions: PLAY, RECORD, STOP, STILL/PAUSE, REWIND, and FAST FORWARD. It even enables you to control tracking in the slow-motion, still-frame, and frame-advance modes. Each of these functions also can be operated at the main unit, but certain additional features are available only via the remote. These include REVERSE (which provides reverse-direction viewing), FRAME ADVANCE (which advances the picture one frame

trimmed into place by touching up the monitor's color control. Chroma differential gain and phase are quite low, indicating good retention of saturation and hue as scene brightness changes. And, in general, the chroma phase error also is small, so colors will be about as true to life as your monitor (and source material) will permit.

Video response (which determines horizontal resolution) is 16½ dB down at 2.0 MHz (a convenient benchmark) at the two faster speeds and 19 dB down in the EP mode. As a result,



**VCR COLOR ACCURACY** is virtually identical at all three speeds, so we are showing the vectorscope photos for the SP mode only. The one at left shows a very slight loss of color saturation (chroma level) and an equally small amount of hue (chroma-phase) inaccuracy. The photo at right was made with 1½ dB extra chroma gain and approximately 4 degrees of clockwise phase rotation, to simulate the best color one could obtain using the controls on a monitor. This puts all six color vectors almost right on the small targets, which is excellent. The fuzziness is caused by chroma noise, which is, surprisingly, lower in EP and lowest in LP. Chroma level is down an additional 1 dB in LP and EP, and the chroma-phase error is about 1 degree greater in EP. Except for the variation in chroma noise, these differences are negligible.

per press or at 1/20 speed if held down), SLOW and VARIABLE (which together provide slow-motion playback from 1/5 to 1/30 normal speed on an EP recording, 1/10 to 1/30 normal on SP tapes), and SEARCH (which permits fast scanning through the tape while presenting a viewable picture).

In Diversified Science Laboratories' bench tests, the VJP-900's video-recorder section acquitted itself almost equally well at all three speeds. Luminance level is close to the mark (about 1 dB high) and identical in all modes. Luminance (gray-scale) linearity is a tad better in SP than at the slower speeds but really is excellent at all three. Chroma level is a little better in SP but not that far off in LP or EP either, and certainly can be

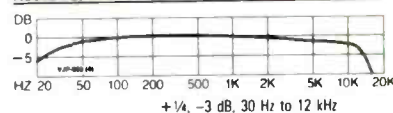
picture detail is rather soft. The improved response at higher frequencies in the EP mode does not serve to counteract the deficiencies at lower frequencies, for much of the detail viewable at normal distances is found in the region from 1.5 to 2.5 MHz. If that is missing, reproduction of finer detail is likely to go unnoticed.

In our viewing tests, we preferred the picture in the LP mode to that at SP or EP, but LP recording precludes using the special-effects features. Resolution seemed a mite sharper (perhaps because of the somewhat better response at 1.5 MHz), and chroma noise was noticeably lower than at the other two speeds, though not as low as the best we've seen.

The choice between SP and EP is

### TV TUNER SECTION

#### AUDIO FREQUENCY RESPONSE



#### AUDIO S/N RATIO (A-weighted)

|                                 |       |
|---------------------------------|-------|
| best case (no video signal)     | 51 dB |
| worst case (crosshatch pattern) | 13 dB |

#### RESIDUAL HORIZONTAL SCAN COMPONENT (15.7 kHz)

|  |        |
|--|--------|
|  | -48 dB |
|--|--------|

#### MAXIMUM AUDIO OUTPUT

|  |           |
|--|-----------|
|  | 0.44 volt |
|--|-----------|

#### AUDIO BUTPUT IMPEDANCE

|  |          |
|--|----------|
|  | 615 ohms |
|--|----------|

#### VIDEO FREQUENCY RESPONSE

|             |            |
|-------------|------------|
| at 500 kHz  | flat       |
| at 1.5 MHz  | -1/2 dB    |
| at 2.0 MHz  | -1 1/2 dB  |
| at 3.0 MHz  | -2 dB      |
| at 3.58 MHz | -3 3/4 dB  |
| at 4.2 MHz  | -16 1/2 dB |

#### LUMINANCE LEVEL

|  |          |
|--|----------|
|  | 10% high |
|--|----------|

#### LUMINANCE NONLINEARITY (worst case)

|  |       |
|--|-------|
|  | ≈ 11% |
|--|-------|

#### CHROMA LEVEL

|  |              |
|--|--------------|
|  | 4 3/4 dB low |
|--|--------------|

#### CHROMA DIFFERENTIAL GAIN

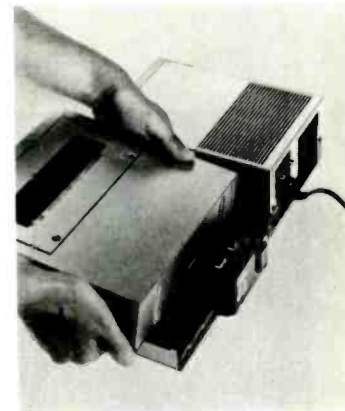
|  |       |
|--|-------|
|  | ≈ 30% |
|--|-------|

#### CHROMA DIFFERENTIAL PHASE

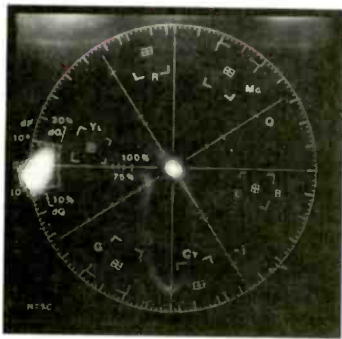
|  |        |
|--|--------|
|  | ≈ ± 5° |
|--|--------|

#### CHROMA PHASE ERROR

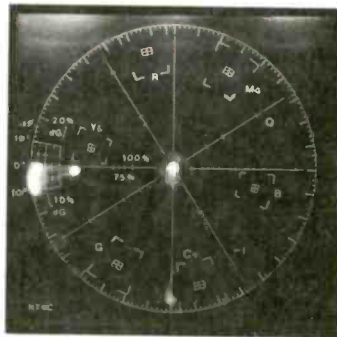
|               |       |
|---------------|-------|
| red           | +5°   |
| magenta       | +6°   |
| blue          | +3°   |
| cyan          | +11°  |
| green         | +9°   |
| yellow        | +10°  |
| average error | ≈ +7° |



**CONVERTIBILITY** is the VJP-900's key feature: Just slip the recorder module out of the base unit, and you have an 8-pound, battery-operated portable VCR. Camera, microphone, headphone, direct video and stereo-audio, and DC-power jacks are on the right side, along with a noise-reduction switch.

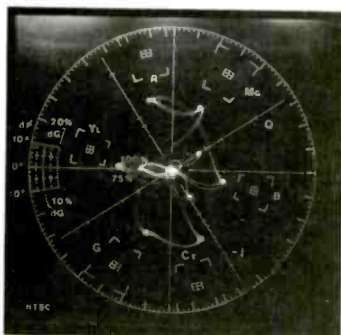


**VCR COLOR CONSISTENCY** is very good (almost identically so) at all three speeds. This photo is for the SP mode. Ideally, the white blob at the left (its diffuseness is caused by chroma noise) would be a single dot at the intersection of the nine-o'clock axis with the rim of the grid. The radial spread 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.



**TUNER COLOR CONSISTENCY.** The narrow angular spread of the color vectors (the white dots near the periphery of the grid) indicates low chroma differential phase: Hues shift very little with changes in brightness on the VJP-900's tuner. Chroma differential gain, indicated by the radial spread of the vectors, is not as good. But since the only significant drop in chroma level occurs at the top of the luminance scale, there will be little loss of color saturation except in the brightest scenes.

pretty much of a toss-up. From the video side, resolution is better in SP, but chroma noise is slightly lower in EP. On the audio side, SP is definitely preferable to EP. Flutter is only half as great, and with noise reduction response is acceptably flat from less than 100 Hz to almost 10 kHz. EP audio response with noise reduction is restricted enough to cause noticeable



**TUNER COLOR ACCURACY** is 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 4 1/4 dB additional chroma gain and approximately 7 degrees of clockwise phase rotation—simulates the best results one could obtain using the color and tint controls on a monitor. With this adjustment, performance is excellent.



dulling of the sound, so we opted to forgo noise reduction in this mode. LP-mode audio splits the difference between the two other speeds, but is closer to the SP performance.

The VJP-900's stereo separation is surprisingly good considering the narrow, closely spaced audio tracks that are used. Like most other VCRs, it has an automatic level control (ALC) that "rides gain" to prevent gross audio overload. But the circuit does not come into play until 6 dB above the 3 percent distortion level, at which point THD has already risen to almost 6 percent. Had our audio signal-to-noise (S/N) figures been referenced to the *maximum* audio output level, they would have been about 7 to 8 dB better than they appear in the data.

The VJP-900's tuner performs well. Audio response is smooth and as extended as is practical in a TV tuner. Residual horizontal-scan whistle is well suppressed, and the signal-to-noise ratio under average picture conditions is quite good. (When presented with highly repetitive video information, such as a crosshatch test pattern, buzz does increase markedly, however.)

Video response is admirably uniform to the chroma-burst frequency (3.58 MHz), testifying to very sharp resolution on good broadcasts, and luminance level is acceptably close to the mark. Color accuracy is quite good—cyan, yellow, and green being farthest off target—and luminance (gray-scale) linearity is equally admirable. As usually is the case, chroma level is a bit low, but this normally can be compensated for on the monitor. Differential phase is well within acceptable bounds, indicating that color tint (hue) remains the same despite changes in scene brightness. Although the chroma differential gain is rather high, the error occurs only at the highest luminance step, which means that color saturation remains constant except in very bright scenes.

The RCA SelectaVision VJP-900 is the first example of what may be the new look in home video equipment—the "convertible" VCR. And apart from the recorder section's slight bulkiness and somewhat restricted video frequency response, it works quite well. Those who are torn between buying a portable and buying a "console" VCR now can have their cake and eat it too.

Circle 106 on Reader-Service Card



# SANYO AVM-196 VIDEO MONITOR

Sanyo Pro-Ponent AVM-196 19-inch color video monitor, with NTSC-composite and RGB video inputs and a built-in 5-watt (7-dBW) stereo power amplifier.

Dimensions: 19¾ by 18¼ inches (front), 19 inches deep. Price: \$650. Warranty: "full," two years parts and labor. Manufacturer: Sanyo Electric Co., Ltd., Japan; U.S. distributor: Sanyo Electric, Inc., 1200 W. Artesia Blvd., Compton, Calif. 90220.



STEVEN MARK NEEDHAM

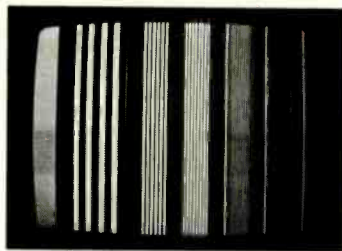
**S**ANYO'S AVM-196 has a dual personality: The 19-inch color monitor handles conventional NTSC-composite video signals and RGB (separate red, green, and blue) information. This equips it for virtually any type of home video, from a TV tuner, a VCR, or a disc player—or from a personal computer (some of which generate NTSC signals, others RGB output). NTSC signals enter by way of a standard RCA pin jack; RGB, through a special eight-pin connector. You choose between them with a back-panel slide switch. The monitor also contains a small stereo power amp, rated at 5 watts (7 dBW) per channel, which can be used to drive a pair of

speakers. (The monitor itself does not have a loudspeaker.)

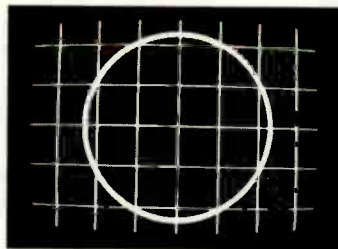
User controls, hidden behind a flip-down door below the screen, include VERTICAL HOLD, COLOR, TINT, CONTRAST, BRIGHTNESS, SHARPNESS, and VOLUME, which accomplish precisely what their labels suggest. Some users undoubtedly will feel more comfortable with the Sanyo's traditional contrast and brightness controls than with the hybrid black-level and picture controls found on many of today's sets. Both have center detents to suggest the appropriate settings, which we found to be on target for viewing under normal room-lighting conditions.

All measurements were made through the composite-video input.

|   |             |
|---|-------------|
| <b>HORIZONTAL RESOLUTION</b>                          | >330 lines  |
| <b>INTERLACE</b>                                      | perfect     |
| <b>OVERSCAN</b>                                       |             |
| horizontal  | = 9½%       |
| vertical  | = 13½%      |
| <b>CENTERING</b>                                      |             |
| horizontal  | right = 1½% |
| vertical  | within ½%   |
| <b>BLOOMING (brightness control at center detent)</b> |             |
|   | = 2½%       |



**HORIZONTAL RESOLUTION** is tested with a signal consisting of six tone bursts from 500 kHz to 4.2 MHz (the upper limit of the NTSC system). The monitor's video frequency response is approximated by finding the last band in which the individual vertical lines remain clear and distinct. The AVM-196 demonstrates excellent performance, with clear reproduction to beyond 4.2 MHz, for a horizontal resolution of more than 330 lines.



**GEOMETRIC DISTORTION**, overscan, and centering are checked with this display, consisting of a crosshatch, a circle, and a set of dots. Linearity is excellent over most of the AVM-196's screen, ensuring straight lines and accurately rendered shapes, and overscan is low to moderate. Vertical centering is essentially perfect, but there is a very slight horizontal displacement to the right.

Diversified Science Laboratories checked the AVM-196's performance with an NTSC-composite input, since it will most often be used for viewing broadcasts, videodiscs, or videotapes. At the proper sharpness setting (approximately centered), transient response is excellent and free of ringing (alternating bands of extra brightness following a sharp black-to-white transition), and horizontal resolution is outstanding, limited only by the 4.2-MHz bandwidth of the NTSC broadcast system.

The sharpness control's range is much greater than average, and, if advanced too far, it can overemphasize the contrast on sharp edges in a high-quality picture. On the other hand, the extra range can be very useful for snapping up the detail in a quiet but "soft" picture or melting the snow in a poorly received broadcast. With some experimentation, you should be able to find the setting most appropriate to your viewing conditions.

Interlace and vertical centering are essentially perfect, but there is a moderate amount of vertical overscan, which might clip the top and bottom of a picture meant to fill the entire screen. (Broadcast engineers try to avoid overfilling the screen in this way, since most sets operate with a considerable degree of overscan.) Horizontal overscan is fairly low, and horizontal centering is only slightly off. (There is

a screwdriver-adjustable horizontal-centering control on the rear panel, but it has little effect.) Geometric linearity is excellent over most of the screen, with just a small amount of compression on the right 15 percent of the scan and some elongation on the bottom 10 percent of the picture. This distortion is barely perceptible on a crosshatch pattern, so it's very unlikely that it will be noticed in a real picture.

With **CONTRAST** and **BRIGHTNESS** set to their detented positions, gray-scale (luminance) linearity is excellent, and black retention fair to good. There is a bit of blooming after a black-to-white transition with this brightness setting, but it doesn't worsen as the control is turned up. The blooming and the black-level retention can be improved by backing off on the **BRIGHTNESS**, but only at the expense of gray-scale linearity; we prefer the picture we get with both controls at their detent settings.

Color convergence is the best we have found on a monitor to date. What slight misconvergence exists is confined entirely to the extreme corners of the picture and certainly will not be noticeable on normal video material, even at an unusually close viewing distance. Raster purity is excellent for all three primary colors, with no blotches or color shifts.

**S**ANYO'S RED LEANS a bit toward orange, but the green is truer than usual, and the blue is excellent. Red and green are somewhat low in saturation compared with blue, but color rendition of live broadcasts is first-rate. Hue and saturation are well maintained over the full luminance range, indicating that chroma differential phase and gain also are better than average.

If you intend to use your monitor with a personal computer that delivers an RGB signal, the Sanyo AVM-196 is an obvious candidate. But even if your needs are more pedestrian, you would do well not to pass up the AVM-196. Although it may require a tad more control twiddling than do some other monitors, it rewards you with a first-class color picture.

Circle 107 on Reader-Service Card

#### CORRECTION

The vectorscope photos for VCR color accuracy in our August report on the Sony SL-2700 (page 55) were reversed. The one on the left is for Beta III (not Beta II, as marked), the one on the right for Beta II (not Beta III).

Circle 35 on Reader-Service Card ▶





## THE STATE OF THE ART HAS JUST BEEN ELEVATED.

In 1937, Fisher introduced high fidelity. And changed the world.

This year, Fisher has taken another step into the future to produce perhaps the highest fidelity ever.

The AD850 Compact Digital Disc Audio Player.

It utilizes the latest space-age technology to produce a degree of sonic perfection that's almost inconceivable.

A laser beam scans the computer-encoded surface of an encased disc to pick up audio signals and deliver them through a digital filter.

Since nothing touches the disc, surface noise and wear-out are things of the past. The 60 minutes of playback on each 4 $\frac{3}{4}$ " disc is reproduced at the original digitally recorded specifications almost indefinitely.

And as both player and disc offer dynamic range of more than 90 dB, the sound is almost indistinguishable from a live performance.

As well as perfecting its reproduction, we've also endowed the AD850 with the most sophisticated features and virtually faultless human engineering. Via soft-touch controls, you have instant command of random access, sample scanning, auto-search plus pre-programmed automatic playback.

But perhaps the AD850's most convenient feature is synchronous recording. Used with compatible Fisher components, it makes recording a simple pleasure.

In spite of all this advanced technology, the front-loading AD850 will fit most of today's rack systems. Once there, we're confident you'll find your entire hi-fi system taken to levels you've never imagined.

Let alone experienced.



**FISHER**  
THE ULTIMATE EXPERIENCE.

# 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.

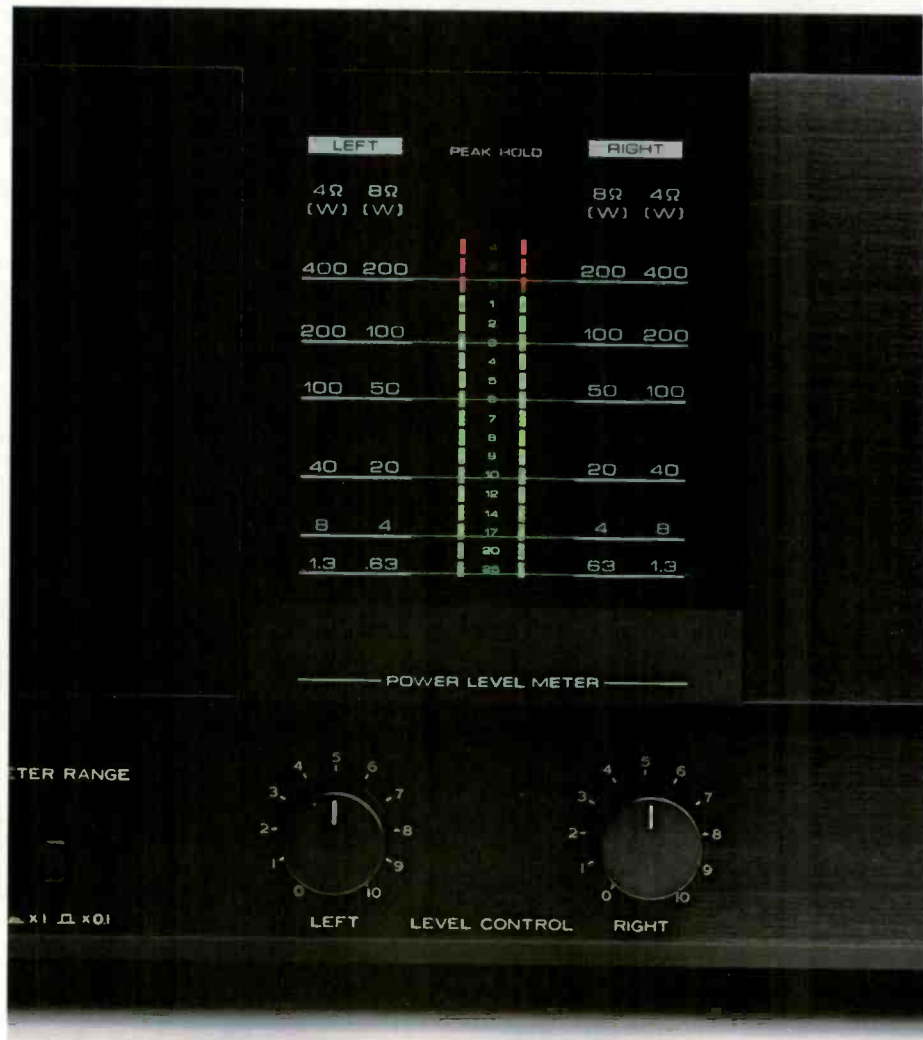
Consider. The BASIC M2 stereo power amplifier. At 220 watts per channel min RMS, both channels driven at 8 ohms from 20Hz to 20kHz with no more than 0.004% THD, it has power to spare. However, with Kenwood's unique Dynamic Linear Drive circuitry, you have the option to not use its vast power reserves, 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

Kenwood Electronics  
1315 E. Watsoncenter Rd., Carson, CA 90745.

Circle 36 on Reader-Service Card



## REVIEWS

Pop and classical  
music releases  
on digital  
compact disc

# Compact Disc

# REVIEWS

WHETHER MADE FROM ANALOG OR DIGITAL MASTERS, SOME POP CDs SUFFER FROM TOO STERILE A SOUND. MUSSORGSKY'S "PICTURES," HOWEVER, TELLS AN ENTIRELY DIFFERENT STORY.

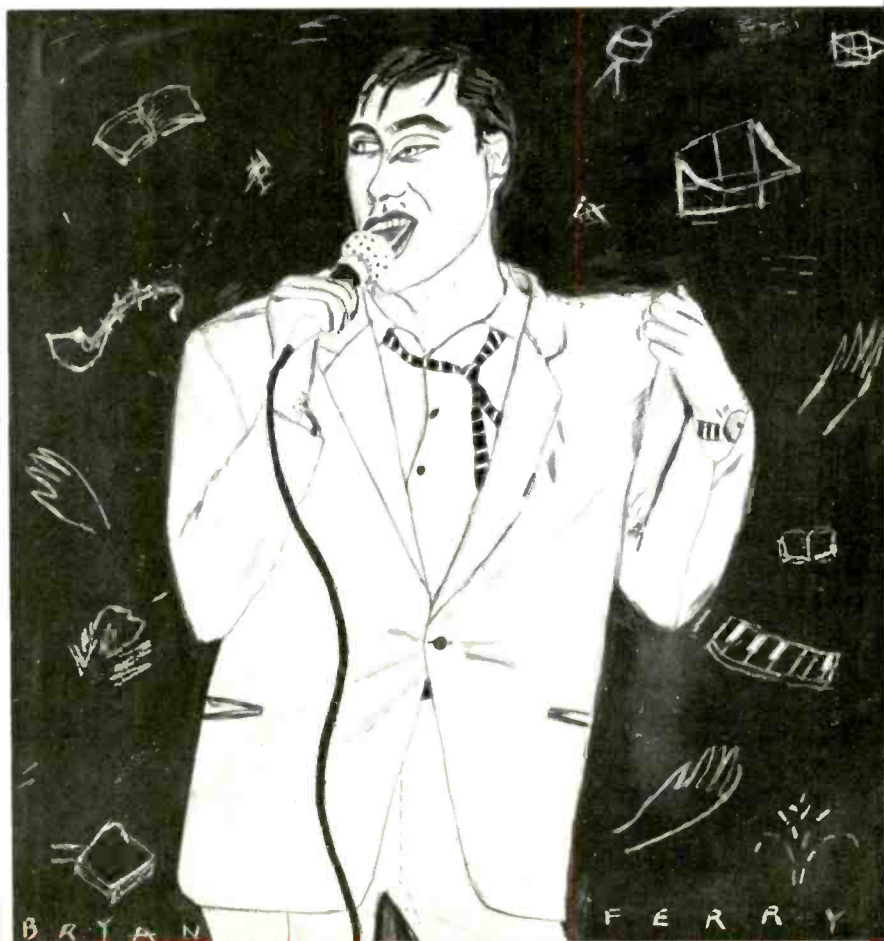
## POPULAR

### ROXY MUSIC: Avalon.

Roxy Music & Rhett Davies, producers. Polydor/E.G. 800 032-2 (analog recording, digital Compact Disc). LP: E.G./Warner Bros. 23686-1, reviewed 8/82.

If shifts in ambience prove problematic in other CD releases examined this month, this haunting pop masterpiece is steeped in an unconquerable ambience that has survived the transition to CD without any immediately apparent audible change. One reason might be the arrangements, which punctuate Phil Manzanera's guitars and Andy McKay's reeds with broad washes of synthesizer and somewhat distant percussion, and which tend to cushion Bryan Ferry's vocals.

That approach also translated very well to LPs and cassettes, however. And while CD's vaunted improvement in signal-to-noise ratio is evident during the few interludes where the band drops back to let a few ethereal instruments come to the fore (notably during the moody, skeletal prelude to *Take a Chance with Me*), for much of



this recording the comparison with existing excellent domestic and Japanese pressings of "Avalon" amounts to a standoff.

Still, fans of this genuinely narcotic pop dreamscape who've just bought their first CD players will hardly mind. Since it's the sort of album you might play to death in analog formats, CD's greater durability is reason enough to purchase the work in the new laser-read format. The disc in review, by the way, is an import that will be released in the U.S. through a different source.

#### ARCHIE SHEPP/DOLLAR BRAND:

##### Duet.

Yoshio Ozawa, producer. Denon C 38-7008 (fully digital Compact Disc). LP: YZ 1330.

Japan's Nippon Columbia—known in the U.S. through the Denon trademark—may have gotten a head start in the race to unveil digital audio software, but the Eastern monolith has also shown more caution than some of its competitors. This Compact Disc version of a Denon digital master from 1978 offers some clues as to why.

On the one hand, the pieces comprising "Duet" offer frequent glimpses of digital's best-case scenario: The burry timbre of Archie Shepp's tenor, alto, and soprano saxophones is rendered with a lush intimacy that was already impressive on the digital LP, while Dollar Brand's mercurial acoustic piano counterpoint is consistently naturalistic, spared from the stridency so often apparent in digital (and other) recordings made with close microphone placement.

Yet curiously, the CD also lacks any true sonic ambience. Whether that's an index to the artificial ambience that can result from tape and vinyl noise or subtle forms of distortion in the analog recording (or pressing) chain remains for the tech freaks to determine. For many, however, the rather dry sonic character of this recording may prove chilly.

Granted the duet format minimizes the opportunities for spectacular stereo arrays, there's also minimal separation within the sonic image. Brand's piano is captured with stereo miking, allowing some breadth to the sound field, but overall the two players' performances overlap completely. The music, at least, is generally rich and sympathetic in its interplay between these two superb jazz veterans.

#### PETER GABRIEL

David Lord & Peter Gabriel, producers. Charisma/Phonogram 800 091-2 (fully digital Compact Disc). LP: Geffen GHS 2011; reviewed 12/82.

Gabriel's fourth album of avant-pop was released here under the title "Security," presumably a move by his U.S. label, Geffen, to minimize the confusion between his identically titled recordings. This version may unleash fresh confusion, however, since it is an import rather than the American edition slated to emerge through Warner/Elektra/Atlantic in the near future.

Made from one of the few pop digital masters, this set does point up CD's gains, but it also raises fresh questions about the format's liabilities. The reduced noise floor allows the dense mosaic of different electronic textures to survive while clearly delineating each discrete element; percussion is especially vivid, and the various synthesizer voicings Gabriel and his collaborators embedded in the arrangements emerge without any blurring. Separation is also improved, and position within the stereo array for any given element is thus very precise.

In that respect, these tracks are significantly different from their analog counterparts. Gabriel's high-tech aesthetic achieving an even higher, more pristine gloss. On the most impressive selections—*Rhythm of the Heat*, *I Have the Touch*, and *Shock the Monkey*—comparisons largely reflect CD's benefit. Yet here too the subjective issue of the recording's ambience proves thorny. On the hallucinatory *San Jacinto*, the layering of different effects may be more clearly defined, but the swelling, epic scale of the ensemble seems undercut rather than enhanced by the detail.

#### DIRE STRAITS:

##### Love Over Gold.

Mark Knopfler, producer. Virgin/Phonogram 800 088-2 (analog recording; digital Compact Disc). LP: Warner Bros. 23728-1; reviewed 12/82.

Another European import that will see release here through a different source, this album derives from a high-tech analog master recorded at 30 ips. In its LP version, "Love Over Gold" took Dire Straits' sweeping atmospherics to a new level, and its songs' climaxes were built at a careful, studied pace.

As a Compact Disc, the meticulous components within that grand design loom with even greater

presence. But where the LP couched the band's performances in an appropriately reverberant, spacious sound field, the CD loses some of that ambience in the process of gaining detail. Again, this transformation begs questions about the noise and distortion we've all learned to live with on our discs and tapes recorded in analog configurations. But those familiar with this first-rate album may wonder whether the touching up of parts has been achieved at the expense of the whole.

Undiminished, however, is the album's one standout CD triumph, the moody *Private Investigations*, in which the tracery of guitars, piano, marimba, and percussion is magnified.

#### VAN MORRISON:

##### Into the Music.

Van Morrison, producer. Mercury 800 057-2 (analog recording; digital Compact Disc). LP: Warner Bros. HS 3390; reviewed 11/79.

#### VAN MORRISON:

##### Beautiful Vision.

Van Morrison, producer. Mercury 800 036-2 (analog recording; digital Compact Disc). LP: Warner Bros. 3652.

The Belfast Cowboy's lush ensemble settings and impressionistic writing shine handsomely on both of these Compact Discs, offering two examples of how analog masters can benefit from the transfer to the digital configuration. Morrison's penchant for comparatively large but closely reined ensembles has long invested his albums with an abundance of subtle details that CD helps to clarify.

On "Into the Music," solid, cleanly defined stereo positioning enables the spread of acoustic and electric string instruments to achieve an even more spacious character. Exemplifying the gains are Toni Marcus's stately fiddle lines and Ry Cooder's sinewy bottleneck guitar. Elsewhere, as on *Troubadours*, the balance of violin, trumpets, and penny whistle is dramatized attractively.

"Beautiful Vision," a later work that mines Morrison's jazzier musical vein, also benefits from the CD treatment. The quietly bristling dissonances of *Dweller on the Threshold's* horn figure shimmer even more seductively here. And *Cleaning Windows*, with its substructure of sly electric and acoustic guitar lines, likewise achieves new clarity. As with several other CDs reviewed here, these are both European imports.

—SAM SUTHERLAND



## CLASSICAL

**MUSSORGSKY (orch. Ravel):  
Pictures at an Exhibition.****RAVEL:  
La Valse.**

London Symphony Orchestra, Claudio Abbado, cond. (Rainer Brock, prod.) DEUTSCHE GRAMMOPHON 410 033 (fully digital Compact Disc) [price at dealer's option]. LP: 2532 057, \$12.98. Cassette: 3302 057, \$12.98.

## COMPARISONS—PICTURES:

Solti/Chicago Lon. CD, 400 051  
Davis/Concertgebouw Phi. LP, 9500 744  
Reiner/Chicago RCA LP, ATL 1-4268

The viewer of the pictures on display in Claudio Abbado's version of this showpiece would seem to be an art critic who had been out drinking too late the previous evening and was unable to persuade his editor to postpone his deadline until later in the day. Thus, in the opening "Promenade," normally vibrant, his

grand crescendo by a pair of bright but menacing brass chords, one is convinced that the viewer is not only wide awake, but pleasantly surprised and likely to give this exhibition the laudatory review it deserves.

Abbado's reading is reflective and tightly controlled overall. Not that it lacks muscularity where Hartmann's sketches (seen via Ravel's coloration of Mussorgsky's inspired fantasies) demand it; it's just that the work never becomes swept away in a stream of overblown performance gestures. One sees each picture through the eyes of a discerning and perceptive viewer, who reemerges either thoughtful or excited in the intervening "Promenades," but one is never fully drawn into the scenes the paintings depict.

Of course, the color and splendor are intact: "The Great Gate" lacks nothing in grandeur or sheer thunderousness; "Baba-Yaga's Hut" is built on a percussive base that seems to portray a sinister stronghold manned by the likes of Darth Vader, rather than the abode of a mere folkloric witch; and the bickering of the pompous Goldenberg and the insistently brassy Schmuyle, solidly caricatured as it is, has nothing on that of the housewives of the "Marketplace at Limoges."

More striking than the grand moments, however, are the more delicately scored pictures, in which Abbado draws a silky, gorgeously integrated sound from his players—an effect abetted by miking that is, for once, not too close, and by the ability of the digital system to capture and reproduce light textures and pianissimo passages noiselessly. "Catacombs" and "Cum mortuis" take on an ethereal, haunting shimmer. Similarly, "The Old Castle" is shrouded in an alluring mist, and, even in the midst of the climactic "Great Gate," Abbado pulls his forces back for the two serene wind chorales, creating a contrast that is the most effective I've heard on record.

By comparison, Georg Solti's version—also available on CD—is somewhat brisker and more overtly flashy, more along interpretive lines that have become standard for *Pictures*. For instance, whereas Abbado lightens the textures and holds back the tempo in "Tuileries," evoking a lazy summer afternoon in the Paris gardens, Solti lets it stand as what it is—a picture of children at play, taunting each other

and quarreling. In "The Great Gate," Solti wallows in the Chicago Symphony's incredibly bright brass sound, seemingly unconcerned with the string playing, which comes dangerously close to falling apart.

A third recent version, Colin Davis's, takes Abbado's reflectiveness to its extreme; and although I didn't care much for it when it was released, hearing it in the context of Abbado's and Solti's readings has made me revise my opinion. It is, to be sure, a deviant reading that probably wouldn't make a good first choice from among the heavy competition in *Pictures* LPs; yet, taken one by one, Davis's characterizations of the Hartmann works seem truer likenesses than those in more standard readings. At the other end of the spectrum, the catalog remains full of blockbuster-style performances, perhaps the grandest being Fritz Reiner's, still a bit hissy in its new half-speed remastering but as spectacularly brawny as they come.

Reiner's disc presents only *Pictures*. Of the other recordings, Davis's coupling, with *Night on Bare Mountain*, is the most satisfying. Solti includes Ravel's orchestration of his own *Tombeau de Couperin*, and Abbado offers *La Valse*, splashy, trashy, and a nice digital display piece if little else.

Sonically, the Abbado and Solti recordings both benefit from transfer to CD, especially the Solti. On LP, Solti's "Great Gate," to cite but one example, begins to sound a bit crowded and poorly focused; on CD, it has the depth and clarity it needs. The Abbado, though perfectly acceptable on LP, benefits audibly in dynamic range: The quietest sections—the start of *La Valse*, the end of "Bydlo," "Cum mortuis"—seem to have been boosted a bit on LP, but not on CD; and the crescendos cover a greater dynamic expanse on CD.

Interestingly, DG and London make different use of the CD's indexing ability. Deutsche Grammophon gives each picture (and "Promenade") its own index number and timing—handy for listeners who, for whatever reason, want to find their way around in a hurry. London provides one index number for all of *Pictures* and a second to cover all five movements of *Tombeau*. The liner notes are equivalent to those on the LPs.

—ALLAN KOZINN



**MUSSORGSKY: Abbado's approach is controlled but never lacks color.**

unenthusiastic first steps through the gallery are conveyed in a cool, detached, and even bland reading. Yet the paintings immediately awaken his responses: By the time the gnome, in the first one, is sent scuttling into a

# Compact Disc PREVIEW

A LOOK AHEAD AT OVER 130 CLASSICAL COMPACT DISCS  
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**T**HIS SUPPLEMENTS LAST MONTH'S annual preview of forthcoming classical and theater and film LPs. It contains new issues not listed there as well as current catalog items—both digital and analog recordings—newly transferred to digital CDs. There are still only two CD manufacturing plants in the world, and worldwide demand far outstrips supply, making planning difficult for record companies. Thus, some of the information here, despite their and our best efforts, remains incomplete, and all listings are necessarily subject to change.

Please note the following use of symbols and abbreviations, alone or in combination. For performing forces: *P* (Philharmonic), *R* (Radio), *S* (Symphony), *O* (Orchestra), *C* (Chamber), *Ch* (Chorus, Choir), *St* (State), *Op* (Opera), *Ac* (Academy), *Ens* (Ensemble), *Qr* (Quartet), *Qn* (Quintet), *Fest* (Festival), or their foreign-language equivalents. For voice ranges: lowercase letters without parentheses. For production and packaging: Number of discs, where known, in multidisc series is given in parentheses at end of listing; other parenthetical symbols include *s* (if single discs rather than set), *a* (analog recording), and *l* (live recording). Initials and first names appear only as needed.

## AAG MUSIC

**Brahms:** *Viola Sonatas* (2). Imai, Goldsmith.

**Copland:** *Appalachian Spring Suite* (orig. version); *Music for the Theater*. St. Luke's C Ens, Feldman.

**Dvořák:** *String Quintet, Op. 77* (orig. version). **F. Doppler:** *L'Oiseau des bois* (Cox, flute). St. Luke's C Ens.

**Mendelssohn, Stravinsky:** *Octets*. St. Luke's C Ens.

**Nadine Asin:** *Flute Music of the Bach Family*.

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**Cage:** *Second Construction*. **Cowell:** *Pulse*.

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## CBS MASTERWORKS

**Bach, Vivaldi:** *Two-Violin Concertos; et al.* Stern, Zukerman; St. Paul CO.

**Beethoven:** *Cello Sonatas Nos. 1, 2*. Ma, Ax.

**Beethoven:** *Symphony No. 5*. **Schubert:** *Symphony No. 8*. Vienna PO, Maazel.

**Beethoven:** *Symphony No. 9*. Cleveland O, Maazel.

**Beethoven:** *Wellington's Victory*. **Tchaikovsky:** *1812 Overture*. Vienna PO, Maazel (a).

**Berlioz:** *Symphonie fantastique*. Cleveland O, Maazel (a).

**Brahms:** *Ballades* (4); *Rhapsodies* (2). Gould.

**Brahms:** *Piano Concerto No. 1*. Berman; Chicago SO, Leinsdorf.

**Haydn, Hummel, L. Mozart:** *Trumpet*



**NOBUKO IMAI** plays Brahms's viola sonatas for AAG Music.

*Concertos*. Marsalis; National PO, Leopold.

**Holst:** *The Planets*. O National de France, Maazel.

**Mahler:** *Symphony No. 1*. New York P, Mehta.

**Mussorgsky:** *Pictures at an Exhibition*. **Ravel:** *La Valse*. New York P, Mehta (a).

**Prokofiev:** *Symphony No. 5*. Israel PO, Bernstein.

**Shostakovich:** *Symphony No. 5*. New York P, Bernstein.

**Strauss, R.:** *Also sprach Zarathustra*. New York P, Mehta.

**Strauss, R.:** *Tod und Verklärung; Till Eulenspiegel; Don Juan*. Cleveland O, Maazel.

**Stravinsky:** *Petrushka; Scherzo à la russe*. Philharmonia O, M.T. Thomas.

**Stravinsky:** *Le Sacre du printemps*. New York P, Mehta (a).

**Tchaikovsky:** *Symphony No. 5*. Cleveland O, Maazel.

**Vieuxtemps:** *Violin Concerto No. 5*. **Haydn:** *Concerto No. 1*. Lin; Minnesota O, Marriner.

**Vivaldi:** *Four Seasons*. Zukerman; St. Paul CO.

**Wagner:** *Operatic Excerpts*. Caballé; New York P, Mehta.

**Wagner:** *Overtures*. Philharmonia O, Maazel (a).

**Plácido Domingo and John Denver:** *Perhaps Love* (a).

**Isaac Stern:** *60th-Anniversary Concert*. New York P, Mehta.

**André Watts:** *Tokyo Recital* (l).

CBS Masterworks, 51 W. 52nd St., New York, N.Y. 10019.

## DELOS

**Bach, Handel:** *Oboe Concertos*. Vogel; Los Angeles CO, Schwarz.

**Bartók:** *String Quartet No. 3*. **Ravel:** *Quartet*. Sequoia Qr.

**Beethoven:** *Piano Concerto No. 4*. Rosenberger; Los Angeles CO, Schwarz.

**Beethoven:** *Piano Sonatas Nos. 23, 32*. Rosenberger.



ERIKA DAVIDSON



**SYLVIA SASS** sings in Verdi's *Ernani* for Hungaroton.

- Beethoven:** *Symphonies Nos. 1, 8; 6.* Los Angeles CO. Schwarz (2s).
- Dvořák:** *String Serenade: Silent Woods* (Davis); *Nocturne.* Los Angeles CO, Schwarz.
- Haydn, Hummel:** *Trumpet Concertos.* Schwarz; Y CS.
- Mozart:** *Clarinet Concerto.* Shifrin; Los Angeles CO. Schwarz.
- Mozart:** *Serenade, K. 361.* Chicago SO Winds.
- Mozart:** *Symphonies Nos. 40, 41.* Los Angeles CO. Schwarz.
- Prokofiev:** *Symphony No. 1. Shostakovich: Piano-Trumpet Concerto* (Rosenberger, Burns). Los Angeles CO, Schwarz.
- Schubert:** *Piano Sonata, D. 960.* Rosenberger.
- Strauss, R.:** *Suite, Op. 4; Serenade, Op. 7.* Chicago SO Winds.
- Stravinsky:** *L'Histoire du soldat.* Los Angeles CO. Schwarz.
- American Brass Qn: Renaissance, Elizabethan, and Baroque Music.*
- Susann McDonald: The World of the Harp.* Works by Debussy. Grandjany, C. Salzedo, et al.
- Bejun Mehta, boy s* (works by Brahms, Britten, Handel, Schubert). Shifrin, clarinet; Rosenberger, piano; Los Angeles CO members.
- Carol Rosenberger: Piano Recital.* Works by Debussy, Griffes, Liszt, Ravel.
- Gerard Schwarz:** *The Sound of Trumpets* (works by Altenburg, Biber, Telemann, Torelli, Vivaldi). New York Trumpet Ens; Y CS.
- Delos Records, Inc., Suite 664, 2210 Wilshire Blvd., Santa Monica, Calif. 90403.

**DENON**

- Bach:** *Flute-Harpsichord Sonatas.* Nicolet, Kobayashi.
- Bach:** *Flute-Violin Concerto, S. 1044* (Adorjan); *Oboe-Violin Concerto (reconstr.), S. 1060* (Bourgue). Netherlands CO, Bakels.
- Bach:** *A Musical Offering.* Paillard CO.
- Bach:** *Organ Works.* Rilling.
- Beethoven:** *String Quartets Nos. 1, 5; 2, 4; 3, 6; 7; 11, 12.* Smetana Qr (5s).
- Beethoven:** *Symphony No. 6.* Berlin StO, Suitner.
- Couperin, F.:** *Concert royal; et al.* Larrieu, Veyron-Lacroix.
- Couperin, F.:** *Pièces de clavecin.* Dreyfus.
- Debussy:** *Preludes, Book II.* Rouvier.
- Dvořák:** *Dumky Trio.* Suk Trio.
- Dvořák:** *Symphony No. 9.* Czech PO, Neumann.
- Handel:** *Trio Sonatas.* Holliger, Bourgue, Thunemann, Nagashima, Jaccotet.
- Handel:** *Violin-Harpsichord Sonatas (4).* Suk, Růžičková.
- Mozart:** *Clarinet Quintet. Weber-Kuffner: Introduction, Theme, and Variations.* Meyer; Berlin Philharmonia Qr.
- Mozart:** *Oboe Quartet; et al.* Schellenberger; Berlin Philharmonia Qr.
- Mozart:** *Symphonies Nos. 36, 38.* NHK SO, Suitner.
- Sarasate:** *Zigeunerweisen, Op. 20; et al.*

- Kantorow; New Japan PO, Inoue.
- Schubert:** *Symphony No. 9.* Berlin RSO, Rogner.
- Tchaikovsky:** *Symphony No. 6.* Berlin SO, Sanderling.
- Telemann:** *Der getreue Music-Meister: Sonatas, Suites, et al.* Holliger, Thunemann, Jaccotet.
- Vivaldi:** *Four Seasons.* Larsens; Lucerne Fest Strings, Baumgartner.
- Heinz Balli: Organ Recital.*
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**DEUTSCHE GRAMMOPHON**

- Bizet:** *Carmen.* Ricciarelli, Baltsa, Carreras, Van Dam; Paris OpCh, Berlin PO, Karajan (3).
- Brahms:** *Symphonies (4); Overtures (2); Haydn Variations.* Vienna PO, Bernstein (4s).
- Brahms:** *Violin Concerto.* Kremer; Vienna PO, Bernstein.
- Mozart:** *Piano Concertos Nos. 12, 20.* R. Serkin; London SO, Abbado.
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**HUNGAROTON (Hungary)**

- Bach:** *Coffee, Peasant Cantatas.* Laki, Fülöp, Gáti; Capella Savaria, Németh.
- Bartók:** *Bluebeard's Castle.* Obráztsova, Nesterenko; HungStOpO. Ferencsik.

- Bartók:** *Music for Strings, Percussion, and Celesta; Divertimento.* Franz Liszt CO, Rolla.
- Boito:** *Nerone.* Tokody; Queler.
- Brahms:** *Ein deutsches Requiem; Choral Works.* Tokody, Gáti; Slovak PCh&O. Ferencsik.
- Donizetti:** *Don Pasquale.* Kalmár, Bándi, Gáti, Gregor; Hungarian StOpO, Ferencsik.
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- Haydn:** *Seven Last Words.* Hungarian StO, Ferencsik.
- Haydn:** *Symphonies Nos. 45, 49.* Franz Liszt CO, Rolla.
- Kodály:** *Choral Works.*
- Kodály:** *Peacock Variations; Dances of Galánta.* Hungarian RO, Lehel.
- Liszt:** *Les Préludes; Tasso; Orpheus.* Hungarian StO, Ferencsik.
- Mendelssohn:** *Symphonies.*
- Mozart, Rossini, Donizetti:** *Arias.* Hamari; Hungarian StOpO, Lukács.
- Puccini:** *Suor Angelica.* Tokody; Hungarian StOpCh&O, Gardelli.
- Puccini, Verdi:** *Arias.* Tokody.
- Schubert:** *Trout Quintet.* Kocsis, Nagy, Ormai, Fejér, Csontos.
- Verdi:** *Ernani.* Sass, Lamberti, L. Miller, Kováts; Hungarian StOpCh&O, Gardelli.
- Verdi:** *Simon Boccanegra.* Kincses, J.B. Nagy, L. Miller, Gáti, Gregor; Hungarian StOpCh&O, Patané.
- Vivaldi:** *Four Seasons.* Rolla; Franz Liszt CO

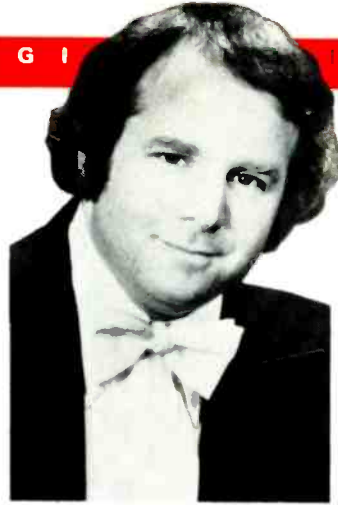
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**LABEL 'X'**

- (distributed by Southern Cross)
- Barry:** *High Road to China.* O, Barry (a).
- Breil:** *Birth of a Nation.* New Zealand SO, Allen.
- Horner:** *Krull (film score).* London SO, Horner (a).
- Prokofiev:** *Peter and the Wolf* (Penhall).
- Rózsa:** *Jungle Book Suite.* Royal PO, Bremner.
- Rózsa:** *Time After Time (film score).* Royal PO, Rózsa.
- Schifrin:** *Adventure Film Scores (selections from The Four Musketeers, The Eagle Has Landed, Voyage of the Damned).* O, Schifrin (a).
- Jacqueline Schweitzer-Grauc: Piano Recital.* Works by Debussy, Poulenc, Ravel, Sauguet (a).

**PHILIPS**

- Beethoven:** *Violin Concerto.* Kremer; St. Martin's Ac, Marriner.
- Chabrier:** *España.* Glinka; *Jota aragonesa.*
- Ravel:** *Bolero.* Dresden StO, Marriner.
- Rachmaninoff:** *Paganini Rhapsody. Saint-Saëns: Piano Concerto No. 2.* Davidovich; Concertgebouw O, Järvi.
- Schubert:** *Symphonies Nos. 4, 5.* St. Martin's Ac, Marriner.
- Strauss, R.:** *Also sprach Zarathustra.* Boston SO, Ozawa.



LEONARD SLATKIN conducts Mahler's *Resurrection* for Telarc.

Vivaldi: *Four Seasons*. 1 Musici.

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**SOUTHERN CROSS**

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Hamlisch: *Sophie's Choice* (film score). O. Hamlisch (a).

Herrmann: *Battle of Neretva* (film score). London PO, Herrmann (a).

Herrmann: *Sisters* (film score). O. Herrmann (a).

Steiner, M.: *King Kong* (film score). National PO, F. Steiner (a).

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Beethoven: *Piano Concerto No. 3; Choral Fantasy* (Tanglewood FestCh). R. Serkin; Boston SO, Ozawa.

Beethoven: *Symphony No. 3*. Cleveland O. Dohnányi.

Beethoven: *Wellington's Victory*. Liszt: *Battle of the Huns; Hungarian Battle March*. Cincinnati SO, Kunzel (with digitally recorded cannons and muskets).

Berlioz: *Les Nuits d'été*. Ameling; Atlanta SO, Shaw.

Bizet: *Carmen Suite*. Grieg: *Peer Gynt Suite*. St. Louis SO, Slatkin.

Chopin: *Piano Works*. Frager.

Copland: *Appalachian Spring Suite; Rodeo; Fanfare for the Common Man*. Atlanta SO, Lane.

Debussy: *Images: Ibéria*. Rimsky-Korsakov: *Capriccio espagnol*. Turina: *Danzas fantásticas*. Dallas SO, Mata.

Debussy: *La Mer; Prélude à l'après-midi d'un faune; Danse sacrée et danse profane* (Tietov). St. Louis SO, Slatkin.

Gershwin: *Rhapsody in Blue* (List); *An American in Paris*. Cincinnati SO, Kunzel.

Grofé: *Grand Canyon Suite*. Cincinnati SO, Kunzel (with digitally recorded thunderstorm).

Liszt: *Rhapsodie espagnole; Song Transcriptions (3)*. Schumann: *Fantasy, Op. 17*. Lelchuk.

Mahler: *Symphony No. 2*. Battle, Forrester; St. Louis Sch&O, Slatkin (2).

Poulenc: *Gloria* (McNair; Atlanta Sch); *Organ Concerto* (Murray). Atlanta SO, Shaw.

Respighi: *Pini di Roma; Gli Uccelli*. Atlanta SO, Lane.

Wagner: *Overtures (3); Siegfried's Rhine Journey*. Minnesota O, Marriner.

Michael Murray, organ: *Encores à la française*.

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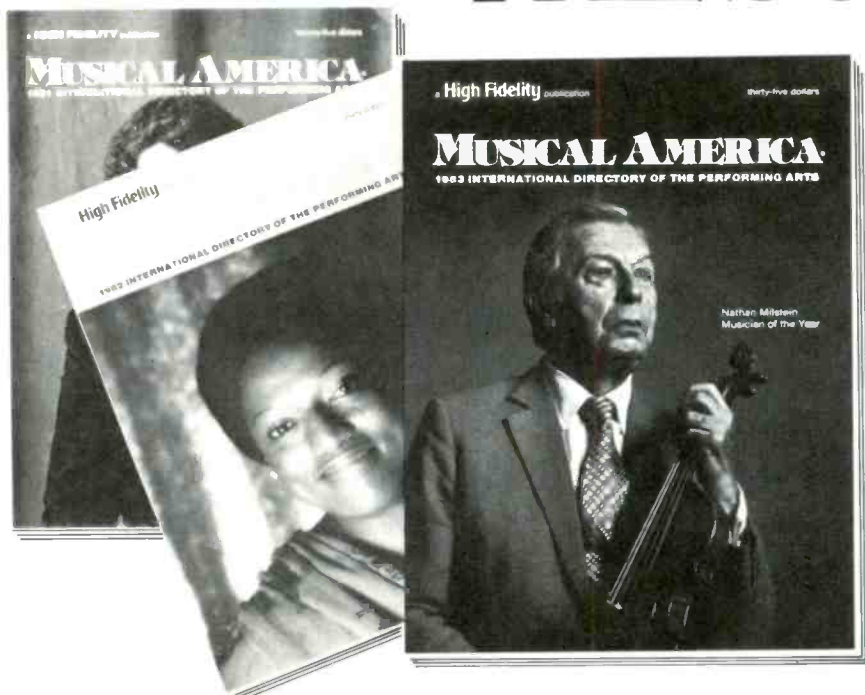
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# Wagner Recordings: Passing the Torch

In *Die Meistersinger* and *Parsifal*, his "last new projects," Wagner focuses on the question: Is there any hope for us?  
by Kenneth Furie



Sachs's payoff: Walther (Thomas) wins the hand of Eva (Lorengar) in San Francisco.

Wagner is holding out here, we need to worry less about judging and more about understanding these characters. It may be agreeable to pretend that we're the Good Guys, just like Sachs and Gurnemanz, and it's certainly true that their largeness of spirit is a potential within us. But more often in our daily lives we're apt to respond like Beckmesser and Klingsor, and this reality will have a major impact on the way we evaluate the recordings. In addition, unless we abandon the perspective of Us (good guys) versus Them (bad guys), there will be hardly any point in bothering with *The Ring*, whose resonance depends on the recognition that all its characters are part of each of us.

In discussing *Lohengrin* and *Tristan*, we focused on problems of communication arising from confusion or outright deceptiveness on the sending end. In *Meistersinger* and *Parsifal*, Wagner's attention seems to me to broaden to encompass the receiving end. One of Beckmesser's great tactical problems, for example, is his exceedingly poor sense of how other people perceive the signals he gives off. (We will note in particular his propensity to sarcasm.) In fact, both operas are concerned with the large measure of control we have over the way we are perceived.

Both operas also advance a radical if scarcely innovative corollary: that the best results are generally obtained by treating other people the way we would like to be treated. Note that Beckmesser, jealous as he is of the enormous respect Sachs enjoys in the Nuremberg community at large, never understands that it comes not from wily stratagems but from the respect Sachs accords his fellow burgers. And note that Gurnemanz, whose view of Kundry as harmless or even benevolent may at first glance seem hopelessly naive, may not be so wildly off the mark. Unlike all the men who have tried to manipulate her or use her sexually, he treats her with the simple dignity he deems appropriate for all living creatures absent proof to the contrary, and as a result she presents no danger to him.

These final Wagnerian undertakings share at least two other themes appropriate for the culmination of such a career:

- the way artistic forms originate in

IT'S OF MORE THAN SEMANTIC interest to think of *Die Meistersinger* and *Parsifal* as Wagner's "last new projects." They aren't his "last operas," of course, being separated by the small matter of the composition of *Siegfried* Act III and *Götterdämmerung*. But *The Ring* was well mapped out, its four librettos completed, when Wagner in 1857 turned his attention to ostensibly more practical projects: *Tristan und Isolde* (completed in 1859 but not performed until 1865), the Paris revision of *Tannhäuser* (1860-61), and *Meistersinger* (1861-67, performed in 1868).

There is an obvious explanation for the change in tone apparent in *Meistersinger*: the failure of *Tristan* to serve as that hoped-for more performable work. But beyond *Meistersinger*'s comic plot and musical accessibility, it embodies a change in emphasis that links it to the hardly comic and decidedly austere *Parsifal* and sets the two of them apart from all Wagner's "earlier" operas. In all those operas, the destructive elements of human nature won out over the cherishable qualities that were also displayed. For example, in *Lohengrin* and *Tristan*, which I described as Wagner's "trickiest and most troubled operas," the catastrophic outcomes seem so preventable but turn out, on closer inspection, to

involve character traits so deeply embedded (*Lohengrin* can't deal openly with his need for Elsa; *Tristan* can't acknowledge the destructive pattern of his response to intimate relationships) as to be beyond much hope of change.

*The Ring* would provide no relief, since its basic operating principle is that in one way or another all its characters' ambitions are doomed. Isn't it possible, I imagine Wagner asking, to imagine a world in which our better selves come out on top? And sure enough, it turns out to be. Not easy, but possible. This is essentially the crisis that Hans Sachs is grappling with in that astonishing stretch of *Meistersinger* Act III from the Prelude through the *Wahnmonolog*, and it seems reasonable to propose that if Sachs, that exemplar of the best in us, can't fight his way through this depression, there is truly no hope for us.

Fortunately Sachs *does* find a way out. And fortunately too a solution is found for the crisis in *Parsifal* represented by Amfortas's unhealable spear wound. But in order to consider these crises and their resolutions, we need first to be clear about the human precision with which they are depicted. While these operas do contain identifiable "good guys" and "bad guys," they are all flesh-and-blood people, not idealizations. The good guys aren't saints, and the bad guys aren't devils. The problems they are struggling with are very much like ours, and their struggles, like ours, meet with varying degrees of success.

If we want to appreciate the hope that

*This is the third installment of a discography begun in May and continued in July. The concluding portion, devoted to The Ring, is scheduled for January 1984.—Ed.*



human experience. In *Meistersinger*, it's the form of the mastersong, whose structure represents a basic mode of perception and appreciation. In *Parsifal*, it's the form of the opera itself, in which the three acts depicting Parsifal's problematic connection to Monsalvat reflect one of our most basic modes of learning: accidental or intuitive discovery, followed by loss, followed by the more arduous path to knowing rediscovery and understanding.

• the way values are transmitted across generations. Can it be coincidence that both those great role models, Sachs and Gurnemanz, are involved with young people on a regular basis? And it's not just the handsome-prince types, the Stolzing and Parsifals, who benefit from their examples. The relationship between Sachs and David is one of *Meistersinger's* most important; whether or not the apprentice will ever develop into a Sachs or a Stolzing, his association with this master surely has something to do with the spontaneous demonstration of respect and affection that seems to me to serve as the catalyst that starts Sachs out of his depression. And who but Gurnemanz—a man who has been put out to pasture but was at the center of power in the glory days of Monsalvat—would have the heart and patience to spend his days uncomplainingly baby-sitting those snotty Esquires?

### Die Meistersinger von Nürnberg

By reputation, *Die Meistersinger* is the one Wagner opera that deals with "real" people rather than gods and dwarfs and what-have-you. So how might we explain that it is generally populated in performance with characters less real than the broadest incarnations of those gods and dwarfs?

This paradox seems to me rooted first in the extent to which the opera really is relatively "practical" to perform, as Wagner intended it to be, and second in the extent to which it isn't. In fact, it may at first appear preposterous to describe as "practical"—except perhaps by comparison with *The Ring* itself, which happens to have been Wagner's principal standard of comparison at the time—an opera so demanding in matters of length, cast size, and choral and orchestral writing.

Still, this description has some factual basis, even in technical terms. Large as the *Meistersinger* cast is, few of the roles are as exposed in terms of solo writing as is Wagner's norm. For instance, unless you count Eva's "*Sachs, mein Freund*" outburst in the workshop scene, she doesn't have a single solo piece in the opera. In addition, Eva is Wagner's only soprano lead encompassable by a voice of lyric weight, and Walther von Stolzing is similarly the lightest-weight of his tenor leads.

More generally speaking, and perhaps more important, *Meistersinger* is more practical than other Wagner operas in that it

almost always "works." Provided that a company can satisfy its minimum physical requirements, which at least in theory would be implicit in the decision to perform it, and provided that the performers throw themselves into it with enthusiasm and determination, which again would seem a sine qua non for simply getting through it, some basic impact is all but guaranteed to come through. Can you imagine the riotous climaxes of Acts I and II or the festive dances and choruses of the final scene failing to stir an audience?

The catch lies in what you have to do to achieve more than this basic effect. As with such other famous "ensemble" operas as Mozart's *Così* and Verdi's *Falstaff*, you have to work simultaneously to dramatize the individual agendas of the characters. In order to feel the severity and resonance of

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## Meistersinger needs singers who can really sing their music.

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the crisis that develops in the opera, a crisis directly related to the tenuousness of the ties that hold societies together, we have to get beyond the customary cartoon images of the Mastersingers themselves, which isn't a bad idea in any case. Is our cultural outlook really so enlightened that we can afford to ridicule people who, whatever their blind spots and excesses, have made artistic communication a central part of their lives rather than a frill or time-filler?

Unfortunately, I don't know of any way these people can be taken seriously in the absence of singers who can really sing their music, and this is sufficiently difficult to do that we can understand why most performances settle for the effect that can be made by singers who "get through" the music rather than encompassing it. Which is not to deny that a more resonant result can be produced under the guidance of a conductor of the broad vision and humanity of a Toscanini (Melodram '37) or Furtwängler (EMI) or Knappertsbusch (Richmond, Melodram '52, Melodram '60), or in circumstances that place a good mix of veteran and healthy young singers in an appropriate ensemble setting, as in the 1963 Bavarian State Opera performance that reopened Munich's Nationaltheater (Eurodisc). All the same, as long as the opera's casting demands are this spottily met, gaps inevitably result.

Most obviously, long and difficult as the roles of Sachs and Walther undeniably are, the opera doesn't make much sense if our singers can't produce the uplifting lyricism that, grounded in sympathetic observation of the world around us, has the power to make us more compassionate and

socially more tractable beings. If our Beckmesser sings, as most Beckmessers do, in crypto-Bergian *Sprechgesang*, we haven't much chance of understanding the opposition between Sachs and Beckmesser that is as central to *Meistersinger* as that between Wotan and Alberich (*Licht-Alberich* and *Schwarz-Alberich*) is to *The Ring*.

**This catalog can be extended** to all our characters. When, for example, KOTHNER in his role as guild secretary emerges as an officious boor, it's probably less because anyone believes this an enlightened performance choice than because it's easier to camp up this music than to really sing the intervallic leaps and subsequent reaches up to E and F of "*Zu einer Freieung*" or the elaborately ornamented reading of the Tabulatur. In fact, given the fullness and agility of tone and the warmth of personality of DG's Gerd Feldhoff, Kothner can be quite an endearing fellow—a baker who takes his extracurricular activity very seriously.

There's a less robust but similarly appealing performance by Zoltán Kélémen (Angel II) and an even more touching one by Josef Metternich (Eurodisc), no longer commanding the ease and fullness on top that he did in his wonderful Dutchman and Telramund a decade earlier, but singing with more weight in the midrange. If you have a baritone with the brightness and ring of the young Eberhard Wächter, you can explore making the frillery and upward reaching of Kothner's writing express an exhibitionistic streak (Melodram '58), but if you're going to show off your Es and Fs, they ought to be more secure than Wächter's were by the following summer (Melodram '59). In the same way, Gerd Nienstedt's more lightly traced London performance seems to reflect less an interpretive choice than a falloff in vocal confidence since his pleasant but already subdued performance the year before (Philips).

As a matter of fact, it proves largely true that your major interpretive choices have been made by the time you finish casting *Meistersinger*, depending on the kind of singing your singers can do. What we're going to do, then, is to consider the needs of our characters over this turbulent two-day period as they have been realized by singers grappling with the vocal implications of their music. And the obvious place to start, now that Kothner has called the roll for us, is with the assembly of the Masters for the *Freieung* of Act I.

The cartoonist Robert Grossman once showed a put-upon Dr. Henry Chickenkisser grumbling, "History is just one damned thing after another," and this seems as good a description as any of this day of *Meistersinger*. And the unlikely hub of the day's turbulence is the most prosperous of the Masters, the goldsmith VEIT POGNER, whose daughter is after all the lure that brings his young business acquaintance



Stolzing to Nuremberg, and who sets many of those other damned things in motion with his offer of Eva's hand as a prize for the Midsummer Day song contest.

What we really want in a Pogner is the weight and beauty of tone, the unfussy alertness to verbal and musical shape, and the easy reach up to the climactic F of Alexander Kipnis's 1931 recording of the address (Seraphim 60076), which makes it possible for us to accept this cockeyed plan as a well-intentioned product of his belief in the Masters' ideals. Otherwise we're left with something of a monster—the sort of

right) was outweighed by the concrete price of siding against Beckmesser (i.e., the visitation of his wrath). Now that he has begun to suspect that his plan may not have been completely thought through, it's too late.

Never mind that a guild of middle-aged tradesmen isn't the ideal pool of eligible suitors for Eva's hand; he is already committed, and his injured pride prevents him from talking to the man whose advice he most needs. Assuming that the other Masters are experiencing something like Pogner's discomfiture at landing on the wrong side, this state of disequilibrium

he had flattened this prickly sound into something thicker and still less attractive. Alsen (Melodram '38), Böhme (Vox. Melodram '52), and Dalberg (Seraphim) are at best character singers.

We sometimes hear talk of taking SIXTUS BECKMESSER seriously, but talk isn't action. Melodram's notes make much of Wieland Wagner's intent, in his 1956–61 Bayreuth *Meistersinger*, to make him the opera's "tragic" figure, to which end he engaged a real singer, Karl Schmitt-Walter. The only thing is that Schmitt-Walter turned 56 that first summer—and he was past his prime, though still an impressive Wolfram in *Tannhäuser*, in 1943. Neither he (Melodram '57, '60) nor the hollow-voiced Blankenheim (Melodram '58, '59) breaks out of the crotchety-cartoon mold. If we must have Beckmesser as a comic figure, at least let it be done with the expertise of Dönch (Richmond), Kunz (Seraphim), Evans (Angel II), or Kusche (Angel I). I find Kusche more interesting in Eurodisc, where with less voice available he is forced to use more of what he has.

I don't find anything amusing about Beckmesser. This guy is *dangerous*, and it's small consolation that his behavior springs from insecurity rather than malevolence. It's this insecurity that is represented musically by the tendency to staccato attacks and splintered lines, but to underline these characteristics is to miss the large measure of control that he has succeeded in exerting over his environment. Control is important to someone this insecure, who can validate his existence only through such external badges as his status as Marker.

We get samples of what Beckmesser fears when events do escape his control—in his attempted serenade of Eva in Act II, and in his botched rendering of the "borrowed" prize song in the final scene. We also get samples of the ruthlessness he will resort to in order to maintain control. Note that when Walther, whom he perceives as a red-alert threat, first presents his credentials to the Masters in "*Am stillen Herd*," the initial response is by no means contemptuous. Kothner, while puzzled, isn't hostile, and not only Sachs but Vogelgesang is openly impressed. Beckmesser cuts them down with double-barreled sarcasm: punning on Vogelgesang's name ("Birdsong") and making fun of the poems that Sachs inscribes on his shoes. Vogelgesang learns his lesson, while Sachs, though outwardly unaffected, absorbs a blow that will have major repercussions.

By default, the Beckmessers that stand out are Weikl's (London) and Hermann's (DG), both representing good starts on the role but leaving much of the detailed work undone. Since Weikl has already moved on to Sachs (and has recorded decent, unremarkable accounts of both monologues on Acanta 23.313), we're not going to get more from him than this positively luxurious-for-Beckmesser midrange sound, com-



The crisis has passed: Sachs (Schoeffler) coaches Walther (Richard Holm) at the *Met*.

father who would do *that* sort of thing. Whereas all the textual evidence indicates that Pogner, although like many fathers not entirely at ease with his daughter as an actual person, cares deeply about her.

Beyond the difficulty of the writing, the biggest problem in casting Pogner is that the role isn't terribly long or terribly rewarding (who remembers anything except how that F came off?), with the result that a singer who can actually sing it often figures he might as well sing Sachs, whose overall pitch range—as with many Wagner baritone and bass roles—is about the same. Sachs's center of gravity is somewhat higher, of course, which will likely cause a natural Pogner some discomfort, and yet among those singers we can hear in both roles, the tendency is to succeed or fail in similar ways.

To appreciate the importance of a strong singing Pogner, consider the brief scene with Eva early in Act II, nestled between the boisterous opening apprentices' scene and Sachs's appearance preparatory to the *Fliedermonolog*. As father escorts daughter home, he ponders his impulse to seek counsel from his friend and neighbor Sachs, and it takes a singer of the caliber of Frick (Angel I) or Moll (London) or Ridderbusch (Angel II) to make us grasp what a fine mess he's gotten himself into.

Poor Pogner. In what should have been his hour of triumph, as the toast of all but one of the Masters, he found himself at odds first over his brainstorm and then over Walther's trial song with the one Master whose judgment in the end matters most. Under the pressure of Beckmesser's intense lobbying, he like all the others went along, mostly because in the heat of the moment the rather abstract reward for siding with Sachs (i.e., the knowledge that you're

becomes a general condition of Act II, and has much to do with the nuttiness that ensues. It isn't resolved until Sachs makes his grand conciliatory address, "*Euch macht ihr's leicht*," in the final scene—at which point note the extent of Pogner's relief ("*O Sachs, mein Freund*," a phrase that seems to run in the family).

In the complete sets, Frick sings with the strongest sense of purpose, but he can't match the vocal richness and ease, especially on top, of Moll and Ridderbusch. The latter builds the address to a particularly rousing climax. Sotin (Philips) brings a first-class instrument to the role and sings well enough, but with that haphazard sense of phrase which makes every note a new and independent venture. Edelmann (Richmond), carefully keeping his voice within its functional limits, sings rather lightly, and rather nicely.

From here, it's a scramble. Lagger (DG) has some strong, vibrant notes in the middle, but on top and bottom the voice frequently bleats out of control. Greindl (EMI, Melodram '57, Melodram '59) and Hotter (Melodram '58, Eurodisc) understand the music, but the sounds they produce! With Greindl, we can choose between the more piercing rasp of 1943 and the more cottony texture of 1959; with Hotter, we get that mashed, nasal sound, albeit in somewhat more interesting form in the Eurodisc performance.

Adam (Melodram '60), sounding less rounded in tone than in his 1954 King in *Lohengrin* or his 1956 Titirel in *Parsifal*, pecks at the notes. By the time he made his studio recording of the address, in a c. 1969 Supraphon Wagner recital that also included Sachs's *Fliedermonolog* and "*Euch macht ihr's leicht*" (once available in England as Classics for Pleasure CFP 143),



pleted with that high-croon top and used with a minimum of imagination. Hermann is no more imaginative and makes a less striking sound in the middle, but he does make a more consistent sound on top. A more modest effort along these lines is Hirte's (Philips)—coarser-textured and also limited in dimension, but sincerely intentioned.

Beckmesser's wisecrack is only the first of two body blows that HANS SACHS absorbs this day, and it doesn't matter that neither is intended as such. When someone has visibly achieved a certain peace of mind in both professional and personal lives, it often doesn't occur to onlookers that this peace is fragile. Clearly Sachs gets pleasure from offering poems with his shoes, and clearly his customers enjoy this personal touch (it's this new popularity of Sachs's little poems that so nettles Beckmesser), and yet this activity doesn't stand up well to cold-eyed scrutiny. *What do you do with your life? I scribble poems on shoes.*

Now we have Sachs at home, nursing his wounds of the morning. The one thing he never seriously questions is his own judgment, and he satisfies himself in the *Fliedermonolog* that the singing he heard from Walther was something new and important. But on other fronts he is still wobbly, and now he takes a blind-side hit from, of all people, his own little Eva! Not so little any more, of course, and certainly not disposed to hurt him—just wing him maybe, to help her get her way. Anyway, when he recalls having enjoyed carrying her in his arms, she opens a wound as painful as Amfortas's: "I see it was only because you're childless." Pow. *What do you have in your life? Well, I had a wife once. But she died.*

When we think of Sachs musically, what's the first thing we think of? Monologues. He has two of the greatest ever written, but more importantly, they are his characteristic form of expression. He is surrounded by people who respect and care for him, but he is at the same time a loner. There is an inner circle around him that may not have been penetrated since the death of his wife, and while he is usually able to make the best of things, there are moments when the fact of being alone hits him, and even overwhelms him. Under certain circumstances it may even drive him to behavior—say, a childish joke that unwittingly starts a riot—unacceptable according to his absurdly high standards.

Although the Sachs situation has improved somewhat since Conrad L. Osborne surveyed the recorded field 17 years ago, the indispensable source remains Friedrich Schorr's 1927–31 excerpts, now available on Seraphim 60189. If you want to understand how Sachs rouses himself from his depression, listen to his *Wahnmonolog*. Listen, as he recalls the previous night's madness, to the high E of "Jo-han-nis-nacht" magically sustained over the chirp-

## Die Meistersinger von Nürnberg

- Melodram '37** (Italy). Hans Hermann Nissen (Sachs), Maria Reining (Eva), Henk Noort (Walther), Richard Sallaba (David), Hermann Wiedemann (Beckmesser), Herbert Alsen (Pogner); Salzburg Festival 1937, Arturo Toscanini. \* MEL 012 (5m).
- EMI** (Germany). Jaro Prohaska, Maria Müller, Max Lorenz, Erich Zimmermann, Eugen Fuchs, Josef Greindl; Bayreuth Festival 1943. Wilhelm Furtwängler. \* 1C 181-01797/801 (5m).
- Richmond** (OP). Paul Schoeffler, Hilde Gueden, Günther Treptow, Anton Dermota, Karl Dönch, Otto Edelmann; Vienna Philharmonic, Hans Knappertsbusch. RS 65002 (1950, 5m).
- Vox** (OP). Ferdinand Frantz, Tiana Lemnitz, Bernd Aldenhoff, Gerhard Unger, Heinrich Pflanzl, Kurt Böhme; Dresden State Opera, Rudolf Kempe. OPBX 142 (1951, 5m).
- Seraphim**. Edelmann, Elisabeth Schwarzkopf, Hans Hopf, Unger, Erich Kunz, Friedrich Dalberg; Bayreuth Festival 1951, Herbert von Karajan. \* 1E 6030 (5m, also EMI RLS 7708).
- Melodram '52** (Italy). Edelmann, Lisa della Casa, Hopf, Unger, Pflanzl, Böhme; Bayreuth Festival 1952, Knappertsbusch. \* MEL 522 (5m).
- Angel I** (OP). Frantz, Elisabeth Grümmer, Rudolf Schock, Unger, Benno Kusche, Gottlob Frick; Berlin Philharmonic, Kempe. EL 3572 (1957, 5m, now EMI RLS 740).
- Melodram '57** (Italy). Gustav Neidlinger, Grümmer, Walter Geisler, Gerhard Stolze, Karl Schmitt-Walter, Greindl; Bayreuth Festival 1957, André Cluytens. \* MEL 572 (5m).
- Melodram '58** (Italy). Otto Wiener, Grümmer, Josef Traxel, Stolze, Toni Blankenheim, Hans Hotter; Bayreuth Festival 1958, Cluytens. \* MEL 582 (5m).
- Melodram '59** (Italy). Wiener, Grümmer, Schock, Stolze, Blankenheim, Greindl; Bayreuth Festival 1959, Erich Leinsdorf. \* MEL 592 (5m).
- Melodram '60** (Italy). Greindl, Grümmer, Wolfgang Windgassen, Stolze, Schmitt-Walter, Theo Adam; Bayreuth Festival 1960, Knappertsbusch. \* MEL 602 (5m).
- Eurodisc** (Germany). Wiener, Claire Watson, Jess Thomas, Friedrich Lenz, Kusche, Hotter; Bavarian State Opera, Joseph Keilberth. \* 70 851XR (1963, 5s, formerly RCA LSC 6708).
- Angel II**. Adam, Helen Donath, René Kollo, Peter Schreier, Geraint Evans, Karl Ridderbusch; Dresden State Opera, Herbert von Karajan. SEL 3776 (1970, 5s).
- Philips**. Ridderbusch, Hannelore Bode, Jean Cox, Frieder Stricker, Klaus Hirte, Hans Sotin; Bayreuth Festival 1974, Silvio Varviso. \* In 6747 243 (14s, formerly 6747 167, 5s).
- London**. Norman Bailey, Bode, Kollo, Adolf Dallapozza, Bernd Weikl, Kurt Moll; Vienna Philharmonic, Georg Solti. OSA 1512 (1975, 5s).
- DG**. Dietrich Fischer-Dieskau, Catarina Ligendza, Plácido Domingo, Horst Laubenthal, Roland Hermann, Peter Lager; Deutsche Oper Berlin, Eugen Jochum. 2713 011 (1975, 5s).

Releases are current domestic issues unless otherwise noted. OP = out of print, \* = live performance, m = mono, s = stereo, d = digital.

ing flute, oboe, and bassoon, and then hear the octave drop into his meaty lower midrange, and then the crescendo on the upward rise to that rejuvenated C sharp: "Nun aber kam—Johannistag." One of life's consoling certainties is that after Midsummer Eve comes Midsummer Day, and with the new day comes a fresh start and a refreshed perspective.

The Seraphim disc also includes Schorr's *Fliedermonolog* (not his best effort, the limitations of his top coming through), the Act II Eva/Sachs scene with Göta Ljungberg, the *Schusterlied* ("Jerum! Jerum!"), the beginning of the Act III Sachs/Walther scene with Rudolf Laubenthal, the end of this scene with Melchior, Sachs's speech leading into the quintet with Elisabeth Schumann and Melchior et al., "Euch macht ihr's leicht," and "Verachtet mir die Meister nicht." (Somebody out there can surely direct me to an LP reissue of the Act III scene with Rethberg, which I haven't come across.)

Most of these selections are included in EMI's new seven-disc "Wagner on Record" anthology (RLS 7711, also Seraphim IG 6130), a fascinating and infuriating collection that devotes one disc each to

the three full-length Ring operas, *Tristan*, and *Meistersinger*, a side each to *Dutchman*, *Tannhäuser*, and *Lohengrin*, and a side to miscellaneous. The recordings, mostly from the late Twenties and Thirties, are mostly legendary, focusing as they do on Schorr, Melchior, and Frida Leider. If you will never want more than seven discs' worth of outstanding Wagner singing, this set is a natural. Otherwise, just to acquire recordings that logically complement those included, you may wind up duplicating most of the contents. In the case of *Meistersinger*, the Schorr/Laubenthal scene is omitted, Schorr's *Schusterlied* gives way to Rudolf Bockelmann's less good one, and two selections are added: a smashing 1931 Melchior "Am stillen Herd" and an OK 1936 Torsten Ralf *Preislied*.

Among the complete sets, there are solid performances by Ridderbusch (Philips), Nissen (Melodram '37), and Bailey (London). Ridderbusch sings nicely, though without the warmth of spirit and plush of tone of his Pogner. From the gorgeous studio *Wahnmonolog* he recorded probably not much before the Philips set (Eurodisc 87 559), one may wonder whether (Continued on page 112)

# Serenading Notschibikitschibi

Mozart's unique musical offering for Anton Stadler appears in several recordings that exploit a new score edition and a wealth of revised information on the work's provenance.

Reviewed by R. D. Darrell



ILLUSTRATIONS BY MINDY BALL

NEXT MARCH 23RD WILL MARK the 200th anniversary of an extraordinary concert in the National Hoftheater, Vienna, for the benefit of the outstanding clarinetist of the time, Anton Stadler (1753–1812). A Masonic-lodge-mate of Mozart's, he was a close enough friend to win one of Wolfgang's fanciful names for favored associates: *Notschibikitschibi!* (The composer himself was an only slightly less outré Punititiiti, his dog a more down-to-earth Schomantzky.) However, Stadler often was less fantastically called, in Mozart's letters to his wife, Red-Currant Face. Under any name, he was in later years the famed inspirer and first performer of the incomparable K. 581 Clarinet Quintet and K. 622 Clarinet Concerto—the latter begun as a concerto for basset horn, an early type of alto clarinet, of which Stadler was the first noted exponent.

The benefit concert featured a unique work either commissioned by or expressly composed for Stadler by Mozart, and scored for an odd combination of 13 instruments: paired clarinets (probably played by Stadler and his younger brother Johann), basset horns (probably by Stadler students), oboes, bassoons, four horns, and a single string bass—all or mostly played by Stadler's colleagues from the Hoftheater orchestra. Only four of this B flat Serenade's seven movements were performed then, and there is no record of what else was included in the program, but the serenade movements and Stadler's artistry fired ecstatic admiration in at least one Viennese critic.

Mozart himself was most likely in attendance, for, while neither the concert nor the composition is specifically mentioned in the letters, March 23, 1784, was one of the rare "free" dates in his own crowded schedule, which called for some 22 concerts from February 26 to April 3 of that annus mirabilis—dates and locations Mozart proudly itemized in a March 3 letter to his father that concludes: "Well, haven't I enough to do? I don't think that in this way I can possibly get out of practice."

There are many more unknowns than knowns, however, about a work that has been less shrouded in mystery than distorted by "facts" that only lately have been found to be false. For more than a century the autograph score was lost or unavailable, so that the published scores—still in general use—had to be based on sets of instrumental parts riddled with errors. The autograph finally surfaced in 1917 but didn't become easily accessible to scholars until it found a home in our Library of Congress, which has published it in facsimile. It served as the basis for the *Neue Mozart-Ausgabe* version (Bärenreiter, 1979), edited by Daniel N. Leeson and Neal Zaslaw, and embodying the conclusions of a monograph by Leeson and David Whitwell dealing with not only innumerable specific textual errors, but also many misconceptions about the work, including its date of composition.

*Item:* The probable date is advanced to the winter of 1783–84 (most likely expressly for Stadler's benefit concert), discredit-

ing the long-held notion that the serenade was written in early 1781 during the agitated times when Mozart was first wrapped up in the Munich production of *Idomeneo* and then painfully breaking loose from his servitude to Archbishop Colloredo—all so vividly described in letters to his father.

*Item:* The subtitle *Gran partita*, by which the work has long been known and which indeed does appear on the first page of the autograph score (reproduced on the jacket of the Crystal release), is now recognized to be in the handwriting of someone other than Mozart.

*Item:* The specific prescription of a string double bass (rather than the contrabassoon that would seem more logical for an otherwise all-wind ensemble) is confirmed by the frequent pizzicato indications.

*Item:* Köchel's original numbering, the long-familiar K. 361, which had been advanced to K. 370a in Alfred Einstein's third edition of Köchel numberings, is now projected as K. 449a for the next edition.

As might well be expected, the wealth of revised information has begun to be exploited in new additions to the considerable existing discography—relatively considerable, that is, since it has been just as difficult to assemble the required instruments and competent players for recording sessions as for (rare) concert performances. The 1977 HMV, later Seraphim, Barenboim/English Chamber Orchestra recording (S 60377) may have been the first to use the autograph score, but the May 1979 New York Philomusica version for Vox and the April 1981 Toronto Winds recording for Kneptune, and now Crystal, are the first to claim use of the *Neue Mozart-Ausgabe* edition. Yet the February 1980 Erato account by the Paillard Wind Ensemble, which makes no such claim (and Lise Florenne's double-folder jacket notes reiterate all the old misconceptions), nevertheless seems to incorporate the NMA corrections.

On the other hand, the new (c. 1982) Collegium Aureum Harmonia Mundi/Pro Arte digital recording, whose anonymous jacket notes refer to the revised composition date and the existence of the new edition, does *not* seem to include at least some of the



**MOZART: Serenade No. 10, in B flat, K. 361.**

Collegium Aureum. [Klaus L. Neumann and Monika Werner, prod.] PRO ARTE PAD 137, \$9.98 (digital recording). Cassette: PCD 137, \$9.98.

Wind Ensemble, Jean-François Paillard, cond. ERATO STU 71335, \$10.98.

Toronto Chamber Winds, Winston Weber, cond. [Margaret Barstow and David Burnham, prod.] CRYSTAL S 646, \$8.98.

Hungarian State Opera Wind Ensemble. Ervin Lukács, cond. [László Matz and Péter Ella, prod.] HUNGAROTON SLPX 12224, \$9.98.

Harmonie de Chambre de la Haydn Fondation de Rome, Miles Morgan, cond. [Ariane Segal, prod.] MUSICAL HERITAGE MHS 4461,

\$7.75 (\$4.95 to members) add \$1.95 for shipping; Musical Heritage Society, 14 Park Rd., Tinton Falls, N.J. 07724.

Collegium Aureum. QUINTESSENCE/BARCLAY-CROCKER QNT 7125, \$8.95 (open-reel tape only) [from Harmonia Mundi Germany original, 1972] (Barclay-Crocker, Inc., 313 Mill St., Poughkeepsie, N.Y. 12601).

**MOZART: Wind Serenades (3); Opera Suites (2).**

New York Philomusica Winds. [Robert Johnson, Joanna Nickrenz, and Marc J. Aubert, prod.] VOX BOX SVBX 5114, \$14.98 (three discs, manual sequence).

Serenades: No. 10, in B flat, K. 361; No. 11, in E flat, K. 375; No. 12, in C minor, K. 388. Suites (arr. J. N. Went): *Le Nozze di Figaro*; *Così fan tutte*.

corrected details. I daresay no more than "seem," since I am not yet fortunate enough to own a copy of the NMA score and have to depend on the uncorrected old Eulenburg miniature. But I have learned about at least a few of the changes—like that in the first Minuet from legato to staccato articulation in the first Trio's five-note second ending—and judge by their presence or absence. In any case, both the new and earlier (1972, now Quintessence and Barclay-Crocker) Collegium Aureum performances do differ from the older scores in the rhythm—formerly even, now syncopated—of the first oboe's five-note scale passages in bars 43 and 44 of the Adagio third movement.

What is surprising—and to concerned Mozarteans most disheartening—is the ignorant persistence of the Erato, Arion/Musical Heritage Society (c. 1980), and Hungaroton (c. 1981) annotators in perpetuating now disproved textual and background errors. The last two readings are mistaken, too, in their substitution of contrabassoon for double bass.

To finish my citation of factual data: Of the repeats called for even in the old scores (the first movement's Allegro molto exposition and 33 shorter ones—six in each of the Minuets, two in the fifth-movement Romance, 11 in the Theme and Variations, eight in the rondo Finale), five of the present versions faithfully observe every one: Pro Arte omits one and Erato both of those in the Romance. And while Knep-tune/Crystal annotator Leeson writes about the improvised embellishments prepared by individual Toronto soloists (in line with eighteenth-century tradition) in a series of concert performances preceding the recording sessions, I—possibly numbed by so much comparative listening—caught only one example: a tiny cadenza on the fermata in bar 222 near the end of the first movement. Finally, the most informative and up-to-date historical/musical notes are undoubtedly those by Leeson for Crystal and Robert D. Levin for Vox—although none of the present annotators deals in as much detail with each movement of the work as

did Frank Dorian for the Marcel Moyse/Marlboro Society versions (MRS 11, October 1977). (A digitally recorded remake by Moyse and various Marlboro Festival alumni, announced by Nautilus in last year's HF fall preview, has yet to appear.)

*Harmonie-Musik in excelsis.* Mozart, like Haydn, most other contemporary composers, and eighteenth-century listeners in general, particularly relished *Harmonie-Musik*: music for wind instruments alone or with percussion—most often sextets of paired oboes, clarinets, and bassoons, or octets including paired horns. Many of Mozart's divertimentos are representative (exemplified by those in the "complete" New York Philomusica collection in Vox Boxes SVBX 5104/6, April 1976, and many individual recordings). But the apotheoses of this genre are in the great last three Serenades: No. 11, K. 375 (an octet of 1781), No. 12, K. 388 (another octet of 1782), and finally (as now redated) the mighty No. 10,

arranged by Johann Nepomuk Went for wind octet plus double bass.

Now, even the most passionate Mozartean might not dare claim the composer's *Harmonie*-inventiveness to be unsurpassed, but it certainly is often outstanding, and the finest of the wind works are incomparable for his rich tonal imagination as well as for the puckish humor of a true *homo ludens*. It is the interplay of all these qualities, plus the magisterial sense of architectural grandeur, that makes K. 361 at once so endearing and so impressive. But who would dare to compete with Einstein's description of this music?

The fascination of the work emanates from its sheer sound. There is a continuous alternation between tutti and soli, in which the part of the soli is usually allotted to the two clarinets; a constant revealing in new combinations: a quartet of clarinets and basset horns; a sextet of oboes, basset horns, and bassoons over the supporting double bass; oboe, basset horn, and bassoon in unison, with accompaniment—a mixture of timbres and transparent clarity at the same time; an "overlapping" of all the tone colors, especially in the development section of the first movement. No instrument is treated in true *concertante* fashion, but each one can, and strives to, distinguish itself; and just as in a buffo finale by Mozart each person is true to his own character, so each instrument here is true to its own character—the oboe to its aptness for cantabile melodies, the bassoon likewise and also, in chattering triplets, to its comic properties. The two pairs of horns furnish the basic tone color; but the fact that Mozart uses only the first pair in the first slow movement, a *Notturmo*, is an indication of his supreme taste and skill.

But read for yourself the rest of this, as



K. 361. The most famous extensive, if not complete, collection is that by Jack Brymer's London Wind Soloists (London, now Treasury STS 15377/81, February 1964). The present New York Philomusica/Vox set also includes, in addition to the three wind serenades, two exemplars of an immensely popular, closely allied genre: suites of operatic excerpts, here from *Così fan tutte* and *Le Nozze di Figaro*, as

well as the whole indispensable book from which I quote: *Mozart: His Character and His Work* (Oxford Univ. Press, 1962).

**Perplexed buyers' guide.** Those who already own any of the preferred older recordings of K. 361—by Brymer's London Winds, De Waart's Netherlands Winds (Philips 839 734), Klemperer's London (Continued on page 111)

# CLASSICAL

## Reviews



Uto Ughi: expansive, energetic Beethoven

### BACH: *St. Matthew Passion*, S. 244.

Krisztina Laki, soprano; Ann Murray, mezzo-soprano; Jon Garrison (Evangelist) and David Britton, tenors; Benjamin Luxon, baritone; Hans Georg Ahrens (Jesus) and Harald Stamm, basses; Hannover Boys Choir, North German Radio Chorus and Symphony Orchestra, Raymond Leppard, harpsichord and cond. [Bernard Hansen and Gerd Berg, prod.] ANGEL DSCX 3934, \$39.94 (digital recording; three discs, manual sequence). Cassettes (3): 4X3X 3934, \$30.94.

In its intimate, contained way, this is an attractive performance, strongly competitive among current listings by reason of its three-disc format and of the diminished quality of those listings, the earlier generation of variously excellent stereo *St. Matthews* (Klemperer/Angel, Gönnerwein/Angel, Jochum/Philips, the first Richter/Archiv, Münchinger/London) having been systematically replaced by a bunch of dutifully bland versions.

Leppard seems to me to have fallen into one dangerous trap: He has decided on both an overall quality for the piece ("restraint") and general qualities for its recitative, aria, and chorale components—qualities that are intellectually defensible but that cut the performers off from any possible discovery of their emotional source. As a result, the performance has an unmistakably monochrome quality. Still, within these emotional limits this *St. Matthew* is uncommonly well thought-through and precisely motivated, often quite beautiful in sound.

The Evangelist and Jesus, Jon Garrison and Hans Georg Ahrens, are highly listenable singers, though Garrison's tenor pinches on top. Krisztina Laki and Ann Murray sing quite nicely, and make a strong impression in Leppard's subdued framework, which is even kinder to David Britton, whose tiny tenor would likely be too light in any other context. The bass arias are split between a baritone and a bass, neither any match for the likes of Crass (Jochum) or Fischer-Dieskau (Richter I) or Berry (Klemperer).

Pending the return of some of those older versions (the two Angels would be especially welcome), this is at least a coherent statement about the *St. Matthew*. Harnoncourt's performance (Telefunken 46.35047) is of continued interest for its recitatives, thanks to the lovely Evangelist of Kurt Equiluz and the gorgeous Jesus of Karl Ridderbusch, but the rest sounds like several hours of hiccupping. Note that Equiluz was the tenor soloist as well as Evangelist of the Swarowsky recording (Nonesuch HD 73021), which sounds better by present standards than it used to.

K.F.

### BEETHOVEN: *Concerto for Violin and Orchestra*, in D, Op. 61.

Uto Ughi, violin; London Symphony Orchestra, Wolfgang Sawallisch, cond. [Charles Gerhardt and Benito Vassura, prod.] RCA ITALY RED SEAL RL 31590, \$9.98 (distributed by RCA).

### MOZART: *Sonatas for Violin and Piano*: in F, K. 376; in B flat, K. 454.

Uto Ughi, violin; Maria Tipo, piano. [Jurg Grand, prod.] MUSICAL HERITAGE MHS 4642, \$7.75 (\$4.95 to members) (add \$1.95 for shipping; Musical Heritage Society, 14 Park Rd., Tinton Falls, N.J. 07724).

Uto Ughi is a Milanese violinist, born in 1944, who studied with, among others, George Enescu. Patently an artist of true stature and emotional force, he favors a broadly lyrical style and a hefty, golden sonority. His account of the Beethoven concerto is expansive and energetic, its backbone squarely reaffirmed by Wolfgang

Reviewed by:

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| R. Derrick Henry   | Susan T. Sommer    |

Sawallisch's strongly rhythmic presentation of the orchestral part. Kreisler's cadenzas are vigorously—and masterfully—presented. This commanding interpretation has been framed with rich, impactful reproduction, and RCA Italy's processing and pressing are excellent.

The Musical Heritage disc, licensed from Dischi Ricordi, likewise benefits from exceptionally robust sonics. One could quibble that the piano (a modern grand) is perhaps a bit overwhelming in this innately classical music, but it could be countered that these works can withstand such treatment—K. 376 and K. 454 are both "big" sonatas in every sense of the word. Furthermore, Ughi and Maria Tipo (who made some fine recordings for Vox a quarter-century ago) are masters of precision and articulation. As in the Beethoven, the violinist's wedge of effulgent sound is not only rich and pulsating, but also passionate and profound. Ughi is, in fact, reminiscent of David Oistrakh at his finest.

These recordings, then, are highly recommended: These are all artists of perception and taste, and it is to be hoped that more of their superb work will surface.

H.G.

### BRITTEN: *Our Hunting Fathers*, Op. 8; *Folksong Arrangements* (6).

Elisabeth Söderström, soprano; Welsh National Opera Orchestra, Richard Armstrong, cond. [John Fraser, prod.] EMI ASD 4397, \$12.98. Cassette: TCC 4397, \$12.98. (Distributed by International Book and Record Distributors, 40-11 24th St., Long Island City, N.Y. 11101.)

The Bonny Earl o' Moray: Come You Not from Newcastle?; Little Sir William; Oliver Cromwell; The Ploughboy; O Waly, Waly.

### ELISABETH SÖDERSTRÖM: *Song Recital*.

Elisabeth Söderström, soprano; Martin

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**CLASSICAL** Reviews

Isepp, piano. [Hans Larssen and Rune André-  
asson, prod.] TURNABOUT TV 34787. \$5.98.  
Cassette: CT 4787, \$5.98. [Recorded in perfor-  
mance, February 25, 1980.]

**BERWALD:** Ma vie est une fleur sauvage;  
Je t'aimerais. **CANTELOUBE:** L'Aïo de rotso;  
Malurous qu'o uno tenno. **GRIEG:** With a Water  
Lily, Op. 25, No. 4; The Way of the World, Op.  
48, No. 3; Spring, Op. 33, No. 2; I Love Thee,  
Op. 5, No. 3. **LISZT:** S'il est un charmant gazon;  
Enfant, si j'étais roi; Comment, disaient-ils. **R.**  
**STRAUSS:** Schlagende Herzen, Op. 29, No. 2.  
**THRANE:** Norwegian Echo Song. **WEST:** Jenny  
Lind Mania. **WOLF:** Bedeckt mich mit Blumen;  
Mögen alle bösen Zungen.

Elisabeth Söderström is an uneven singer. Not all her performances catch light, but when they do, they can give the rare satisfaction of hearing a whole human being engaged body and soul with her material. Hers has been an unusual career—partly, one gathers, because part of the "whole person" she has wanted to be was a physically present mother to a stationary family, and partly because she has been interested in opera only on her own terms, dropping most of the standard repertory in favor of a select group of roles that challenge and reward her human understanding. After international successes at the Met and elsewhere in the Fifties, she more or less withdrew from the mainstream, but sang regularly for a few audiences (mostly in Sweden and Britain) who came to know her intimately and value her highly.

Now that she has widened her itineraries again, and now that her longtime audiences realize that, just in the nature of things, they will have to lose her before much longer, she has found herself in much greater demand on records. In a way this is a shame, because her legacy for posterity will be lopsided, overweighted toward a period in which the voice has not been in consistently good shape. Better, though, to save the regrets and buy the records for the moments when they do catch light.

The Britten disc does so splendidly, once past the uninspired (or at any rate uninspiring to me) recitative that opens the otherwise biting acute "symphonic cycle" about man and animals. "Rats Away!" begins with a long melisma on the vermin's name, and Söderström scurries through it hectically and a little vaguely (just right, in other words). And at the end of the "Dance of Death (Hawking for the Partridge)," she is positively sinister: "Whurret! Whurret! German, Jew!"

The folksong arrangements appear here for the first time on records, as far as I know, in their orchestral guise. The dirge of "The Bonny Earl o' Moray" is strengthened by percussion, and the dissonant scale stands out better in "Oliver Cromwell," but on the whole the impression is of orchestrated piano music, and I can't imagine that Britten, with his keen sense of matching means to material, was very satisfied with them. Söderström herself, on the other hand, is a delight. Sometimes the

voice lets her down, and the words are hard to understand above (soprano) middle C, but if you already know them (they aren't provided) you'll enjoy a richer, more pointed wit than even Peter Pears brought to these songs. The merry ploughboy (many of whose lines fall very intelligibly into chest voice) alone is worth the price of the record, and the child voice of poor Little Sir William is uncannily true without being in the least mawkish.

The live recital, though recorded three years earlier, finds the singer in slightly less satisfying vocal form. Still, it is well worth having for repertory otherwise unrecorded by Söderström (especially a hearty "Schlagende Herzen," a great antidote to the usual chirping), the warm and generous Grieg group, and, not least, the equally warm interaction between artist and public. (At the end she teaches the audience to sing, in English, the refrain to her little encore ditty, "Jenny Lind Mania," whose author has apparently been rescued from anonymity between the original Swedish release of the record and the present issue.) w.c.

**MENDELSSOHN: Concerto for Violin, and Orchestra, in E minor, Op. 64—See Tchaikovsky.**

**MOZART, SCHUBERT: Chamber Works for Strings.**

Amadeus Quartet. [Alan Melville\*, Lawrence Collingwood†, and Victor Carne‡, prod.] EMI RLS 767, \$23.94 (mono; three discs, manual sequence) [from HMV originals, 1952–56] (distributed by German News Co., Inc., 220 E. 86th St., New York, N.Y. 10028).

**MOZART:** Quartets: No. 17, in B flat, K. 458 (Hunt)\*; No. 19, in C, K. 465 (Dissonant)†. **SCHUBERT:** Quartets: No. 10, in E flat, D. 87\*; No. 14, in D minor, D. 810 (Death and the Maiden)‡. Quintet in C, D. 956 (with William Pleeth, cello). ‡

The Amadeus Quartet has been together—with no change of personnel—since 1947, and EMI has evidently chosen to pay tribute to these grand old men of chamber music by issuing a retrospective of recordings from their days of youthful indiscretion. (Well, not quite, as we shall soon discover.)

Technically speaking, this is (in the jargon of quartet fanciers) "middle" Amadeus. The group's "early" period is also documented in recordings long out of print—a series of Haydn, Mozart, and Schubert quartets produced by Westminster in some dreadful grotto (or was it an airplane hangar, or the Musikvereinsaal?). HMV—the major leagues—beckoned in 1953, and since 1960 the Amadeus has recorded for Deutsche Grammophon. (Rounding out the discography are an early mono account of Schubert's last quartet made for DG years before the group worked regularly with that company and an early reading of the two Mozart piano quartets with Clifford Curzon for Decca/London—both presumably one-shot affairs taped



between the Westminster and HMV contract periods.)

In essence, however, the EMI assortment is representative of the foursome's adolescent years: I have always felt that the biggest change in its style—and indeed in its musical outlook—came with the switch to DG. For one thing, it was then that the group finally decided to put the Beethoven cycle on record (there had already been a tentative approach toward Brahms—the C minor Quartet figured among the Westminster items), and concurrently one began to note a darker tone and a more heroic approach in Amadeus performances. The metamorphosis becomes most apparent when one compares this 1953 *Death and the Maiden* with the 1960 DG version (Privilege 2535 314). Not that one or the other is better: the two are simply so different. When I last heard the group perform *Death and the Maiden* (at a Lincoln Center Chamber Music Society concert, c. 1970), its approach—heavy-footed and "expressionist"; pungent in sonority and occasionally overvehement in accent—was essentially that of the 1960 recording. But the 1953 has greater nervous propulsion, lighter inflection, and—particularly in the grim tarantella finale—a much faster tempo. In many respects, this is the outstanding recording of *Death and the Maiden* from its period—less overblown than the Vienna Konzerthaus Westminster, though with some of the version's schmaltz preserved for "traditionalists"; less slick and theatrically superficial than the Hollywood Capitol; and more positive in outline than the uncharacteristically tentative and slipshod Budapest Columbia (now in Odyssey Y3 33320). (The superb Smetana Quartet performance from around the same time—as good as this Amadeus, and perhaps a bit better—didn't surface in America until much later.)

My basic complaint with the early Amadeus playing is that its impact and intensity are occasionally blunted by flaccid tempos and opaque sound—the latter arising largely from an overuse of cloying vibrato. Norbert Brainin, first violin, is fond of hovering about the pitch of a particularly expressive note like a busy hummingbird. This innately *Wienerisch* attribute, coupled with equally characteristic British reserve and decorum, gives the undeniably alert, musicianly playing an unmistakable civility—but seems alien to the virility of the Schubert quintet (incom-

parably conveyed by the gruff-toned, granitic 1952 Perpignan recording dominated by Casals's riveting inflection of the first-cello part) and insufficiently pristine in the two Mozarts (where my paragons are the jewel-like prewar Budapest readings in Odyssey Y3 35240, which I praised in absolutely glowing terms in a review that sadly fell victim to this journal's space crunch).

But, to end this assessment on a more positive note, I find all of these performances a bit fresher and more volatile than their later DG counterparts, and more than serviceable in sound. In fact, this remastered *Death and the Maiden*, in comparison with my copy of the original American version on Victor LHMV, brings the performance right into the here and now. A few unseemly studio noises, heretofore lost in the murk, are small price to pay for such cleansing. H.G.

**MOZART: Serenade No. 10, in B flat, K. 361—See page 90.**

**MOZART: Sonatas for Violin and Piano: in F, K. 376; in B flat, K. 454—See Beethoven.**

**PUCCHINI, VERDI: Opera Arias.**

Ilona Tokody, soprano; Hungarian State Opera Orchestra, András Mihály, cond. [János Mátyás, prod.] HUNGAROTON SLPD 12478, \$12.98 (digital recording).

**PUCCHINI** La Bohème: Sì, mi chiamano Mimì. Gianni Schicchi: O mio babbino caro. **MADAMA BUTTERFLY**: Un bel dì. **LA RONDINE**: Chi il bel sogno di Doretta. **SUOR ANGELICA**: Senza mamma. **TOSCA**: Vissi d'arte. **TURANDOT**: Signore, ascolta. **VERDI**: Aida: Qui Radamès verra . . . O patria mia. **UN BALLO IN MASCHERA**: Ecco l'orrido campo . . . Ma dall'arido stelo. **DON CARLOS**: Tu che le vanità. **LA FORZA DEL DESTINO**: Pace, pace, mio Dio.

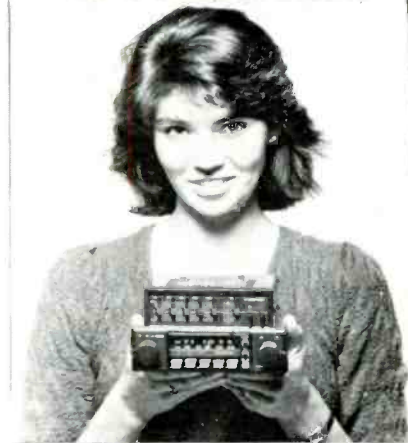
The first impression is unfortunate. In "O patria mia," Side 1, track 1, Ilona Tokody's wiry top, wide wobble, and frequent swooping overbalance the virtues that are in evidence even here, to wit: an instrument of heft and body, a lustrous richness of tone, and very sound interpretive instincts. One believes one has her number: She seems one of those genuine but minor artists of whom the world at large need not take note, predestined by a favorable appearance (her portrait as Verdi's Elisabeth is most handsome) and by talent and temperament to local stardom in a provincial capital. But from the second track forward, though her vocal shortcomings do not altogether disappear, the picture changes. Her readings are wonderfully vivid and apt, from the tumultuous opening of the scena from *Un Ballo in maschera* to the rapture of Mimì's memories of springtime toward the close of her aria from the first act of *La Bohème*. Tokody declaims Elisabeth's great apostrophe from the final act of *Don Carlos* with regal magnificence and limns Suor Angelica's heartbreak with the most artless simplicity.

**CORRECTION**

My impassioned but seemingly farfetched plea in the introduction to last month's classical preview for a recording of Albrechtsberger's concertos for jew's harp turns out to have been tardy. In the confusion of the last few months—with tardiness fast becoming a way of life—I had missed a recording, on Orfeo S 35 821.—J.R.O.

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## Critics' Choice

The most noteworthy releases reviewed recently

**BEETHOVEN: String Quartets (complete).** Talich Qt. CALLIOPE CAL 1631/40 (10), June.  
**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.  
**DVOŘAK: Cello Concerto, Op. 104. TCHAIKOVSKY: Rocooco 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.

**GERSHWIN: Songs.** Hendricks, K. and M. Labèque. PHILIPS 9500 987, July.  
**GLUCK: Orfeo ed Euridice.** Speiser, Baker, Leppard. ERATO NUM 750423 (3), Aug.  
**HAYDN: Die Jahreszeiten.** Moser, Tappy, Huttenlocher, Jordan. MUSICAL HERITAGE MHS 834655 (3), July.  
**HAYDN: Symphonies (6).** L'Estro Armonico, Solomons. CBS I3M 37861 (3), May.  
**KODÁLY: Hány János.** Takács, Nagy, Ferencsik. HUNGAROTON SLPX 12187/9 (3), June.  
**MENDELSSOHN: String Quartets (complete).** Melos Qt. DG 2740 267 (4), Sept.  
**MOZART: Opera Arias. Te Kanawa;** London Symphony, C. Davis. PHILIPS 6514 319, Sept.  
**MOZART: Symphonies Nos. 38, 39.** Bavarian Radio Symphony, Kubelik. CBS IM 36730, July.  
**NIELSEN: Symphony No. 3.** Danish Radio Symphony. Ahronovitch. UNICORN-KANCHANA KP 8006, Aug.  
**PFITZNER: Songs (17).** Fischer-Dieskau, Höll. PANTHEON ORFEO S 36 821, May.

**SCHUBERT: Songs (93).** Various. EMI RLS 766 (8), Apr.  
**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.  
**TCHAIKOVSKY: Songs (17).** Fischer-Dieskau, Reimann. PHILIPS 6514 116, July.  
**TIPPETT: Concerto for Violin, Viola, Cello, and Orchestra.** Pauk, Imai. Kirschbaum: Boston Symphony, C. Davis. PHILIPS 6514 209, Aug.  
**CAMBRIDGE BUSKERS: Soap Opera.** DG 2532 072, June.  
**COLOGNE MUSICA ANTIQUA: Conversation Galante.** ARCHIV 2534 006, July.  
**CATS: Original Broadway cast recording.** GEFEN 2GHS 2031 (2), Aug.

Lauretta's little song from *Gianni Schicchi* unfolds with an unabashed bloom of emotion. Conductor András Mihály assists with flowing tempos, and the Hungarian State Opera Orchestra plays with melodious, poetic intensity.

The first impression having been unfortunate, let us endeavor to prevent disappointment and not overcompensate. This disc is no revelation; there have been, in the history of recorded sound, more accomplished vocalists and more inventive actresses. But in our time (and perhaps in any) combinations like Tokody's of immediacy, intelligence, and intuition are not so common that they may be taken for granted.

M.G.

**SCHUBERT: Quartets for Strings, D. 87, 810; Quintet, D. 956—See Mozart.**

### SCHUBERT: Songs (16).

Elly Ameling, soprano; Dalton Baldwin, piano. [Klaas A. Posthuma, prod.] ETCETERA ETC 1009, \$10.98 (digital recording). Cassette: ET 1009, \$10.98.

Wandlers Nachtlied I, D. 224; Heidenröslein, D. 257; Der Jüngling an der Quelle, D. 300; Am Grabe Anselmos, D. 504; Die Rose, D. 745; Am See, D. 746; Wandlers Nachtlied II, D. 768; Wehmut, D. 772; Abendstern, D. 806; Auflösung, D. 807; Gondelfahrer, D. 808; Bei dir allein, D. 866, No. 2; Wiegenlied, D. 867; Das Züngleinlein, D. 871; Sehnsucht, D. 879; Liebesbotschaft, D. 957, No. 1.

This is the tenth Ameling/Schubert LP on my shelves, and I have a feeling there's been another that I've missed—but one can no more tire of the Dutch soprano in her most congenial repertoire than carp at the monotonous regularity with which spring comes around. Sure, it's the same as last time, but the response (like Ameling's to her songs) is always new.

Actually, by my count, only two of these songs are remakes: "*Heidenröslein*"

(as fresh as though she were sure she'd never told us this story before, and with a touching new note of wistfulness at the futility of the rose's defense), and "*Jüngling*" (only the tiniest shade less delicious than on the disc with Jorg Demus through which most of us first met her, now Quintessence PMC 7099). As usual, she presents the lesser-known songs with special advocacy for the qualities in them we might have missed. I had never paid "*Die Rose*" much attention before (even though Liszt saw fit to include it in his very first batch of transcriptions); Ameling shows how the short-breathed modulations fall back on themselves with the flower's own wilting frailty. Nor do I recall noticing the touch of deeper feeling in this "*Wiegenlied*." Here, the beautiful, unhurried phrasing (along with cadences that strongly resemble those of "*An mein Herz*,") evokes a kinship with the rich, mature Schulze settings—and sure enough, it turns out to have been composed right in the midst of them. "*Abendstern*" is also extraordinarily haunting in this performance—Schubert looked at the Star of Eve as though with Werther's eyes, and felt the pity in its isolation more keenly than its kindling glow.

All this suggests a prevailing reflectiveness and melancholy, and that is not wrong, but Ameling remains at her best in tender, spirited songs like the opening "*Liebesbotschaft*." To my mind, she has neither the appropriate instrument nor access to the terrifying, exalted, suicidal ecstasy for "*Auflösung*." The tenorial passion of "*Bei dir*" extends her past comfort at the climaxes as well. And the lovely voice is beginning, just slightly, to age. There is a hint of unsteadiness here and there, and sometimes an unwonted vocal stiffness, so that phrases proceed note by note—not dully, but as inventively shaped constructions of greater and lesser accents, rather than of continuous rising and falling curves.

Still, this album on the whole confirms Ameling as the preeminent successor of Ria Ginster, Elisabeth Schumann, and (not so much in style and repertory as in mien and spirit) Victoria de los Angeles. If in the twenty-first century another "*Schubert Lieder on Record*" anthology is compiled, it may well reveal Ameling as the most distinguished interpreter of these songs to emerge since the cutoff point of the previous one around 1950.

Dalton Baldwin, whom I take at his best to be one of the finest Schubert accompanists on record, seems recently to be going through a phase of spiky, dry, insistent playing in songs built on quick figuration—here, "*Liebesbotschaft*," "*Bei dir*," and "*Auflösung*." In the last he even pulses his tremolos to accent the beats, an amateurish effect—but elsewhere he plays with his usual finesse and legato.

Etcetera has economized on the insert: a poor photographic reproduction of texts and mediocre translations, cut-and-pasted straight from the booklets of the big DG Fischer-Dieskau sets. (A "*Wiegenlied*" verse omitted by Fischer-Dieskau is added in another typeface.) Perversely, the poets' names, Deutsch numbers, and dates of composition are snipped out (names and numbers, but no dates, are on the jacket), while the nearly useless French synopses are left in.

But this is carping: The new label will be as welcome as April if it does nothing but bring us an annual Ameling. Perhaps an all-Loewe disc next spring? (He wrote more than growling baritone ballads.) Or some Franz? And Jensen, Cornelius, etc., etc.

W.C.

### TCHAIKOVSKY: Concerto for Violin and Orchestra, in D, Op. 35. MENDELSSOHN: Concerto for Violin and Orchestra, in E minor, Op. 64.

Kyung-Wha Chung, violin; Montreal Symphony Orchestra, Charles Dutoit, cond. [Ray



Minshall, prod.] LONDON LDR 71058, \$12.98 (digital recording). Cassette: LDR5 71058, \$12.98.

**TCHAIKOVSKY: Concerto for Violin and Orchestra, in D, Op. 35\*;** **Capriccio italien, Op. 45.**

Vladimir Spivakov, violin\*: Philharmonia Orchestra, Seiji Ozawa, cond. [John Willan, prod.] ANGEL DS 37849, \$12.98 (digital recording). Cassette: 4XS 37849, \$9.98.

The second and third digital recordings of the Tchaikovsky violin concerto are, like the first (Kremer/Maazel, DG 2532 001, February 1981), uncut. But unlike that account—notable for its Huberman-esque capriciousness and violent abandon—these are both oriented toward finespun lyricism. Of the two, I prefer the Chung/Dutoit, which tends toward greater subtlety and more self-contained (if no less touching) expression. In the years since she first recorded the work (and the Sibelius, in her debut disc, with Previn and the London Symphony, also on London), the distinguished Korean virtuoso has kept the patriotic essentials of her reading intact, while adding just enough more backbone to propel the bravura passages along with the needed thrust and momentum. Part of the impression of greater character reflects, undoubtedly, Chung's greater experience and maturity, but part stems from the closer sound given the soloist. (The Previn, incidentally, applied the usual minuscule prunings in the third movement—another point favoring the new edition.)

Chung's Mendelssohn (the third digital version of that work, too, joining Stern/Ozawa, CBS IM 37204, and Mutter/Karajan, DG 2532 016) is perhaps even more distinguished than her Tchaikovsky. Her taut reading follows the tradition of Milstein, Heifetz, and Szeryng/Dorati (Quintessence PMC 7194). (I have not heard the later Szeryng/Haitink, Philips 9500 321, reputedly slower and more sedate.) But unlike Heifetz, and even more than Milstein and Szeryng, Chung tempers her account with lyricism, grace, and gossamer tone—a touch, if you will, of Kreisler's warmth and humanity added to the bracing glitter.

Dutoit elicits praiseworthy playing from the Montreal Symphony in both works: The solo flute, clarinet, bassoon, and horn, in particular, provide some beautiful, flexible chamber-style playing, and while Dutoit's reading of the Tchaikovsky eschews huge, blockbuster tuttis (cf. Maazel and, to a lesser degree, Ozawa), the proportion and lucidity eventually make a valid musical statement of their own. The recent Mutter/Karajan coupling of Mendelssohn and Bruch and the Kremer/Maazel Tchaikovsky linger in the memory, along with the Milstein/Abbado Tchaikovsky (DG 2530 359) and myriad other fine accounts of both works, but even with such highly-powered competition, the new London release wins a place near the top of both lists.

Not quite so much can be said for the Spivakov/Ozawa offering. While attractive in all essentials, the concerto seems just a mite unctuous and simpering in its sugary delivery, and the capriccio seems (alongside the well-remembered Kondrashin, RCA AGL 1-4293) mechanical and tin-soliderish. In fairness, each replaying of the disc made it seem more plausible—and certainly Angel's sound has fine dynamic range, warm tone, and excellent clarity—but are Spivakov's little tricks (a bit of ponticello here, a gimmicky accelerando there, too much arch portamento everywhere) really necessary? Or are these merely the adornments of a stock-in-trade "tradi-

tion"? The Philharmonia plays beautifully. H.G.

VERDI: Arias—See Puccini.

## Recitals and Miscellany

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James King, tenors; Richard Stilwell, baritone; Jeffrey Goldberg, Eugene Kohn, Mstislav Rostropovich, and Julius Rudel, piano. [Max Wilcox, prod.] RCA RED SEAL ARL 1-4667. \$9.98. Cassette: ARK 1-4667, \$9.98. (The Opera Singers' Disability Fund receives a royalty on sales.) [Recorded in performance, June 16, 1982.]

BELLINI: La Sonnambula: Come per me sereno (Welting, Kohn). BOITO: Mefistofele: L'altra notte in fondo al mare (Neblett, Rudel). MEYERBEER: Les Huguenots: O beau pays de la Touraine (Sutherland, Kohn). RAVEL: Don Quichotte à Dulcinée (Stilwell, Goldberg). ROSSINI: L'Italiana in Algeri: Languir per una bella (Blake, Goldberg). Semiramide: Eccoli alfine in Babilonia... Ah, quel giorno ognor rammento (Home, Kohn). TCHAIKOVSKY: Yevgeny Onegin: Faint echo of my youth (Gedda, Rostropovich). WAGNER: Rienzi: Allmächt'ger Vater, blick herab (King, Goldberg).

The advantages, especially economic, of live gala-concert souvenirs over studio-produced aria recitals are readily apparent to everyone, but programming priorities and standards of performance raise some question about the value of such discs in a shrinking catalog. In London's "Concert of the Century" we had Sutherland singing badly an aria she had recorded beautifully before and was about to record creditably again. Pavarotti and Horne contributed favorites from their old discs too, and such ensembles as were new (not many) were of marginal interest or suitability. Here we have Sutherland's third commercial record-

ing of "O beau pays," Horne's fourth of the big *Semiramide* scena (her second live, piano-accompanied one), and Gedda's fifth of Lensky's aria.

In each case the status report is encouraging (some participants for whom it would not have been are discreetly omitted from the disc version), but hardly a significant addition to our idea of these singers' work. Sutherland now finds the *Huguenots* scene more comfortably transposed down; she reaches comfortably to a low A flat, and no one would guess from the ventures above high C that she now needs to ration them. Gedda remains in superb control of his celebrated mezza voce, and the concentrated, "inner" feeling for this role that has been so prominent in his later career is well captured. (Rostropovich plays for him, but it doesn't sound as though they've rehearsed.) Horne, given a breath here and take a high note there, is as ever a marvel—although her repeated star turns in these interchangeable Rossini arias are beginning to suggest the beleaguered impresario's scriptural complaint about the tour programs of Frances Alda. (The curious can find it in Hebrews 8:13, and of course it applies just as damningly to Rossini himself and his twenty-odd E major cabalettas.)

A similar Rossini scena gives the program a welcome and impressive opening, though. Can it be that this is Rockwell Blake's first appearance on commercial

records? I have some reservations about the sound of his voice, and I expect others will too, but he can do things that no other tenor in recent memory could do. (Note for instance the tough fioratura figure shared by his cabaletta and Horne's, and how much more smoothly he executes it.) He has been desperately needed in several recent Rossini recordings, and an aria recital is long overdue.

For the rest: Richard Stilwell sings Ravel's *Don Quichotte* songs, not so as to make one leap with joy when the unlisted third one turns out to be included after all, but creditably. There is also Ruth Welting in the first-act aria from *Sonnambula*, sung on the apparent assumption that Amina's sleepwalking commences at her entrance. It's not just that it's so slow and so soft, but that there is an almost perverse lifelessness of phrasing, enunciation, and tone quality alike. Carol Neblett sings "L'altra notte" from *Mefistofele* loudly and in part beautifully. James King sings Rienzi's prayer with deep commitment. (Or am I "hearing" the remembered commitment in his face on the TV screen? I now notice breathiness and imperfect control I did not hear while I was watching him.)

The pianists are mostly fine (but Eugene Kohn dutifully makes the accompaniment as enervating as the singing in *Sonnambula*); in all it was a nice concert. (Continued on page 111)

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# The Tape Deck

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

## Gold Standards

It's only too easy for specialists, professional or amateur, to become so absorbed in unusual music that they neglect the "standard" repertoires that of course constitute the staples of the classical-record business. Reviewers, in particular, find novelties far more stimulating to write about than the thrice familiar masterpieces. Then, too, home listeners who already own versions of these aren't likely to want new ones unless they can be persuaded that the latest duplications are markedly superior in either artistry or technology, or both. Nowadays, to be sure, most new standard programs that come my way, in either cassette or open-reel format, do indeed represent at least some technological advance. But ultimately—and here's the rub—it's the magnetic strength and polarity of specific performances and interpretations that prove decisive, with listeners reacting, positively or negatively, according to their previous experience and temperamental affinities.

Almost ideally exemplary is the latest Colin Davis/Concertgebouw coupling of Haydn Symphonies: No. 94, the *Surprise* everyone knows, and the only slightly less familiar No. 93, in what may well be their first digital/chrome tapings (Philips 7337 192, \$12.98). Has either work ever been better played or recorded? Unless you cling to the illusion of a prissy "Papa" Haydn rather than the reality of Davis's virile, jauntily humorous one, or unless you're so fanatically purist that you won't listen to any modern-instrument performance, you're not likely to find any versions of these works more lastingly satisfactory.

Things get more complicated with the latest Franck programs. The Muti/Philadelphia D minor Symphony combines impressively warm, solid sonics, strangely lacking in digitalism's usual lucidity, with a Romantic reading portentously fraught with "meaning" but devoid of exuberance. The coupled *Chasseur maudit*, old-fashioned as it now seems, is the stronger attraction (Angel digital/ferric, 4XS 37889, \$9.98, no notes). Then, despite the idiomatic playing of Dutoit's Philharmonia Orchestra in the popular *Symphonic Variations*, pianist Entremont somewhat stiffly assumes the role more of a concerto soloist than of a concertantist. He is better, if still not subtle enough, in Fauré's *Ballade*, but what makes this release indispensable is Entremont's unexpected matching of Dutoit's eloquence in evoking the full breezy sum-

mer-day exhilaration of D'Indy's *Symphony on a French Mountain Air*—the first modern recording I've encountered, and one sure to delight today's young listeners as much as Casadesu's mono version did an earlier generation (CBS Masterworks MT 37269, price at dealer's option).

The mass appeal of Rachmaninoff's Second Symphony never has lapsed even temporarily, but it too is given fresh vitality by an Ashkenazy/Concertgebouw reading that is remarkably idiomatic, fluid, and passionate, often less somber and more ecstatic than we usually hear (London digital/chrome, LDR5 71063, \$12.98). But two Solti blockbuster London digital/chromes, while superior in sonic impact, call for more qualified commendations. The Solti faithful—indeed, anyone who cherishes his earlier Mahler Ninth—will rejoice in his new, intensely powerful, Chicago recording, and even put up with its grotesquely oversized packaging (LDR5 72012, \$25.96), but some Mahlerians will remain unconvinced. Similarly, some Schubertians may well quarrel with details of Solti's unsubtle Vienna Schubert Ninth (LDR5 71057, \$12.98). But here, especially in the robust Scherzo and implacably pounding Finale, the driving momentum is well-nigh impossible to resist.

I find it easier to spurn the superb sonic enchantments of the Bernstein/BBC Symphony Elgar. Yet his indulgently deliberate *Enigma* Variations (seven to 10 minutes longer than usual), which shamelessly pulls at the heartstrings, has a certain horrid fascination for its wealth of detail. And the three coupled marches, however bombastic, are more conventionally effective (Deutsche Grammophon digital/chrome, 3302 067, \$12.98).

**"Periodthenticity" triumphant.** The best of all musical worlds proffers supreme masterpieces in freshly revelatory re-creations of their original sound and style—as in the just-completed Himalayan range of such endeavors: the Hogwood/Schröder Mozart symphonies with the Academy of Ancient Music. Volume 6 (the last of seven to appear) may be the most controversial, since it includes late works (No. 31, *Paris*, in two versions; No. 35, *Haffner*, second version; No. 38, *Prague*; No. 39; No. 40, first version; and No. 41, *Jupiter*) best-known in big, modern orchestral performances. Yet, however small-scale they may be here, they are by no means reduced in stature, just ineffably *different*, and for some of us more truly—indeed, quintes-

entially—Mozartean (Oiseau-Lyre digital/chrome, K 172K43, \$51.92).

The latest darling of periodthenticity mavens is the young British harpsichordist Trevor Pinnock, who leads the English Concert in Bach's *Brandenburgs* and Handel's Op. 6 Concertos (Archiv digital/chrome 3383 003, \$17.96, and 3383 002, \$38.94). He's exceptional for whirlwind velocity, rock-steadiness, and deft tidiness in readings I may be alone in finding sonically lightweight and too often verging on the sewing-machine dynamism long thought to be a congenital stigma of all modern-day baroque playing. But while I miss Harnoncourt's greater exuberance and impact, even I stop niggling when I'm carried willy-nilly off my feet by Pinnock's intoxicating best—the Bach Third and Sixth, the Handel Ninth and Eleventh Concertos.

The better-known native fortepianist Malcolm Bilson not only couples Haydn's two great E flat Sonatas, but, even more imaginatively, plays them on appropriately different replica instruments. The contrasted timbres are cleanly differentiated in the recording, while Bilson's taut performances argue persuasively that these Sonatas Nos. 49 and 62 may well be Haydn's finest keyboard works (Nonesuch 78018-4, \$9.98).

**At long last, DG reels.** Barclay-Crocker (313 Mill St., Poughkeepsie, N.Y. 12601) has had to wage a protracted battle to add Deutsche Grammophon to its stable of labels and so open up inexhaustible new riches for the open-reel format. Not surprisingly, however, all the first DG/B-C reels (\$10.95 each except as noted) are safely famous Gold Standard programs. They are topped by the most magisterial of all modern Beethoven Fifth's, Carlos Kleiber's 1975 Vienna Philharmonic version (DGR 2530 516); Karajan's unexpectedly eloquent and incandescent Berlin Philharmonic Mahler Ninth of 1981 (DGR 2707 125, \$21.95); and Giulini's poignantly moving—if more Chicagoan than Czech—Dvořák Eighth of 1979 (DGR 2531 046).

Ever ambivalent where Karajan and Giulini are concerned, I still find only the former's iron hand in his acclaimed 1977 Beethoven symphonies, here the mighty Ninth with a brutal, humorless Eighth (DGR 2707 109, double-play, \$21.95), while the latter's 1977 Chicago Schubert Ninth remains, despite magical sonics, as unrelievedly somber as ever (DGR 2530 882). **HF**

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Miles Davis, the trumpet has unquestionably been the voice of jazz for the past 60 years. But if that instrument has had the most up-front sound, and perhaps the most romantic image, it is the saxophone that has brought the winds of change to each new jazz generation.

From Johnny Hodges's honey-sweet sounds to the articulate bebop of Charlie Parker, from the cool-hot polarity of Lester Young and Coleman Hawkins to the urbanity of Sonny Rollins and the transcendence of John Coltrane, the saxophone has managed, in its bare 2½-octave range, to speak in a startling array of tongues.

And no less so today. The contemporary jazz movement that arrived with alto saxophonist Ornette Coleman has already produced an enormously diverse range of players. Of the four whose work is represented here, altoist Tim Berne reveals the strongest affection for the early-Sixties Coleman style—in his improvisations, his compositions, and his choice of associates. As in his model's work, the pieces on "The Ancestors" are dominated by long, "free" improvisations, in this case from Berne and soprano/tenor saxophonist Mack Goldsbury. The melody of *Sirius B* uses the characteristic Coleman device of appearing to start and stop by displacing thematic fragments over the bar line. Berne's soloing has the loose-embouchure, soft-reed sound and sequential repetitions that one identifies with Ornette—with one quite noticeable

distinction: He relies almost completely upon eighth-note patterns in his lines. Virtually every phrase moves forward with a similar flow, from eighth-note patterns to "noise" component and back to eighth notes. Also, he has little apparent feeling for the Southwest blues phrasing that makes Ornette's avant-gardisms so accessible. In fact, Berne is largely overshadowed on *Sirius B* by Goldsbury's looser, more individual soprano playing, and by the great fun of a low-pitched duet between the bass of Ed Schuller and the tuba of Ray Anderson.

The remainder of the album is devoted to a very long piece that is variously titled *Shirley's Song*, *San Antonio*, and *The Ancestors*. It begins with a slow, moody theme of the sort favored by players in the Sixties. The real business gets under way with a syncopated ostinato bass line that builds through various permutations around solos from Berne and Anderson on trombone.

The piece continues on Side 2 with a long, airy solo from Berne that both reveals his debt to Coleman and forecasts an image of his own. Much of it is in the form of a cadenza shaped around thrusts of sound that radiate from a central core of repeated notes. It's an interesting if not terribly complex organizing principle and, for once, not a technique used by Coleman. The long, moody group improvisation that follows is equally well-done, with the players finding lovely, spontaneous textures that build to a





Tim Berne



Sam Rivers



Arthur Blythe

composed, anthemlike theme from the horns.

If "The Ancestors" reflects the controlled, highly technical elements of the Sixties avant-garde, Jemeel Moondoc's "Konstanze's Delight" mirrors the contrasting, emotional image of the same decade. Most of the album is devoted to Moondoc's near-30-minute title piece. The theme is little more than a rhythmic outlining of a C-diminished arpeggio. A solo by trumpeter Roy Campbell reveals his affection for Don Cherry, and Ellen Christi's scat vocal reminds me simply of how much more effectively Sheila Jordan does this kind of improvising.

Moondoc's solo demands more attention. One senses an interior passion that is having great difficulty in emerging. Sometimes the beginnings of his patterns or phrases show a promise that his limited technical skills cannot deliver. The first part of his improvisation (which begins about half-way through Side 1) is a simply stated, almost mainstream-sounding series of phrases. Then, as the rhythm starts to build, Moondoc veers into confusion, ending with a long string of note-splashes that connote little more than fingers flung randomly at saxophone keys.

*Chasing the Moon*, with its freely floating rhythm section, makes fewer mechanical demands on Moondoc, and he responds with surges of energy. Forget that many of the fiery runs again are the fortu-

itous result of exuberance rather than a reflection of creative choice. The emotions are true and manage to reach out in communication.

Arthur Blythe, on the other hand, will never be restricted by technical considerations. An effective musical pioneer when he chooses to be, he is also quite capable of reverting to straight-ahead traditional jazz. At first, the idea of a Blythe album devoted to Thelonious Monk sounds marvelous. So does Blythe's choice of instrumentation: alto saxophone, cello, tuba, drums, and guitar. What a fine, quirky ensemble sound for Monk's undeniably quirky music.

But "Light Blue" begins badly. Monk's *We See* degenerates into a bouncy, near-country & western rhythm. Blythe whips off a solo filled with pyrotechnical runs that are utterly inconsistent with the angularity of the line. The arrangement of *Light Blue* is a vast improvement, with the leader's alto darting around Bob Stewart's ranging tuba. But even here, Blythe's exceedingly hot tone (made more so by excessive echo) sounds out of context.

*Off Minor*, a Monk line favored by many jazz players, is performed too fast and, strange to say, too bouncily. Blythe's soloing, however, is better, perhaps because the piece's quick-flowing harmonic changes are better suited to his current style. And Stewart's tuba lines are exceptional.

Side 2 opens with *Epistophy*, which,

once again, diverges too far from the original. Blythe does not seem to understand that this music cannot be used as the basis for straight-ahead harmonic improvisation in the way that, say, a Rodgers & Hart or Gershwin standard can. Monk's pieces demand attention not just to the chord chart, but to melody, rhythm, and the unique way in which all of these elements are put together.

*Coming on the Hudson* is a bit more faithful to its source but is lacking, somehow, in spunk. *Nutty*, one of the composer's brightest lines, is again played too fast—so much so that it loses the characteristic triplets on the second bar of each primary phrase.

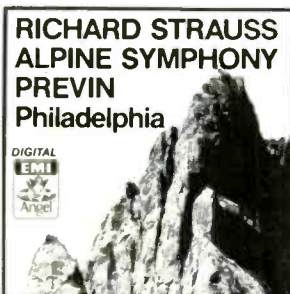
Does Blythe play well, despite his failure to reveal any real understanding of Monk's music? Indeed he does. And that's the most perplexing part of all this. He may very well be the most technically adroit, musically sophisticated saxophonist on the current jazz scene. It's difficult to imagine how he could have produced an album that is simultaneously so respectful of Monk's memory and yet so devoid of the adventure and wonder implicit in Monk's music.

Tenor saxophonist Sam Rivers has been on the scene even longer than Blythe. But unlike Blythe, most of his career has been free of the blandishments of big record companies. He was a contemporary of Coltrane's and reveals the influence. But he has also listened closely to a wide range of

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others. from Coleman and Cecil Taylor to Anton Webern and Karlheinz Stockhausen.

The Winds of Manhattan is a Rivers-organized and -led ensemble of eleven saxophones. Though one might expect such an agglomeration to sound like a turkey farm at feeding time, Rivers quickly dispels such thoughts by doing two things exceptionally well. First, he has written real compositions, with themes, developments, and recapitulations. Second, he has found a way to orchestrate for this admittedly ungainly assembly. In fact, every piece on "Colours" is dominated by composed, rather than improvised, sections.

*Lilacs* begins with a long unison line that suddenly fragments into a kind of big-band sound, with the various saxophones playing trumpet- and trombone-style phrases. Then, just as suddenly, the original line returns, this time played in very rich, Ellington-like harmonies around Rivers's tenor saxophone lead. The well-named *Colours* has wide leaps in its melodies, and overlapping harmonic textures filled with half-tone and whole-tone clusters. Ellington again comes to mind.

In contrast, *Spiral* is a fast-moving, highly articulated piece that must have been extremely difficult to play. A mass improvisation in the middle is made more interesting by a long unison line played through the chattering soloists. At the close, the opening theme returns in a fast-moving contrapuntal recap. *Matrix* is built around an appealing call-and-response pattern between various combinations of like instruments. The melody is thrown around playfully, at one point in a kind of jazzy, pointillistic parody of Webern.

The two-minute *Revival* pits Rivers's flute against an abstract stream of sound, presumably improvised, from the ensemble. *Blossoms*, the longest work, contrasts the very high textures of flutes and oboes against opposing lines in the low saxophones. Stravinsky would have been fascinated.

It's hard to know whether these four albums will prove as fascinating to a contemporary jazz audience. Rivers shows a hitherto unrevealed compositional skill that makes one eager to hear more from this veteran member of the jazz avant-garde. But Blythe's album is disappointing, especially for its sense of talent being squandered. One gets the disturbing feeling that Blythe is drifting down the same commercial garden path that lured away another exceptionally skilled saxophonist, Cannonball Adderly.

Berne, on the other hand, may have put too much of his talent at the service of another artist's style. Still, his ability to make interesting contemporary music warrants watching. The same can be said of Moondoc, whose mechanical skills are not yet adequate to service his expansive imagination. **HF**

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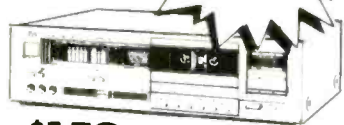
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Reviews



RENATA GOLDENPIK

Adé: talking drums meet Syndrums

**King Sunny Adé and His African Beats: Synchro System**  
 Martin Meissonnier, producer  
 Mango MLPS 9737

African music's continuing influence on modern Western pop seems assured, now that groups like Talking Heads, the Police, Haircut 100, and a host of others have made their mark commercially. In fact, reggae, Latin, and African pop have all but displaced the blues and traditional soul music as the "roots" of modern rock and r&b.

The success of King Sunny Adé's American debut last year, "Juju Music," further heightened that continent's musical visibility. Indeed, the critical and popular acclaim that the LP and follow-up tour received only happens to a genuine phenomenon. Adé is the reigning pop idol in his homeland and a member of the ruling family of Ondo, a sizable town in Western Nigeria; he is also part of that country's dominant Yoruba tribe. He grew up playing "juju music," a Nigerian song form popular since the Twenties that combines melodic call-and-response vocals with traditional percussion—including gourds, gongs, sticks, and the "talking" bass drums that are beaten and squeezed simultaneously for tonal variation. Adé's great innovation has been to supplement that percussion ensemble with a staggering variety of modern instrumental and electronic effects, ranging from electric guitar (which he plays in a sweet, lyrical style reminiscent of George Benson's) to pedal steel guitar (Adé professes to being a longtime American country and western fan) to Hawaiian lap steel guitar and various keyboard synthesizers,

Syndrums, and electronic drum machines. Add Adé and company's good-natured, mildly inspirational vocals—sung in Yoruba, a tonal language, so the pitched drums mimic the melodies—and you get an idea of how varied and textural this music is.

"Synchro System" features more synthesizer lines and more songs than "Juju Music," the latter aspect probably an effort to conform to track lengths favored by U.S. and European radio programmers. While the LP isn't even close to being a fair representation of Adé's propulsive, sensational live show, it holds up in its own terms. The title cut combines various interlocking funk guitar lines with a mellow chatter of delicately layered drum and percussion parts, all anchored by a conventional trap drummer. On *E Saiye Re*, the booming talking drums play in unison with an electric bass, creating a beautiful, bouncing pulse; over it, Demola Adepoju plays a shimmering steel-guitar solo, sounding like he had grown up listening to the Ventures on the radio.

The album's refined sound and its players' cool, relaxed approach to their fantastic panorama of rhythms make the intricate latticework of these songs all the more seductive. The wide range of musical ingredients, from country, Hawaiian, and funk guitars to tinkling agogo bells, form a true "world music" that, while African at its core, sincerely reaches out to embrace diverse cultures. Perhaps best of all, "Synchro System" makes you want to get up and dance.

CRISPIN CIOE

**Attack of the Killer B's**  
 Bob Merlis, compilation producer  
 Warner Bros. 23837-1

"Attack of the Killer B's" is a masterfully compiled and programmed collection of (mostly) B-sides by some of Warner's and its subsidiary labels' best artists. Most of the songs have only appeared on the flipside of hit 45s and, for one reason or another, never made it on to their artists' albums.

B-sides are usually throwaways—undistinguished tunes, studio outtakes, or experimental cuts that didn't pan out. The 12 tracks featured here, however, are another story: From Marshall Crenshaw's wonderfully sloppy *You're My Favorite Waste of Time* to Roxy Music's dreamy *Always Unknowing*, this is an album of strong, sometimes quirky, but always enlightened material.

The Crenshaw cut, the flipside of his hit *Someday, Someway*, was recorded in the singer-songwriter's living room and you can tell: The drums sound like cardboard boxes, the mix is fuzzy. But, so what. This winsome, Beatlesish tune is rife with wavering

harmonies and the deft, pop-song wordplay that is the New York rocker's forte.

Crenshaw's track is followed by a Sixties-style instrumental from the Pretenders called *In the Sticks*, the B-side of their *Louie, Louie*. Written by drummer Martin Chambers, the tune surfs along echoing Dick Dale and the Ventures and the Chantays. No Chrissie Hynde vocals, but a neat insight into a kind of music one wouldn't readily associate with this British band.

Another insight into a performer's tastes and inspirations comes with the John Hiatt cover of Percy Sledge's soul classic *Take Time to Know Her*. Hiatt's own songs are eccentric and often erratic affairs, filled with blistering rhythms, angry lyrics, and sharp, abrupt arrangements. But the gravelly timbre of his voice is tailor-made for rhythm and blues, and his reading of this cautionary love song is inspired.

T-Bone Burnett is represented with *Amnesia and Jealousy (Oh Lana)*, a tune recorded prior to the songwriter's highly acclaimed "Truth Decay" album. A mid-tempo acoustic ballad, the song recalls some of Burnett's work with the Alpha Band. In fact, it serves as an unusual link between that band's esoteric folk-rock and Burnett's more recent rock and rockabilly-inspired music.

Other Bs come courtesy of the Blasters (a bonus track on the cassette version of their "Over There" EP), the Ramones, avant-gardist Laurie Anderson, Gang of Four, and the Time. There's also *Shock Den Affen*, Peter Gabriel's German-language reading of his hit *Shock the Monkey*. With its hard, curt vowels and Teutonic sounds, it is even more powerful than his English version.

Far more than a hastily mounted "get to know our artists" compilation, "Attack of the Killer B's" offers recording rarities, musical surprises, and, above all, diverse songs that sound good side by side, track to track.

STEVEN X. REA

**Aztec Camera: High Land, Hard Rain**  
 John Brand & Bernie Clarke, producers  
 Sire 23899-1

At its best, "High Land, Hard Rain" catches the listener off-guard and then stays in the mind. There's an originality in Aztec Camera's bracing approach to folk-oriented pop music—in the way it uses flamenco and bossa-nova guitar techniques, surging melodies, and a sturdy rock rhythm section to prop up the songs of Roddy Frame. Frame is the band's creative center: He sings, arranges, plays guitar and harmonica, and has composed some fine music for this debut album. *Oblivious*, *Pillar to Post*, and *Walk Out to Winter* all have melodies

and textural touches that are briskly upbeat; there's a keyboard riff in *Pillar to Post* that wouldn't be out of place in a single by Gary Lewis & the Playboys, and the oohs and ahhs in *Oblivious* are delightfully cornball. But as deft a composer-instrumentalist as Frame can be, his lyrics are stumbling blocks.

There's a fervor in his singing and guitar playing, particularly on acoustic guitar, that makes it seem as though there's something of substance going on. Where he falters is in articulating his agitation, something that other earnest young British Isles bands such as U2, the Alarm and, of course, the Clash are able to do. You lean into Aztec Camera, pulled by the sound, only to hear Frame's vague crankiness. *We Could Send Letters* winds up with a guitar-and-piano crescendo that approaches the mournful intensity of the tail end of *Layla*. But to get there, you have to slog through such lines as "And now I've seen what you can't understand/I'd try to lead you but I'd crush your hand."

Fond of alliteration ("pastel paper pink," "I came from high land where the hopefuls have to hesitate"), crude epigrams ("love comes in slurs," "all you need is greed"), and trite imagery ("The salted taste of your tears and woes/Sent me in haste my melancholy rose"), Frame almost undermines his band's album. He obviously sees Aztec Camera as an extension of his ideas, but to the extent that "High Land, Hard Rain" succeeds, it does so by dint of its musical verve, its imaginative reintegration of folk (in a quite different way than the Alarm) and other elements into a pop context. To appreciate what Aztec Camera has to offer, pay attention to the vigorous strumming on *The Boy Wonders*, the catchy chorus of *Oblivious*, the scrubbed pop surface of *Walk Out to Winter*, and ignore such couplets as "The vampires made a killing/Filled their pockets up with shillings." Life is too short to ponder whether vampires have pockets. MITCHELL COHEN

**Bob & Bob: We Know You're Alone/We've Been Seeing Things**

Jeff Gordon, producer  
Polydor 422-813 395-1 (three-song EP)

For the longest time, no one in Los Angeles could figure out Bob & Bob. They called themselves artists, but their art consisted mainly of getting thrown out of swanky eateries (following a gourmet feast, one Bob would stand up and exclaim to the other, "Oh no! I can't find my wallet!"); sponsoring crazed, multimedia gallery events that more closely resembled Sixties psychedelic happenings than art shows (one was called "Sex Is Stupid"); and walking around dressed in white shirts and polyester suits cracking the lamest jokes this side of Henny Youngman.

After a while, though, Bob & Bob succeeded in wheedling their way into the L.A.

art scene. Soon they embarked on a cross-country tour with hopes of conquering the New York art world. They also, intermittently, issued records—primitive, folk-inspired stuff with dumb titles and catchy lyrics spewed out in Dylanish harmonies.

"We Know You're Alone/We've Been Seeing Things" is a three-song, 12-inch EP produced by Jeff Gordon, who runs the Greene Street Recording Studio in SoHo. The title cuts are big, bright electropop tunes—*We Know You're Alone*, especially, could easily become a novelty dance-record hit. (The third track is an extended dance version of *We Know . . .* which, at almost seven minutes, is about two minutes too long.) The tune is a kind of "Devo meets Tiny Tim by way of the Eurhythmics": There's a lot of fierce, clacking percussion, a relentless beat, some wonderfully rich piano, and through it all the nasal hoots of Bob & Bob, chanting out lines like, "We know you're alone in your libido, we know you're alone in your tem-



Bob & Bob: artistic burritos

po, we know you're alone with your burrito"; and later "we know you're alone in your sauna, we know you're alone—help me Rhonda."

Sounds dumb? It is, but so is the Los Angeles that this pair of yodeling yokels is praising and parodying: Bob & Bob get in a line about everything that is essential to that city, from the freeways and the food to the therapists and the marinas.

*We've Been Seeing Things* is in every sense the flipside: It's Bob & Bob's song about New York, a place they don't know as well as L.A. and are a little bit scared of. Gordon's arrangement here is darker, almost insidious. The pace is slower, the vocals less yahoo-like. In fact, the tune very much recalls one of those ethereal, mist-shrouded cuts on Brian Eno's "Another Green World." Still, you can dance to it, and its recurring oriental-motif guitar riff sounds very much like the one on David Bowie's recent hit, *China Girl*.

Bob & Bob's record (featuring "original cover art" by Bob & Bob) is fun and funny, but it is also sly and smart and right

on the money. With its crisp, cathartic drumming and buoyant bevy of sounds, it is a thoroughly listenable, ingratiating little work of—dare I say it?—art.

STEVEN X. REA

**Guy Clark: Better Days**  
Rodney Crowell, producer  
Warner Bros. 23880-1

On one of the two songs on "Better Days" that he didn't write, Guy Clark sings, "So give him his guitar and a long-legged girl/Moonlight in Texas and a six-pack of Pearl." Those lines from *Uncertain Texas*, with lyrics by the album's producer Rodney Crowell, are indicative of Clark's musical personality: He's a low-keyed, laconic philosopher with a taste for simple pleasures. He devotes an entire song to the joys of homegrown tomatoes, detailing their myriad culinary uses; he pays tribute to a carpenter by comparing his virtues to the qualities of his tools; he warns of choppy seas by singing, "You better give up that shrimp-in'/You just might come home a limp-in'."

Although he has written hits for others (Ricky Skaggs recently did well with a version of *Heartbroke*), Clark is overdue for wider recognition. Past albums have been marred by too much sentimentality, by one too many odes to good ol' gals, by musical backing that erred on the side of discretion. "Better Days" strikes a better balance on all counts and is possibly the best representation of his work since his excellent 1975 debut, "Old No. 1." The album swings smoothly from the broad humor of *Fool in the Mirror* (his reflection tells him that his long-departed lover just stepped out for a loaf of bread) to *The Randall Knife*, a spoken reminiscence about his father that evades bathos simply by being so unaffectedly stated.

Crowell, who also produced Clark's "The South Coast of Texas" (1981), is an ideal collaborator, keeping the music assertive without getting in the way of Clark's unemphatic voice. Worthy of special mention in the familiar lineup of players is the great fiddler Johnny Gimble, who turns out solos that help *Tears*, *Homegrown Tomatoes*, and *Blowin' like a Bandit* maintain their sprightly gait.

With few exceptions—most notably *Supply & Demand*, which sounds like reheated Jimmy Buffett—"Better Days" is filled with observant, witty songs. In addition to writing them, Clark knows where to find them. He covers Townes Van Zandt's *No Deal*, a tale of a fellow who passes up the chance to buy a car with no engine, whose doctor tells him to kick booze (he does, until he gets the doctor's bill), and who insists that if there's no whiskey and female companionship in heaven, he wants no part of it. Clark doesn't mention guitars and Texas moonlight in this context, but you can bet he'd feel that heaven wouldn't



be worth the trip without them—or home-grown tomatoes. MITCHELL COHEN

### The Doobie Brothers: Farewell Tour

Ted Templeman, producer  
Warner Bros. 23772-1 G (two discs)

From their scuffling days as a San Jose quartet beloved of bikers to their commercial zenith as a sophisticated pop-rock sextet that filled arenas, the Doobie Brothers were more a people's band than a critic's favorite. In retrospect, however, they deserve respect for their sheer craftsmanship, a constant that went a long way toward offsetting any lack of dramatic innovation.

That skill, as well as the band's open-handed attitude toward its audiences, is apparent throughout "Farewell Tour," a double album featuring the final eight-man lineup assumed in 1980. (Departed cofounder Tom Johnston also appears on two tracks.) Culled from California dates in the summer of 1982, it contains few surprises, with the majority of the arrangements hewing closely to the Doobies' recorded canon. But neither does the set suffer from the ennui that often creeps into such swan songs: Although the band had already splintered prior to these last concerts, it nonetheless plays with evident zest.

That won't stifle snickers from the ultrahip, who'll doubtless chuckle when guitarist Patrick Simmons offers concertgoers advice on lighting up their own doobies after the show. Nor do these performances bring the band any closer to the techno-pop vogue that has erupted since these shows were produced. Fans, however, will be grateful for a retrospective that accurately reflects the band's sense of style.

Originally rooted in simple guitar rock, that style evolved over the years as the ranks expanded to flesh out the rhythm section and later added keyboards and reeds as prominent fixtures. The transition is underscored by *Listen to the Music*, the Doobies' first major single hit and a straightforward rock anthem as recorded in 1972. Here, with Michael McDonald adding his gruff, blue-eyed soul to the lead vocal originally limned by Johnston, the song rides on funky syncopations enriched by Cornelius Bumpus's organ fills.

If McDonald's ascendancy in the group following his arrival in 1975 consolidated the band's move into more r&b-inflected streams, the material here rightly gives equal weight to Simmons's sweeter country and rock instincts. Third-generation members Bumpus and John McFee (on lead guitar and pedal steel) add reliable verve to the playing throughout.

Ted Templeman's production is typically spacious and crisp, attaining the current state of the art for live pop recordings in separation and clarity while preserving the live ambience. SAM SUTHERLAND



Staples, Hall, and Golding of Fun Boy Three: satire that never loses its backbeat

### Fun Boy Three: Waiting

David Byrne, producer  
Chrysalis B6V 41417

Lynval Golding, Terry Hall, and Neville Staples were original members of the Specials, one of the leading English new-wave ska bands during the late '70s. Determined to explore more original territory, the trio quit the Specials in 1981 to form Fun Boy Three. "Waiting" is their second LP, and while not particularly trendy by today's techno-pop standards, it is a disarmingly satiric journey through modern English life. As such, it follows in the noble tradition of Ray Davies's best songs with the Kinks, like *Well-Respected Man*. In other words, this is rock and roll that mirrors and parodies, without losing a backbeat or melodic hook.

As framed by producer David Byrne, of the Talking Heads, FB3's terse vignettes form a sort of black-comedy music-hall revue set against a variety of song styles, from rock rumbas to cabaret-reggae to somber waltzes. *The Tunnel of Love* is a grim, stiff Motown tango that chronicles a marriage's dissolution; in this tunnel/marriage metaphor, wedlock is a padlock. Like some of the younger pop bands in England, FB3 favors a dense sound that changes textures quickly and uses unusual instrumentation. Their music has something of a mid-Sixties flavor, similar to that of the Left Banke and the Association. On *Things We Do*, for instance, Caroline Lavelle's cello moans discreetly behind Hall's sad, rhetorical questions: "Do you act your age or the size of your shoes?/Has a man got to do what a man's got to do?" *The Farm Yard Connection* is a darkly voiced reggae groove reminiscent of Black Uhuru's *Youth of Eglinton*; as "bad cop" Hall interrogates Golding and Staples about drug dealings, it becomes obvious that the police are in on the take.

Producer Byrne has given FB3 all the ramshackle colors and effects this music deserves, from Annie Whitehead's menacing trombone smears on *Going Home* to Gerald D'Arbilly's cheesy but precise castanets and exuberant percussion. The cut that best exemplifies the band's attitude is *Our Lips Are Sealed*—ironic, since Hall

wrote it with Jane Wiedlin of the Go-Go's. The California girl-group had a hit with the song as a sassy, lighthearted dig at the "jealous games people play." But Hall and company pitch it as an ominous chant set over a rumbling percussion track, which conveys the lyrics' underlying paranoia and stoic resolve. "Fun" is a relative term for Fun Boy Three, full of ambiguities and disappointments. And it's this probing stance that makes their pungent songs come alive. CRISPIN CIOE

### Juluka: Scatterlings

Hilton Rosenthal, producer  
Warner Bros. 23898-1

The quickening technological pace that has brought European and American popular cultures closer together has also affected Third World countries, and in Africa a host of regional hybrids have cropped up that fuse rudiments of traditional music with the techniques and disciplines of rock, pop, jazz, and r&b. That in turn has provoked emulation borne of admiration by more adventurous English and American musicians, making the appearance of native African modernists here inevitable.

Juluka is a multiracial South African ensemble led by Johnny Clegg, a songwriter, vocalist, and guitarist who splices often fresh, buoyant melodies with rhythmic vocal chants enriched by stark modal harmonies. He augments his songs with bass, keyboards, and reeds, but the real core of Juluka is its rhythm section, which builds flowing choruses of percussion beneath each song. The players' characteristic attack is deceptively delicate: What promises a thundering punch in its blueprint proves gentler in its execution.

Melding tribal mythology with darker glimpses of Africa's turbulent recent past, Clegg's songs variously envision distant future, primordial past, and present, moving from images of the oldest human remains in Olduvai Gorge to the chatter of machine guns in fledgling African republics and on to dreams of a unified, humanized continent. His lilting diction and pastoral imagery imbue even the most sobering ruminations with warmth, and at its best Juluka balances its proud, exotic African

refrains with terse English parables. *Scatterlings of Africa* typifies that equation, its hearty chanted chorus slipping easily into the lacy syncopations of the verse; just as effective is *Siyayilanda*, whose chanted chorus is structured as a call-and-response pattern between soloist and group.

Juluka doesn't make "new music" of the type now being lionized by repentant rock programmers who've shifted allegiance from power chords to synthesizers. If anything, the nine musicians here are more attracted to ancient musical ideas, even if dour ethnomusicologists might penalize them for the freewheeling synthesis of different musical idioms. But "Scatterlings" offers something truly new for Western-pop listeners and serves as a harbinger for other crosscultural streams we'll witness in the years ahead.

SAM SUTHERLAND

**New Edition: Candy Girl**

Maurice Starr, producer  
Streetwise SWRL 3301

New Edition's hit *Candy Girl* is an uncanny re-creation of the early Jackson 5's pop-soul effervescence, down to the last vocal inflection. But it's not the kind of record one would consider as the basis for an entire album. Who would want to hear 10 songs by a new group of kids in the exact style of another group of kids? Surprisingly, the album named after New Edition's No. 1 r&b single goes beyond novelty appeal. There are a few other cuts on which 14-year-old Ralph Tresvant has been coached to duplicate the range and phrasing of Michael Jackson at age 11, and which have been constructed as J5 soundalikes (*Is This the End* is very similar melodically to *I'll Be There*), but "Candy Girl" has a zippiness of its own.

What makes the album more than a clever homage is the ultramodern sound, created principally by Maurice Starr, that swirls around the five adolescents. Starr, who produced, arranged, and mixed the record, coauthored all the songs and plays almost all the instruments, has New Edition on the move all the time, guiding the quintet like a camp counselor taking his charges on an amusement-park field trip. He uses a vocoder as a sixth electronically created voice, throws in unexpected musical elements (a rocking acoustic piano that suddenly appears amid the synthesizers at the end of *Ooh Baby*), and has rockets and explosions go off in the sizzling *She Gives Me a Bang*. He and colleagues Arthur Baker (known for his work with modern rap outfits such as Afrika Bambaata and the Soul Sonic Force) and Michael Jonzun (The Jonzun Crew) have a feeling for the rhythms of the moment and make certain that the energy doesn't flag.

New Edition's songs aren't too demanding vocally or lyrically; they're all preoccupied with girls, but for a group of

14- and 15-year olds, this seems utterly appropriate. And there's a bit too much made of the youth factor: The too cute *Popcorn Love*—owing as much to the Thom Bell sound of the Spinners as to the Motown bounce—is one of two songs in which the singer says he goes home straight from school. On the other hand, when they come on like little Bogarts ("That's just how love goes: You win some, you lose some," goes a spoken passage in *Jealous Girl*. And "Sweetheart, point blank: You lost this one."), you don't believe the toughness for an instant.

The most enjoyable thing about "Candy Girl" is that the singers sound as though they're still in the Boston talent contest they were discovered in three years ago. They're show-offs, eager to please, and on *Gotta Have Your Lovin'*, *Gimme Your Love*, and especially *Pass the Beat*, they get a hopping interplay going with their vocals, tossing lines back and forth, reiterating and one-upping each other. Most of New Edition's songs may be about young love, and may be addressed at girls, but they're really an excuse to preen for the other guys. ("Hey, fellas!" one is always calling out to the rest.) The group hasn't earned a place on the precocious pop honor roll alongside Frankie Lymon and the Teenagers and the Jackson 5, but under the expert tutelage of Maurice Starr and Co., New Edition brings home a very respectable passing grade.

MITCHELL COHEN

**Jazz**

**The Ed Bickert 5:  
At Toronto's Bourbon Street**

Carl E. Jefferson, producer  
Concord Jazz CJ 216

Canadian guitarist Ed Bickert has been playing in top Canadian jazz circles with Moe Koffman, Phil Nimmons, and Rob McConnell since the 1950s. But on this disc he leads a quintet that includes three of Concord Jazz's stalwarts—Scott Hamilton on tenor saxophone, Warren Vaché on cornet, and Jake Hanna on drums—as well as Steve Wallace on bass. Recorded in Toronto, the set has the loose, easy movement of New York's best '50s Swing Street groups; in fact, this may be the disc that brings Bickert the attention he deserves in this country.

Bickert, who was greatly admired by the late Paul Desmond, likes to lay back even when the tempos move up. The result is smoothly flowing lines that never become too busy, and phrasing that constantly takes you by surprise. So does his choice of material: rarely heard tunes by musicians who understood the essence of swinging (Coleman Hawkins, Roy Eldridge, Illinois Jacquet, Harry Edison, Buck Clayton); *Good Night, My Love*, a ballad known primarily

from Benny Goodman's '30s recording of it; another ballad by Gerry Valentine and George Treadwell; and only two standards in *Change Partners* and *Linehouse Blues*.

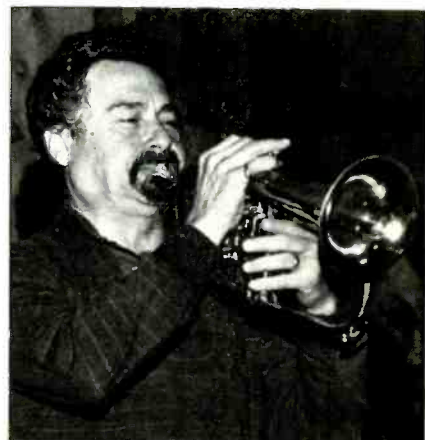
Bickert and company swing through all of them in an unhurried, relaxed manner. Hamilton contributes some of his least derivative and most satisfying work on record; Vaché occasionally bursts out of his primarily subdued groove with a vivid, crackling, Eldridge-like attack. Helping to put all three soloists so much at ease are Wallace's steady bass and the consistent lift they all get from Hanna's drumming. This is no-frills jazz—just the essentials, beautifully presented.

JOHN S. WILSON

**Shorty Rogers Plus Kenton  
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Rogers: a founder of West Coast jazz

trumpeter/arranger Shorty Rogers a forum by putting together 14 sides recorded in 1950 and 1951 by Stan Kenton's Orchestra, by Rogers's Giants, and by singer June Christy accompanied by the Giants. The disc is also a showcase for saxophonist Art Pepper, as he is the primary soloist in all three situations.

Rogers is one of those unusually able jazz musicians who never came into full focus during his most productive years. He was both trumpeter and arranger with Woody Herman's First Herd in the '40s, with Kenton in the early '50s, and with his own Giants in the '50s. He was the starting point of so-called West Coast jazz in the '50s when he took the innovative approach of Miles Davis's "Birth of the Cool" nonet to California, even before the nonet's records had had an impact on the East Coast.

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(Continued on page 116)



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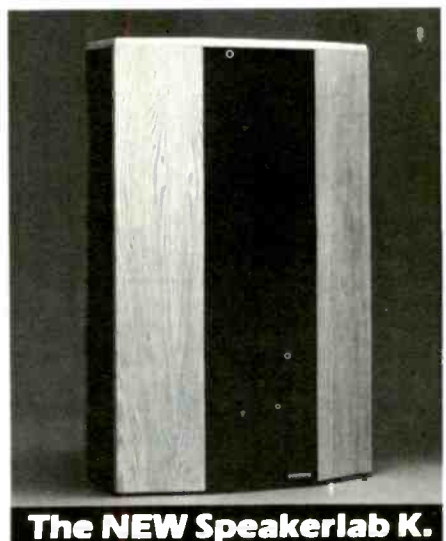
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## CLASSICAL REVIEWS

(Continued from page 98)

and the proceeds are going to a good cause. But the only other voice-and-piano discs released by the company in the past 12 months are Håkan Hagegård's song recital and some Bolcom and Morris—worthy issues; if there are only going to be three, there could have been a worthier third than this. W.C.

**ELISABETH SÖDERSTRÖM: Song Recital—See Britten.**

### THE YOUNG GLENN GOULD.

Albert Pratz, violin\*; Glenn Gould, piano. TURNABOUT TV 34792, \$5.98 (mono). Cassette: CT 4792, \$5.98. [From HALLMARK originals, 1953.]

BERG: Sonata for Piano, Op. 1. PROKOFIEV (arr. Fichtengoltz): Cinderella: The Winter Fairy.\* SHOSTAKOVICH (arr. Glickman): Three Fantastic Dances, Op. 5.\* TANEYEV (arr. Hartmann): The Birth of the Harp, Op. 26, No. 1.\*

### THE YOUNG GLENN GOULD, VOL. 2.

Glenn Gould\* and Alberto Guerrero, piano. TURNABOUT TV 34793, \$5.98 (mono). Cassette: CT 4793, \$5.98.

MOZART: Sonatas for Piano Duet: in F, K. 497 (Allegro di molto); in C, K. 521 (Allegro). \* Five Variations on an Andante, K. 501. \* Fantasy for Two Pianos, in F minor, K. 594. \* BACH: Italian Concerto, S. 971.

Turnabout, against the express wishes of the late pianist's estate, has released two albums devoted to "The Young Glenn Gould." Volume 1 is a reissue of Gould's first commercial release, a recording made for Canada's defunct Hallmark label in 1953, when the pianist was barely 20 years old. The highlight is an early reading of Alban Berg's sonata, which is, however, not to be compared with the brilliant realization recorded five years later for Columbia (ML 5336, deleted). Side 2 is devoted to three duets with violinist Albert Pratz—music by Shostakovich, Prokofiev, and Taneyev (!). Pratz is a capable player, and the accompaniments are all that they should be, but little more. Gould himself hated the Hallmark album; this reissue can be recommended only to those who must own everything the master recorded, even recordings made before he was quite a master.

Volume 2 is a discographic disgrace: a ghoulish monument to greed. It consists of awkwardly made amateur tapes, featuring Gould and his teacher, Alberto Guerrero, playing through Mozart's four-hand music at Guerrero's house in the late 1940s. The pitches change repeatedly, the sound is all but unlistenable, and whole passages of the music are missing. It is a bitter irony that Gould, one of the great perfectionists of all time and a man who cared enough about the recording medium to devote his life to it, should be posthumously represented by such a trashy document. Tim Page

### NOTSCHIBIKITSCHIBI

(Continued from page 91)

Winds (Angel S 36247)—should continue to fondly hang on to them. But even they will probably want at least one example of the more recent modern-instrument versions, and surely one of the two Collegium Aureum period-instrument accounts. And not even the least-specialized home listener can consider his musical experience complete without at least one—any—example of K. 361.

The work itself is so appealing both musically and sonically that no reasonably competent recorded performance can fail to please all but the most demanding specialists. And if the latter haven't already made a decision simply on the basis of the objective descriptions above, here are my subjective evaluations, for what they may be worth:

By a process of rueful elimination, I write off the Hungaroton and MHS entries as not being fully competitive. Even so, the former boasts vividly realistic recording, expansive acoustical ambience, and a performance notable—despite tonal coarseness—for its zest. The latter is brightly and cleanly recorded, but in a more lightweight studio ambience, and the somewhat effete Romanticized reading lacks distinctive individual character. The substitution of contrabassoon for double bass in both versions is not really determinative. The bass part mostly discreetly doubles the lower bassoon and only rarely speaks out momentarily for itself—most plainly in the first variation of the sixth movement.

Similarly, the differences between the old and new scores, though of great concern to musicologists, will probably not be evident, and certainly not significant, to most nonprofessional listeners. All three of the present new-score versions are first-rate in every respect, and each is a safe choice. For me, however, there is some lack of genuine personality projection in the conductorless but exhilaratingly deft New York Philomusica reading, and even in conductor Winston Webber's still-better-integrated performance. In the long course of comparisons, it was the Erato version that I gradually came to prefer, primarily for the vivid freshness and personality of Paillard's interpretation, but not least for the elegance of his quintessentially French instrumentalists and the warm expansiveness of the recording locale (Church of Notre-Dame du Liban). However, I shouldn't neglect to stress that the Vox K. 361 has the powerfully magnetic added attractions of the K. 375 and 388 Serenades (the latter, one of Mozart's most severely intellectual as well as dramatically gripping masterpieces in any form), plus Went's two utterly delectable operatic suites.

The generally "modern," or at least neoclassical, straightforward approach of the Erato, Vox, and Crystal versions—with their fascinating variety of French, state-side, and Canadian tonal accents—all com-

mand my lively respect and admiration. Yet when I turn to either of the Collegium Aureum period-instrument versions, I find more provocatively piquant solo timbres and a more solid, better-differentiated, yet more harmonious overall sonority, as well as graver, more formal, perhaps less youthful (although by no means lacking in verve and humor), and certainly more magisterial interpretations. This is particularly true of the earlier, more ceremonial Quintessence reading: For all its just deliberation and frankly Romantic fervency, it remains inefably moving, and the 1972 recording still sounds vitally rich and warm, especially in its latest Barclay-Crocker open-reel reincarnation.

Unfortunately, Quintessence does not list individual personnel, so one has no way of knowing how many of the later Pro Arte players, who *are* named, remain the same. But it's obvious that the latest performance, more deftly assured, has taken to heart earlier complaints about the excessive slowness of many passages: The overall running time now is some seven minutes faster (49:23, vs. 56:22!).

So, balancing all these factors on my personally weighted scales, this new Collegium Aureum/Pro Arte K. 361 would have to be my choice if I were unlucky enough to be held to only one. Incidentally, though, its digital recording is not a significant consideration. It's sonics are indeed enchantingly lucid, substantial, and warmly expansive in the Eckenhagen Evangelical Church ambience, but the textures are scarcely more transparent or the timbre differentiations more distinctive than those in the Erato, Vox, and Crystal analog recordings. And it might be remembered that—for me, anyway—neither Deutsche Grammophon's superb digital recording nor the virtuosity of the Berlin Philharmonic Winds could compensate for a brutally insensate reading of K. 361 included in the five-disc set of Berlin Philharmonic Chamber Ensembles (2741 011, January).

For a pleasant surprise, *all* my review copies—discs as well as, more expectedly, the open reel—have admirably quiet surfaces. But lamentably, too many of these releases have no parallel cassette editions—a pity, given the ideal suitability of K. 361, and indeed all *Harmonie-Musik*, not only for outdoor performance but for alfresco "Walkabout" listening.

**Semantic coda.** One tantalizing mystery about K. 361 remains to itch me—a terminological one: Do the Greeks or anyone else have a name for an ensemble of 13 players? We know all the smaller groups from duo to nonet, but after that, what? It's the sort of question Master Logomachist Nicolas Sionimsky may have answered somewhere, but if so, I've missed it. Pending his ukase, or that of *New York Times* "On Language" columnist William Safire, I timidly suggest *triskadeket!* HF

## WAGNER RECORDINGS

(Continued from page 89)

er the drier, more constricted tonal format of the complete Sachs represented a basic change in his way of singing designed to get him through the role, in which case one may wonder whether it was worth it—certainly he hasn't sounded the same since.

Nissen too made better studio recordings, in his case of both monologues (*Flieder* in 1929, *Wahn* in 1927—Preiser LV 178), and his singing is also better focused in the 1938 Dresden Act III conducted by Karl Böhm (formerly Electrola E 80 983/4, now available in the "Böhm in Dresden" volume devoted to opera, IC 137-53514/9). Still, he sings very amiably, if not very insightfully, subtly never having been his strong suit. Bailey isn't terribly poetic either, and the voice tends to hoarseness at lower dynamics and pitches. He's at his best in full-out, relatively high writing (e.g., the loud portions of the *Schusterlied*), and in general does a solid, honest job, making a stronger impression in Act I than most Sachs do.

Edelmann's Sachs (Seraphim, Melodram '52) has the same virtues as his Pogner: a smooth, lyric sound within sensibly maintained limits. He is marginally more comfortable in Karajan's framework than in Knappertsbusch's more expansive one. Despite the dryness of tone, I admire much of what Adam (Angel II) is doing. With Karajan in one of his more sensitive, involved moods, he makes all the points about Sachs that can be made without some real singing quality in the voice.

Neidlinger (Melodram '57) is working hard and is frequently affecting, especially in passages that exploit the rich lower part of his voice. But farther up he hasn't any secure technique except the ramming that got him through all those years of Alberichs. A pity this same seriousness of intent wasn't applied to Beckmesser. Schoeffler's performance (Richmond) isn't holding up terribly well now that we have some better-sung alternatives. Even in Act III, where the voice is somewhat better pulled together, the singing inclines to laboriousness.

This leaves us with rasps. Some of them—Prohaska (EMI), Frantz (Vox, Angel I), and the imitation rasper Fischer-Dieskau (DG)—score points in light conversational passages like the Act II scene with Eva. But where concentrated vocal statements are required, they . . . well, rasp. With a voice in the wobbly, unresonant condition of Wiener's (Melodram '58, Melodram '59, Eurodisc) or in the dried-out format of Greindl's (Melodram '60), there's not much to be done except to grind the music out.

If you've never heard Hotter in his brief but imposing prime, you should search out his 1942 recordings of the monologues. (The *Flieder* turned up some years ago in a Heliodor Munich collection, 88 003. The *Wahn* was in one of DG's "100

Years of Bayreuth" sets, 2721 115.) Already two years later he is sounding more muffled (Acanta 22.017), although this could have to do with the broadcast recording, and the performances are attractive anyway. More recently, Franz Crass sang the monologues stunningly (though the *Wahn* is on the quick side) in an extremely attractive c. 1971 operatic recital (EMI Germany IC 063-29073). And while Sachs isn't a role we would readily associate with George London, his monologues are solidly sung (the earlier pair, conducted by Jean Morel, on *Odyssey* Y 32669; the stereo version with Knappertsbusch on London OS 25897, OP).

It should be clear by now that the function of our tenors requires that both sing well enough to enable Sachs to see that he does have some earthly use. In the case of

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## Domingo's Walther makes the DG set almost indispensable.

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WALTHER VON STOLZING, the ringing freedom and liquid ease of Domingo's work (DG) by itself makes this set almost indispensable. Except for the beat in the voice, a warning of bad things to come, Thomas (Eurodisc) makes a big, handsome sound.

Noort (Melodram '37) is ardent and appealing, despite a voice of seemingly limited inherent attractiveness. Schock (Angel I, Melodram '59) negotiates the music securely, and in the Bayreuth performance even shakes off to a large extent the arched-eyebrow quality of most of his work. Kollo, tight as his tone production is, sings reasonably well in Angel II; by the time of London, the voice seems to have been squeeze-packed for longer shelf life. Although lacking in force, Traxel (Melodram '58) and Geisler (Melodram '57) sing attractively in strictly lyric passages, while the opposite is true of some of the bigger-voiced Walthers: Lorenz (EMI), Hopf (Seraphim, Melodram '52), and Windgassen (Melodram '60).

There are lots of good recordings of Walther's set pieces, among the best Sándor Kónya's "*Am stillen Herd*" and Prize Song (DG 136 214, OP), Thomas's studio "*Fanget an*" and Prize Song (DG 136 387, OP, and "100 Years of Bayreuth," 2721 112), Franz Völker's 1928 recording of all three (LV 206), Georges Thill's Prize Song (along with the Act II "*Ja, ihr seid es*" scene with Germaine Martinelli, both in Franch, Pathé FCX 50005). In addition to the Melchior excerpts already noted, there is a terrific late-acoustic Prize Song (Heliodor 2548 749) and the splendid 1939 "*Am stillen Herd*" and Prize Song with Ormandy (Victrola VIC 1500 and RCA CRM 3-

0308, both OP).

If the DAVID situation is no longer the all-or-nothing proposition that it was in 1966, Dermota (Richmond) remains unquestionably the first choice. With his good-size, attractive, and flexible lyric tenor, abetted by Knappertsbusch's evident affection for the apprentices and willingness to give them all the musical space they need, he makes David's crash course in mastersinging one of the set's highlights.

Zimmermann (EMI), a veteran Mime working with a less distinctive voice but with another conductor alert to the possibilities of this music, shakes off his 50 years to charming effect. The steel-plated upper register of Stolze (Melodram '57-'60), which for us conjures such character roles as Mime, Loge, and the Captain in *Wozzeck*, may take some getting used to in a straight singing role, and he does have to resort to falsetto for the role's very top, but he sings with enough exuberance and dramatic point to carry it off. Even a dash of that exuberance would have been welcome in the reasonably well sung but almost grim performance of Schreier (Angel II). Finally, the sweet little voices of Unger (most effective with Knappertsbusch in Melodram '52), Dallapozza (London), and Sallaba (Melodram '37) win some of the battles if not the war.

For EVA, we have a fairly good selection. A heavier-than-lyric voice can be a great asset, enabling singers with the vocal control of Reining (Melodram '37) and Grümmer (Angel I, Melodram '57-'60) to soar freely above the quintet. Grümmer's Bayreuth performances, unlike Angel I, have a persistent simpering quality in Act II that must have been Wieland's directorial "inspiration"; if we want to stress the character's kittenishly manipulative side, we're in better hands with that master vocal manipulator Schwarzkopf (Seraphim). This seems to me one of her most successful recorded performances, and she is far more persuasive than her replacement the following summer, a disappointingly ill-focused Della Casa (Melodram '52).

No "star" personalities or interpretive novelties intrude on the work of Donath (Angel II), Watson (Eurodisc), and Gueden (Richmond), all of whom sing quite beautifully. Despite some vocal unsteadiness, Müller (EMI), Ligendza (DG), and Bode (Philips) remain within acceptable limits. Only a year later, Bode (London) has turned tremulous enough to cross the line, along with the Lemnitz of 1951 (Vox).

MAGDALENE has hardly any solo opportunities, and her writing lies low enough in the middle octave to make it difficult for a mezzo with really youthful freshness of timbre to manage the music securely. Among the better contenders are a somewhat matronly-sounding Kerstin Thorborg (Melodram '37) and Ira Malaniuk (Seraphim, Melodram '52), the tonally not quite substantial enough Anna Reynolds



(Philips), and the matronly *as well as* not ideally firm Christa Ludwig (DG).

The Nightwatchman's song is written in such a way as to make its effect without a major voice, which doesn't mean that a major voice can't make a special effect. Moll (Angel II and the first appearance in London) sings it gorgeously, and Arnold van Mill (Melodram '57), Donald Bell (Melodram '58-'60), and Victor von Hallem (DG) do nicely from the bass side. From the baritone side, Herman Prey (Angel I) sings quite beautifully, and Weigl (Philips) somewhat less so—the raw top betrays him in the second appearance in London.

**We've alluded to** the special qualities of the Toscanini, Furtwängler, and Knappertsbusch performances, and I can't describe them much better than to say that they take nothing for granted. Every bar counts for something: episodes that for other conductors are a chore, like David's song-lecture, for them are a golden opportunity. Interestingly, the depth of their performances is most readily evident in their concern for the humbler characters like the apprentices. It's a conductor of the narrow vision of a Leinsdorf (Melodram '59) who plows through such material.

Technical and vocal considerations unfortunately make these performances most suitable as supplementary editions. The sound of the Toscanini is dim and limited in frequency range. While the sound of the Furtwängler is really quite good, the surviving tape is missing a chunk in the opening scene, from after the chorus up to David's "*Nun sollt ihr singen*," and the end of the workshop scene, from Sachs's "*Ein Kind ward hier geboren*." In the Knappertsbusch performances, no amount of breadth and humanity can compensate for the cast deficiencies.

None of the other Bayreuth performances is affected by the conductor to anything like the same degree as Furtwängler's or Knappertsbusch's. Karajan's (Seraphim) is a good, fluent, flavorful ensemble effort—and it sounds somewhat clearer-textured and less congested in the new British mastering. Neither Cluytens (Melodram '57, '58) nor Leinsdorf (Melodram '59) nor Varviso (Philips) leaves much personal stamp, good or bad.

As suggested, I have a strong affection for Eurodisc's Munich performance, which adds up to a good deal more than the sum of its parts. Keilberth gets beautifully responsive playing from the orchestra, and the sound is probably the warmest and most involving on records. You have to be in the right mood for this performance, though, and it may not hold up under exhaustive scrutiny, something that is also true of Solti's performance (London). The pacing is broad, the orchestral playing rich and beautifully textured, the phrasing almost wholly uninflected—a reference-shelf edition.

Karajan's studio recording (Angel II)

## Parsifal

- Richmond** (OP). Martha Mödl (Kundry). Wolfgang Windgassen (Parsifal). George London (Amfortas). Ludwig Weber (Gurnemanz). Hermann Uhde (Klingsor). Arnold van Mill (Titirel); Bayreuth Festival 1951, Hans Knappertsbusch. \* RS 65001 (5m).
- Melodram '53** (Italy). Mödl. Ramon Vinay. London. Weber. Uhde. Josef Greindl; Bayreuth Festival 1953. Clemens Krauss. \* MEL 533 (4m, also Rodolphe RP 12378/81).
- Melodram '56** (Italy). Mödl, Vinay, Dietrich Fischer-Dieskau, Greindl, Toni Blankenheim, Hans Hotter; Bayreuth Festival 1956. Knappertsbusch. \* MEL 563 (5m).
- Melodram '58** (Italy). Régine Crespin, Hans Beirer, Eberhard Wächter, Jerome Hines, Blankenheim, Greindl; Bayreuth Festival 1958. Knappertsbusch. \* MEL 583 (4½m, with 1956 excerpts—see text).
- Melodram '60** (Italy). Crespin, Beirer, Thomas Stewart, Greindl, Gustav Neidlinger, David Ward; Bayreuth Festival 1960, Knappertsbusch. \* MEL 018 (4m).
- Philips**. Irene Dalis. Jess Thomas. London. Hotter, Neidlinger. Martti Talvela; Bayreuth Festival 1962. Knappertsbusch. \* 6747 250 (5s).
- DG I**. Gwyneth Jones. James King, Stewart, Franz Crass. Donald McIntyre. Karl Ridderbusch; Bayreuth Festival 1970, Pierre Boulez. \* 2713 004 (5s).
- London**. Christa Ludwig, René Kollo, Fischer-Dieskau, Gottlob Frick, Zoltán Kélémen, Hotter; Vienna Philharmonic, Georg Solti. OSA 1510 (1972, 5s).
- DG II**. Dunja Vejzovic, Peter Hofmann, José van Dam, Kurt Moll, Siegmund Nimsgern, Victor von Hallem; Berlin Philharmonic, Herbert von Karajan. 2741 002 (1980, 5d).
- Erato**. Yvonne Minton, Reiner Goldberg, Wolfgang Schöne, Robert Lloyd, Aage Haugland, Hans Tschammer; Monte Carlo Philharmonic, Armin Jordan. NUM 75015 (1981, 5d).

isn't a very jolly performance, which puts a bit of a damper on Act II, but the performance as a whole attains considerable strength and eloquence, with lovely and purposeful playing from the orchestra. Kempe (Angel I) and Jochum (DG) both offer class acts: intelligently outlined and balanced, always forward-moving, never exaggerated or slick. In both cases, they seem to be waiting for the casts to do something, which sometimes happens (with Grümmer and Frick in Angel I, with Domingo and Feldhoff in DG) and sometimes doesn't. Kempe's earlier reading (Vox) is a scrappier, less sober affair; there wouldn't have been much point hoping that *this* cast would do anything.

## Parsifal

Having blown most of our space on the labyrinthine *Meistersinger* discography, let's give ourselves a break. It so happens that *Parsifal* has yet to receive a really unsatisfactory commercial recording, and it happens too that among those recordings I can offer, just this once, both an unequivocal first choice, Philips, and an unequivocal first alternate, Erato. Since this opera more than most yields its inner secrets at its own unhurried pace, the thing to do is to relax, absorb, and let the piece cast its spell.

It would appear that *Parsifal* performers similarly benefit from a period of absorption, judging from the considerable cast overlap in our recordings. Allowing for cases of vocal deterioration (the Kundry of Mödl, the Gurnemanz of Weber), it's striking how often a singer has improved in the role by the second time we encounter him or her. The two notable exceptions concern the role of AMFORTAS, and while they might in fact qualify for our vocal-deterioration exemption given the long gap between the first and last time we hear these singers, it

does seem noteworthy that the most successful recorded performances of the role are by relatively young baritones in their Bayreuth debut seasons, London (Richmond) and Stewart (Melodram '60).

Of course it helps that both London and Stewart brought to the role almost ideal vocal equipment (a baritone that for all its freedom on top is closer in weight and texture to a bass) along with a seemingly intuitive empathy with it. Still, it sounds wrong that youthful vocal vigor should count for so much in a role whose central reality is physical decay, a condition that is built into the music. Listen, for example, to the king's very first phrases, the instructions to his litter bearers ("*Recht so! Habt Dank! Ein wenig Rast*") in which he is unable or unwilling to attempt more than a few syllables at a time. And indeed it is possible for a singer to sing right through these physical obstacles, as Van Dam (DG II) does—singing very prettily and in the process missing most of the point of the role. Yet Amfortas's writing is so concentrated in all three of his scenes (once he opens his mouth, he hardly shuts it) that we may well understand the advantage that London and Stewart enjoy their first time out.

In London's case, the later performances (Melodram '53, Philips) remain quite eloquent, even with the throatier quality that has set into the voice by 1962. Stewart, however, sounds distinctly less together vocally in DG I, where phrases tend to unravel on him. But then, the same is true of the entire DG I cast. Even allowing for the problematic condition of several of these voices in 1970, one has to cast a suspicious glance at conductor Boulez, who has never shown much instinct for working with singers.

Another healthy young singer, Wächter (Melodram '58), makes an impressive showing as Amfortas, and demonstrates



that the role can be successfully cast with the right kind of higher baritone. The danger in this sort of casting is illustrated by Fischer-Dieskau in Melodram '56, where the voice is simply too insubstantial to fill out the music. From that same summer, we can compare Hotter (the Titirel of Melodram '56), who sings Amfortas in chunks of both Grail scenes from 1956 included as Side 10 of Melodram '58: Act I running from Titirel's "*Mein Sohn Amfortas*" through his "*Enthüllet den Gral*," Act III running from Amfortas's "*Ja, Wehe! Wehe!*" to the end of the opera. The voice isn't notably steady or beautiful, but the character's anguish comes through.

By some magic, Fischer-Dieskau was able some 16 years later, at a time when we know the voice had actually further lightened on top, to create in the studio (London) a firm and resonant Amfortas. (Compare the flimsy performances of both Grail scene outbursts in the c. 1977 Wagner recital with Kubelik, Angel RL 32024.) Schöne (Erato) does a solid, competent job, as does Hans Reinmar in a 1943 Berlin performance of Act III conducted by Knappertsbusch (Acanta 23.036, prefaced by the Act I Prelude; Reinmar's scene by itself is in Acanta's Bayreuth box, 22.863). There are impressive performances of the Act I outburst by Nissen (LV 58) and Schoeffler (Amadeo AVRS 12072).

Empathy for Amfortas is of course what PARSIFAL needs to learn, and for the sake of that extraordinary moment in the Act II scene with Kundry when he is suddenly able to make the emotional connection, it's a shame that we don't have a Vickers recording. The intensity of his connection coupled with the extraordinary vocal weight he could pile on in the midrange made this an unforgettable moment. For something comparable on records, we have to turn to Melchior's "*Amfortas! Die Wunde!*": the 1925 version in Electrola's Bayreuth centenary box (1C 181-30669/78), the 1938 recording with Ormandy (RCA CRM 3-0308, OP), a 1939 Danish Radio performance in DG's "100 Years of Bayreuth" (2721 109), or the 1940 RCA complete scene with a rather sluggish Flagstad (last on Victrola VIC 1681).

Probably the most attractively sung complete Parsifal is Goldberg's (Erato)—not memorably personal, but projecting a nice weighty sound at the bottom and a pleasing ring farther up. Thomas (Philips) too sings the music well, though he isn't always able to concentrate the voice in the middle as the role demands, and he isn't helped by what must be the most surprising side break in phonographic history: "*Amfortas!* [Side 7] *Die Wunde!*" As suggested earlier, King (DG I) doesn't have much success keeping *his* voice in focus, though it should be a good Parsifal instrument; he recorded a more successful recital version of "*Amfortas! Die Wunde!*" (Electrola 1C 063-01850). Kollo (London) gets off to a



*Deliverance: Vinay, London at Bayreuth*

good start as the boy scout of Act I but not surprisingly sounds puny in the big scenes of Acts II and III.

Vinay (Melodram '53, '56) gives another of his admirable almost-but-not-quite performances: generally attractive and intelligent, but once more insufficiently forceful in the midrange, though he is somewhat more successful in 1956. Beirer (Melodram '58, '60) actually has some good moments—"Nur eine Waffe taugt" isn't bad—and is somewhat less breathy-sounding and more careful musically the second time, but that doesn't mean he's any great pleasure to listen to. Neither is the more conscientious Hofmann (DG II), who isn't disgraceful but just can't get his voice unthrottled. Windgassen (Richmond, plus the 1956 Act III chunk included in Melodram '58) sings through the role efficiently but doesn't leave much for the imagination to latch onto. Windgassen is vocally more impressive in his recital "*Nur eine Waffe taugt*" (Heliodor 2548 156), but there are more ringingly exciting recordings by Melchior (RCA CRM 3-0308 and Victrola VIC 1500, both OP) and Thill (in French, Pathé FCX 50005).

KUNDRY seems to have been taken over lately by relatively lightweight mezzos, and the role can be made to work this way. Minton (Erato) has some dead passages but is in general the warmest and most alive singer of this group. Ludwig (London) and Vejzovic (DG II) may have been less fortunate in their conductors. Ludwig sings quite evenly and attractively, but Solti doesn't give her much encouragement to take off, while Karajan seems actively to discourage Vejzovic, who sounds pointed and precise, from doing so.

The heavier-weight mezzo option is effectively realized by Dalis (Philips), whose voice is consistently full and attractive. We might also consider Mödl (Richmond, Melodram '53, '56) and Jones (DG I) in this group, since their nominal sopranos are balanced more like mezzos. (Translation: They can get into Big Trouble on top.) In the relatively unimpaired vocal state of 1951, Mödl is fairly successful at capturing the dark, tortured side of Kundry. In 1953 the voice is less obedient, and in 1956 it is apt to curdle at any time, even in

the formerly dependable midrange. I'm not sure that her worst is more distressing than Jones's (DG I), which is to say the assaults on the higher-flying sections of the Act II scene with Parsifal. Where the writing keeps her out of such distress, Jones can be strong and persuasive, as she is in much of Act I. Her *Schrei* in Act III is chilling.

Our only true soprano, then, is Crespin, sounding not yet at ease in the role in Melodram '58, but quite potent in Melodram '60, despite some tendency to a thin-sounding in the lower part of the voice. Her commercial "*Ich sah das Kind*" (Seraphim S 60375) is only so-so, and neither does Varnay's (Electrola 1C 047-01373) give much hint of what is supposed to have been a powerful assumption.

The practical man's approach to GURNEMANZ is to dog all that tedious writing in Act I (oh, those endless narratives!) and crank yourself up for Act III, where you can make a splash with the Good Friday music—though the biggest splash in this music is still that made by Kipnis (Seraphim 60124, OP, and the Electrola Bayreuth box, 1C 181-30669/78). Our most successful full-opera Gurnemanzes, Lloyd (Erato) and Frick (London), happen to be working under studio conditions, which may make a difference, but then, Moll (DG II) naps through Act I on autopilot in the studio, all the more frustrating when he gives us some indication of what he might do with this music in Act III—listen to the sounds he makes ("*O Gnade! Höchstes Heil! Oh! Wunder!*") in response to Parsifal's news of the recovery of the spear.

Lloyd gets off to a fine start by actually singing his lines to the Esquires. It's amazing what some honest human involvement can do for you. Later he has some stretches where the voice sounds too light for the role, but on the whole this is a lovely and touching performance. More seasoning in the role might produce something really special. Frick sometimes loses concentration in the set pieces of Act I (again, Solti isn't much help), but he never lets down vocally—this is quite an achievement for a singer of 64—and radiates humanity.

Weber also makes a reasonably good showing in Richmond, where the voice rarely goes out of focus as it does all the time in most of his other live performances, including the 1953 Gurnemanz. (Could he have been helped by Decca/London's editing of its Bayreuth tapes?) The instrument itself is potentially of high quality, and it sits nicely on much of this music. Hines (Melodram '58) and Crass (DG I) pull their more imposing instruments together nicely for Act III, as even Greindl does in Melodram '60. Hotter (Philips), working with his familiarly frayed baritone, gives a surprisingly moving performance.

The difficulty of KLINGSOR's writing, which asks for a full bass-baritone that can reach with real punch up to the break, where he overpowers his victims, explains



why this is usually treated as a character role rather than a legit singing one. All our Klingsors represent compromises of one sort or another. For example, much as I enjoy the bass weight of Haugland (Erato), the voice isn't really flowing freely, and he's poking rather than singing on top. Uhde (Richmond, Melodram '53) makes the right sort of dark, menacing sound in the middle, but he's no more at ease on the break here than he was as the Dutchman or Telramund, and even the midrange doesn't sound as full.

Neidlinger generates some excitement on top in his later outing (Philips) but misses many of the straight singing opportunities through which we can get some feel for Klingsor's loneliness and sense of victimization. Kélémen (London) isn't bad but seems unwilling to chance attacking with the slashing abandon of, say, his Pizarro in Karajan's *Fidelio*. Nimsgern (DG II) gives it a good try but is frequently bashed up against these vocal cliffs.

Unless you believe that TITUREL must sound old and decrepit, in which case you'll probably prefer the Hotter of London (he would be insufficiently old and decrepit in Melodram '56), the most appealing choices are Ridderbusch (DG I) and Talvela (Philips). There are also satisfying lighter-voiced performances by Van Mill (Richmond), Ward (Melodram '60), Von Halem (DG II), Tschammer (Erato), and Adam (1956 excerpts with Melodram '58).

The large supporting casts are generally strong in the Bayreuth performances through 1962, with an especially strong group of Flower Maidens in 1960. The level drops off alarmingly in 1970 (DG I). Among the studio recordings, the small roles seem to have been cast with special care in Erato.



Beirer and Crespin at Bayreuth, 1958

SEIGFRIED LAUTERWASSER

As for the conductors, pride of place certainly goes to Knappertsbusch, and we probably have his best work in the commercial recordings (Richmond, Philips). They are rather different, the later one being more concise (the running time is something like a half-hour shorter) and even more intense, though the granitic implacability of the earlier one is impressive in its way. The 1956 and 1958 performances, although imbued with that characteristic Knappertsbusch intensity in the preludes and scene changes, have a somewhat looser-limbed quality also

observable in his *Ring* performances of these years. In 1960, we begin to hear a renewed drive, and the 1962 performance clicks on all levels. I don't offhand know of an opera recording with more glowing and intense orchestral playing.

It's generally assumed that a more dynamic approach will yield more exciting results in the score's more active sections, and yet Knappertsbusch gets more out of the shooting of the swan in Act I (listen to the driving energy of the orchestral figure leading into Gurnemanz's "*Bist du, der diesen Schwan erlegte?*") and out of the more worldly Act II as well. In fact, I find surprisingly little difference in overall effect between his work and that of Krauss (Melodram '53)—a nice performance, but not as distinctive as his 1953 *Ring*.

My favorite alternative to Knappertsbusch's inspirational breadth is the moment-to-moment responsiveness of Jordan (Erato). He has his cast and the orchestra responding freshly to the whole score, skipping over nothing and finding considerable life. By contrast Boulez, in what might superficially seem a similar approach (i.e., "fast"), skips over everything. I enjoy it, mind you, but it's slick as ice, all generalized and abstract rather than specific and human. Solti's performance (London), much like his *Meistersinger*, makes a lovely reference version: safe, minimally directed choices that don't help but don't actually get in the way of the singers, with orchestral playing of firm outline and considerable beauty—as long as you don't listen to it too often. Karajan (DG II) takes many more chances, and the intelligence, power, and cut of his reading are fun to hear, the only problem being that it's all so methodically manipulated that we get more a commentary than a performance. **HF**

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BACKBEAT REVIEWS

(Continued from page 108)

ton band. The boppish phrasing and cool voicing is even more successful when applied to the more relaxed, eight-piece Giants, which, aside from Pepper on alto, include Jimmy Giuffre on tenor saxophone and Hampton Hawes on piano.

Pepper creates a gorgeously floating solo on the Giants' *Over the Rainbow* and, again with Rogers's charts behind him, imposes a slightly singing alto style (suggestive of Paul Desmond) over Kenton's pompously rendered *Art Pepper*. Christy, usually heard in her later stages trying to outshout the Kenton band, is a very different singer in Rogers's sensitive Giants arrangements. She is warm, adept, and has a nice sense of phrasing, even though two of her three songs are of little consequence. Her recording of the best of them, George Gershwin's *Do It Again*, for some reason has never been released before.

JOHN S. WILSON

**Dave Tofani: Manhattan Carnival**

Dave Tofani, producer  
Telestar Cassettes/National  
Distribution Network TSL 2841  
(150 W. 58th St., New York, N.Y. 10019)

A studio musician usually has a difficult time establishing a musical identity for himself when he embarks on a solo recording career. Having served others' needs in order to earn a living, he has grown far too accustomed to suppressing the distinctiveness that got him into the business in the first place. Dave Tofani—a New York-based studio ace who has played woodwinds on the albums of John Lennon, Simon and Garfunkel, and Diana Ross, among many others—has somehow managed to sidestep this trap. "Manhattan Carnival" is a thoroughly satisfying, exuberant debut album.

Tofani played with the Buddy Rich band after receiving his master's degree from Juilliard, so he is well-grounded in both jazz and classical idioms. (He is also among the most sought-after saxophone teachers in New York.) His music here is a highly evolved form of pop-jazz; all of "Manhattan Carnival" is original, save the title track. His compositions are always melodic, with interesting harmonic movement. *Solo Wind* uses the kind of arching minor-third leaps in its chord changes that John Coltrane favored, yet its melodic motives weave into Tofani's improvisations quite naturally. His tenor playing on this song is at once sweet and edgy; on soprano he shades the instrument's widely varied registers with rich, vibrant colors of his own creation. The statement of *Pentimento's* theme, for instance, has a willowy, oboelike quality to it.

The band here is up to Tofani's standard, it's members no doubt inspired by

both the material and the leader. Pianist Warren Bernhardt's solos are rife with the brilliant corners and quicksilver emotional changes that, in sterile studio settings, often are overshadowed by his formidable technique. Drummer Jimmy Madison adds a jazzy authority to even the more pop-based rhythms here, while Ross Traut's energized guitar solos, notably on *Madison Avenue*, never detract from Tofani's basic acoustic orientation. Best of all, the album doesn't sound like it was rehearsed to death: The musicians approach the songs with fresh and open ears. They are also extremely sensitive to one another's moves, which is no small part of the success of "Manhattan Carnival."

CRISPIN CIOE

**Teddy Wilson: Time After Time**

Albert Marx, producer  
Musicraft MVS 2001  
(Trend Records, 117 N. Las Palmas Ave., Los Angeles, Calif. 90004)

The early Thirties to the late Forties were creative years for Teddy Wilson. The pianist-composer was a famous member of the Benny Goodman Trio and Quartet; he had his own, short-lived big band and a very rewarding recording situation with Musicraft; and he led an excellent sextet for several years at Café Society in New York. But in 1947, the double blow of a musicians' union recording strike and the failure of Musicraft brought an end to it all, and Wilson retreated to the security of studio work and a teaching position at Juilliard. Later he became a touring soloist, playing a relatively limited repertoire that eventually became predictable.

With the Teddy Wilson of the past quarter century still in one's ears, one is struck all the more by his freshness and imagination on these 1946 and '47 recordings. Drawn from four Musicraft sessions, "Time After Time" features a variety of performance contexts: an octet, which includes Buck Clayton and Don Byas; two quartets with Charlie Ventura's saxophone in one and Clayton's trumpet in the other; and a trio with bass and drums. In addition, the youthful voice of Sarah Vaughan turns up from time to time.

Wilson's skill as an arranger has had little exposure except in his relatively unknown big band. His writing for the octet has a fresh, open charm, whether he is creating backgrounds for his own light-fingered piano or for Vaughan's clear, pure, not yet gimmicked voice. His swinging *I Want to Be Happy* is an appropriate setting for Byas's big-voiced tenor saxophone. Ventura's playing is at a peak—rich, mellow, warm, and strong. Wilson constantly finds interesting paths to follow and intersect, and his playing sparkles with a neat precision. He is equally precise today; it is the inventiveness of these sessions that has been missing for the past three decades.

JOHN S. WILSON



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