

SPECIAL TAPE ISSUE

MARCH 1978 • \$1.25

Stereo Review®

THE FUTURE OF THE CASSETTE • THE CASE FOR OPEN REEL
SONGWRITERS: HOW TO GET THEM TO LISTEN TO YOUR SONG

EQUIPMENT TEST REPORTS: Dynavector 10A Phono Cartridge • Phase Linear
Phase III Speaker System • Sony PS-X7 Record Player • Soundcraftsmen
MA5002 Power Amplifier • Spectro Acoustics 210 Stereo Graphic Equalizer

SEMI-PRO: HOW TO MAKE YOUR OWN DEMONSTRATION TAPES



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Stereo Review

THERE'S AT LEAST ONE THING MUSIC LOVERS ALL OVER AMERICA AGREE ON.



PIONEER'S SX 650 RECEIVER. THE #1 RECEIVER WITH PEOPLE WHO CARE ABOUT MUSIC.

If you're about to buy a good high fidelity receiver, Pioneer would like to suggest that you follow the advice of a highly select group of experts: music lovers.

This year, music lovers will buy more Pioneer SX 650's than any one of the other 162 high fidelity receivers on the market.

Mainly because this year, for the second year in a row, the SX 650 will offer better features, better sound, and better value than any similarly priced receiver.

PEOPLE WHO CARE ABOUT MUSIC WANT TO HEAR IT REPRODUCED PERFECTLY.

The goal of every hi fi receiver is to reproduce music with all the excitement and clarity of a live performance.

The SX 650 comes a lot closer to reaching this goal than some hi fi receivers costing hundreds of dollars more.

Take distortion, for example.

With some hi fi receivers, you're simply expected to tolerate a certain amount of distortion.

Not with the SX 650, however.

The 650 comes with an advanced power section designed to limit distortion at high volumes. Plus a pre-amp that features a phono overload level of 200 millivolts—enough to handle the loudest section of one of today's most dynamic records without distorting.

Together, these things work to give the SX 650 a virtually *inaudible* total harmonic distortion level of less than 0.3%, from 20 to 20,000 cycles per second.

Which brings us to the question of frequency response.

Where the average adult ear can *hear* music from approximately 40 to 14,000 cycles per second, the human body can *feel* music at much higher and lower frequencies.

By designing the 650 to reproduce music at these frequencies (20 to 20,000 cycles per second) the 650 can not only reproduce every note of music the human ear can hear, but it can also reproduce the feelings and emotions that until now you could only experience at a live performance.

In other words, the chills that used to run up and down your spine at concerts can now run up and down your spine in the privacy of your own home.

POWER TO SPARE.

When a piece of music reaches a crescendo, it tends to put a tremendous strain on the power section

of a receiver.

Some receivers clip the signal and distort.

The SX 650 merely goes on reproducing beautiful music.

Its 35 watts* per channel are more than powerful enough to fill the average room with clean, clear undistorted sound. And yet still have enough power in reserve to handle sudden surges of low or high frequencies.

So a full orchestra will sound just as crisp and undistorted as a single singer.

AN FM SECTION THAT DOESN'T SOUND LIKE A RADIO.

At Pioneer, we've always believed that the FM section on the SX 650 sounded more life-like than many \$600 separate tuners.

This opinion was recently confirmed in an article by Julian Hirsch in *Stereo Review Magazine* about our TX 6500 tuner. A tuner that features the same basic front-end as the SX 650's

"For all practical purposes, the frequency response, channel separation, noise level, and distortion... are the equal of most tuners selling for two or three times its price."

And who are we to argue with some of the leading experts in the hi fi industry?

PEOPLE WHO CARE ABOUT MUSIC ALSO CARE ABOUT MONEY.

With a price of less than \$325† we think the SX 650 offers an incredible value among today's medium priced hi fi receivers.

Especially when you consider that similar 35 watt receivers by Yamaha or Sony could cost you almost \$100 more.

But don't take our word about any of this.

Go compare the sound and value of the SX 650 to any other medium priced high fidelity receiver at your nearest audio dealer.

We think you'll find it's the perfect receiver for people who appreciate great value as much as they appreciate great sound.

High Fidelity Components
PIONEER
WE BRING IT BACK ALIVE.

©1977 U.S. Pioneer Electronics, 85 Oxford Drive, Moonachie, New Jersey 07074
CIRCLE NO. 62 ON READER SERVICE CARD

† The value shown in this ad is for informational purposes only. Actual resale prices will be set by the individual Pioneer dealer at his option.



*35 watts per channel minimum continuous power output at 8 ohms, from 20 to 20,000 Hz, with no more than 0.3% total harmonic distortion.



STEREO

108

MHz

x10kHz

LOUDNESS

MODE

TAPE MONITOR

FUNCTION

AM

FM

PHONO

AUX/MIC

MIC

ON

MONO

ON

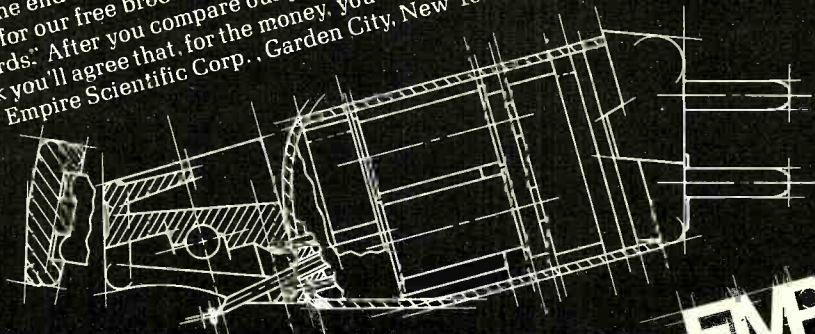
ON

Empire's Blueprint for Better Listening...

No matter what system you own, a new Empire phono cartridge is certain to improve its performance. The advantages of Empire are threefold. One, your records will last longer. Unlike other magnetic cartridges, Empire's moving iron design allows our diamond styli to float free of its magnets and coils. This imposes much less weight on the record surface and insures longer record life.

Two, you get better separation. The small, hollow iron armature we use allows for a tighter fit in its positioning among the poles. So, even the most minute movement is accurately reproduced. Three, Empire uses 4 poles, 4 coils, and 3 magnets (more than any other cartridge) for better balance and hum rejection.

The end result is great listening. Audition one for yourself or write for our free brochure, "How To Get The Most Out Of Your Records." After you compare our performance specifications we think you'll agree that, for the money, you can't do better than Empire. Empire Scientific Corp., Garden City, New York 11550



EMPIRE

Already your system sounds better.

MODEL	4000 D/III	4000 D/I	2000Z	2000	2000 E/III	2000 E/I	2000 E/I	2000 E	2000
FREQUENCY RESPONSE	10Hz-50kHz ±3 dB	15Hz-45kHz ±3 dB	20Hz-20kHz ±2 dB	20Hz-20kHz ±1 1/2 dB	20Hz-20kHz ±2 dB	20Hz-20kHz ±2 dB	20Hz-20kHz ±3 dB	20Hz-20kHz ±3 dB	20Hz-20kHz ±3 dB
TRACKING FORCE RANGE	3/4-1 1/2 gm.	1-1 3/4 gm.	3/4-1 1/2 gm.	3/4-1 1/2 gm.	3/4-1 1/2 gm.	3/4-1 1/2 gm.	1-2 gm.	1 1/4-2 1/2 gm.	1 1/2-3 gm.
SEPARATION 15Hz to 1kHz 1kHz to 20kHz 20kHz to 50kHz 20Hz to 500Hz 500Hz to 15kHz 15kHz to 20kHz	28 dB 23 dB 15 dB	24 dB 20 dB 15 dB	20 dB 30 dB 25 dB	18 dB 27 dB 22 dB	20 dB 28 dB 20 dB	20 dB 25 dB 18 dB	18 dB 23 dB 15 dB	18 dB 23 dB 15 dB	16 dB 21 dB 13 dB
I.M. DISTORTION @ 3.54 cm/sec	.2% 2kHz-20kHz	.2% 2kHz-20kHz	.06% 2kHz-20kHz	.08% 2kHz-20kHz	.1% 2kHz-20kHz	.15% 2kHz-20kHz	.2% 2kHz-20kHz	.2% 2kHz-20kHz	.2% 2kHz-20kHz
STYLUS	2 mil bi-radial	2 mil bi-radial	2 x .7 mil elliptical	2 x .7 mil elliptical	2 x .7 mil elliptical	2 x .7 mil elliptical	2 x .7 mil elliptical	3 x .7 mil elliptical	7 mil spherical
EFFECTIVE TIP MASS	4 milligram	4 milligram	2 milligram	2 milligram	6 milligram	6 milligram	6 milligram	9 milligram	1 milligram
COMPLIANCE	30x10 ⁻⁶ cm/dyne	30x10 ⁻⁶ cm/dyne	30x10 ⁻⁶ cm/dyne	30x10 ⁻⁶ cm/dyne	20x10 ⁻⁶ cm/dyne	18x10 ⁻⁶ cm/dyne	17x10 ⁻⁶ cm/dyne	16x10 ⁻⁶ cm/dyne	14x10 ⁻⁶ cm/dyne
TRACKING ABILITY	32 cm/sec @ 1kHz @ 1 gm	30 cm/sec @ 1kHz @ 1 1/2 gm	38 cm/sec @ 1kHz @ 3 gm	38 cm/sec @ 1kHz @ 1 gm	32 cm/sec @ 1kHz @ 1 gm	28 cm/sec @ 1kHz @ 1 1/2 gm	28 cm/sec @ 1kHz @ 1 1/2 gm	28 cm/sec @ 1kHz @ 1 1/2 gm	32 cm/sec @ 1kHz @ 2 gm
CHANNEL BALANCE	within 1 dB @ 1kHz	within 1 1/2 dB @ 1kHz	within 3/4 dB @ 1kHz	within 1 dB @ 1kHz	within 1 dB @ 1kHz	within 1 1/2 dB @ 1kHz	within 1 1/2 dB @ 1kHz	within 1 1/2 dB @ 1kHz	within 1 1/2 dB @ 1kHz
INPUT LOAD	100k Ohms/ channel	100k Ohms/ channel	47k Ohms/ channel	47k Ohms/ channel	47k Ohms/ channel	47k Ohms/ channel	47k Ohms/ channel	47k Ohms/ channel	47k Ohms/ channel
TOTAL CAPACITANCE	under 100 pF/channel	under 100 pF/channel	300 pF/channel	300 pF/channel	400-500 pF/channel	400-500 pF/channel	400-500 pF/channel	400-500 pF/channel	400-500 pF/channel
OUTPUT @ 3.54 cm/sec	3 mV/channel	3 mV/channel	5 mV/channel	3 mV/channel	4.5 mV/channel	4.5 mV/channel	7 mV/channel	7 mV/channel	7 mV/channel

FORMERLY HI FI/STEREO REVIEW

Stereo Review®

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Editorially Speaking

By William Anderson



MINIMAX

HERE used to be one of those all-night delicatessens in my New York neighborhood that styled itself "Superette"—one Latin prefix, one French suffix, and nothing in between but a mind-teasing irony. "Super" very likely means, as the dictionary has it, "surpassing others of its kind" (as in "supermarket"), but "ette" could signify either the diminutive (as in "roomette") or the imitation (as in "leatherette"), so "Superette" might therefore mean either a "big little" or a "superior imitation." Clearly a matter for the mind of comedian George Carlin.

No such problem with "cassette," however, which is just what it says it is: a "little box." Well, usually, anyway. Both Deutsche Grammophon and London Records have for some time been turning out what I am tempted to call "maxicassettes," boxes almost of book size designed to accommodate operas and other extended musical works that won't fit

on a single cassette. They have now been joined by RCA, which has just brought out a group of eight operas (mostly reissues) in the cassette format (see review on page 98) and expects to add another nine (*Julius Caesar*, *Norma*, *Lucia*, *Vespri*, *Ballo*, *Ernani*, *Rigoletto*, *Trovatore*, and the *Barber*) this month.

Putting these little tapes in these big boxes is not as whimsically paradoxical as it might appear. First of all, it makes possible the inclusion of adequate notes (and, in the case of opera, librettos). In the ordinary cassette box these are either sketchy as to information and minuscule as to type size or absent altogether. RCA's boxes are 6¼ inches wide and 12¼ inches high, almost exactly half the size of a disc jacket (though thicker, of course). This makes it possible for retailers to display them in pre-existing browser racks while discouraging pilfering (they cannot be concealed on the person without committing an affront to Na-

ture). And since they are of standard disc height, the buyer can also shelve them at home (the spine is lettered) alongside his records without being too prodigal of space. But why, speaking of prodigality, is it that the recording industry continues to place these odd little bets on this minority format?

If there is one factor that has characterized successful innovations in recording technology through the years it is that of *increased information density*. In the disc format we have gone from 78 rpm to 33½-rpm microgrooves in mono, stereo, and quad, at least doubling information density each step of the way, and digital techniques now just over the horizon promise more of the same. In tape we have not only been increasing information density through speed reduction (from 15 ips down through 7½, 3¾, and 1½), but by reducing the size of the tape as well. Digital recording, again, could contribute even more. It should therefore surprise no one that the next step down is (are) already on the market and apparently flourishing—the (unfortunately incompatible) mini- and microcassettes, depending on whether you like your prefixes in Latin or in Greek (but whatever happened to hemi-, demi-, and semi-?). The clear-plastic "jewel box" ordinary cassettes come in measures 2¾ x 4¾ x 5/8 inches (approximately). The new microcassettes are 1¼ x 2 x 5/16 inches, or almost exactly *one eighth* the size (tape width, oddly enough, is the same). Since the speed is only 15/16 ips, it is not yet a hi-fi medium, but improved tape formulations and/or digital developments will take care of that, and it already has the magical ingredient of information density.

There is probably a physical limit to how far this trend can go: once things get down to aspirin-box size, anthropometric concerns (clumsy fingers) take precedence over all others. Even so, it is perhaps a little too soon to sell short our apparently characteristic fascination with the great beauty that is to be found in small proportions.

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When Phase Linear introduced the first real high-power, high-fidelity amplifier in 1971, the philosophy of audio component design was abruptly changed. Almost overnight, Phase Linear became synonymous with high-quality, high-technology, high-powered high-fidelity.

The entire audio industry was forced to take notice.

Most H-FI companies had not expected high power to become generally accepted as the optimum means of achieving sonic realism. Suddenly, companies found themselves spending large amounts of money in R&D, Engineering, and Marketing in a very short period of time.

Who do you think picks up the tab?

Contrary to what some manufacturers would like you to think, Hi-Fi companies are not philanthropic organizations. They can't absorb the cost. This rapid expenditure of money must be factored into the

retail price of the component. The result?

You pay a higher price. You most certainly receive the performance as advertised by these expensive imitations. But you also pay a 'penalty.'

Take a good look around the next time you visit a high-fidelity store. You'll see a lot of models on the shelf. All sizes. All shapes. All colors. All costing more than the original.

The Phase Linear 700 started it.

Since we started it all, we were able to advance in an orderly, cost-effective manner, and improve on our original technology. There's no tab to pick up. No penalty to pay.

The result is the Phase Linear Series Two.

The line is highlighted by the new Dual 500, rated at over 500 watts per channel, with distortion at an incredible 0.09%.

Designed to handle speaker impedances down to 2 ohms, the Dual 500 easily adapts to rugged professional use, or demanding home applications. A self-contained, thermally activated cooling system, combined with an instantaneous LED display incorporating built-in output clipping indication, allows for precise power control. Electronic energy limiters and independent fusing of the power supply prevent the possibility of damaging overloads.

Affordable Technology.

This same dedication towards exceptional performance, design and affordability is found in each Series Two Power Amplifier. From the "Kilowatt," to the fully complementary output, Bi-FET process and high-loop gain technology of the Phase Linear 200-Series Two, there is an affordable original that easily fulfills your most demanding requirements.



	Dual 500-Series Two	700-Series Two	400-Series Two	200-Series Two
OUTPUT POWER PER CHANNEL*	505 WATTS	360 WATTS	210 WATTS	120 WATTS
Intermodulation Distortion (60Hz: 7kHz = 4:1)	0.09% MAX	0.09% MAX	0.09% MAX	0.09% MAX
Signal to Noise Ratio (IHF "A")	110dB	110dB	110dB	110dB
Residual Noise (IHF "A")	120uV	120uV	120uV	120uV
Forced Air Cooling	YES	OPTIONAL	OPTIONAL	NO
Suggested Retail Price	\$1349.95	\$879.95	\$599.95	\$399.95

Optionally available in Standard E.I.A. rack mount configuration. Solid Oak or Walnut side panels optional.

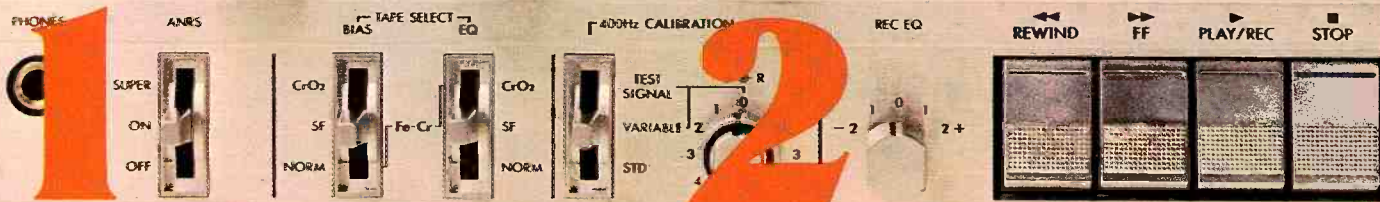
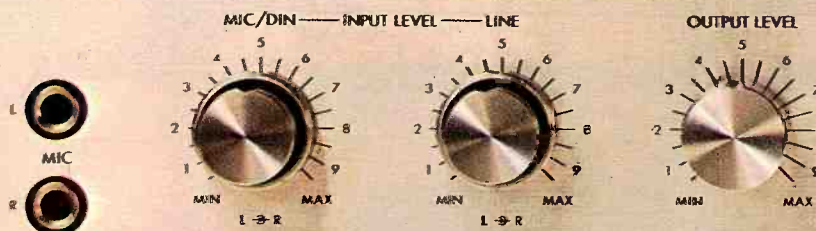
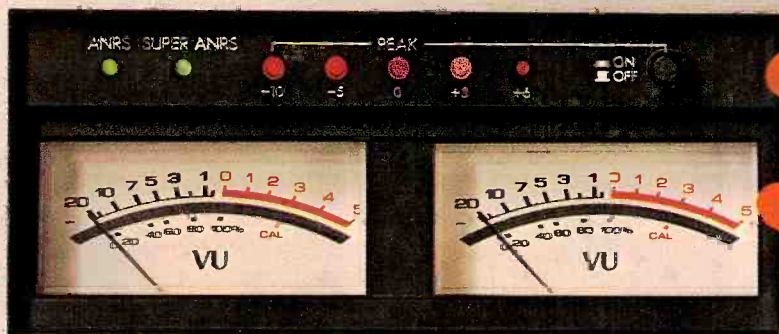
*Output Power Minimum RMS per channel into 8 ohms from 20Hz-20,000Hz with no more than 0.09% Total Harmonic Distortion

Phase Linear
THE POWERFUL DIFFERENCE

MADE IN U.S.A. DISTRIBUTED IN CANADA BY H. ROY GRAY LTD. AND IN AUSTRALIA BY MEGASOUND PTY. LTD.

We build the others


Super ANRS KD-95 STEREO CASSETTE DECK



KD 95



CD-S200

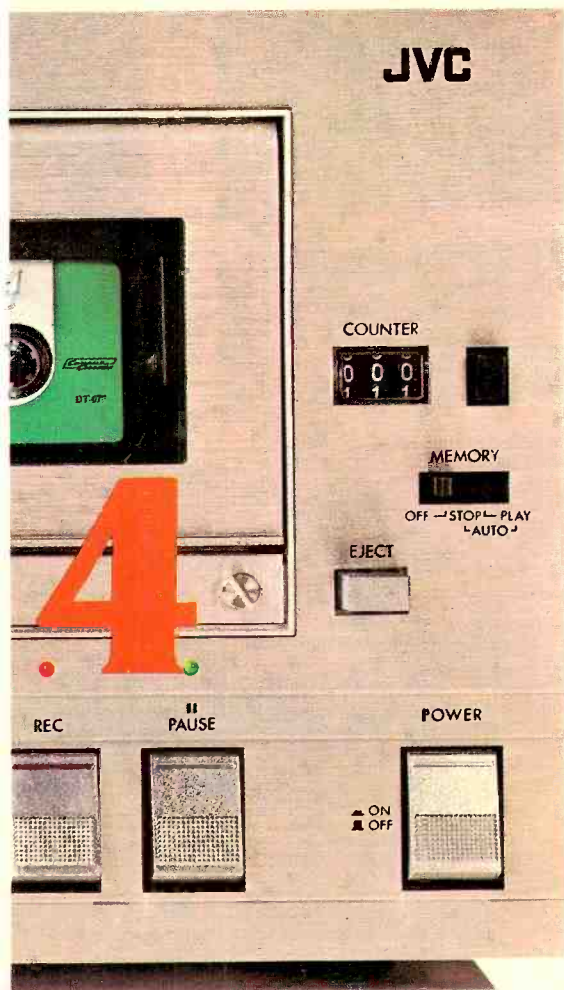


KD-75



KD-35

in what leave out.



Only JVC gives you improved recording with Super ANRS, Recording/EQ switch, 5 Peak Reading LED's and SA heads.*

The measure of fine cassette deck performance is the sound of the recordings you make. JVC's extensive line of high fidelity decks features these exclusive contributions to cassette deck technology.

1 Our Super ANRS gives you efficient noise reduction, with the added plus of extra-low distortion at high-level high frequencies. And you can switch to our regular ANRS for making recordings to be played using other noise reduction systems. **2** In addition, our extra Recording/EQ switch helps you to precisely adjust the high frequency response of your deck to match any tape you care to use.

3 The entertaining LED's you see on our decks actually help you make better recordings. They're easier to read than VU meters by themselves, so you can record at higher levels without fear of tape saturation.

4 And our SA (Sen-Alloy) heads offer the sensitive performance of permalloy, plus the long life of ferrite in one design. These heads are so excellent in their performance and durability that other manufacturers are buying them from us to use in their decks.

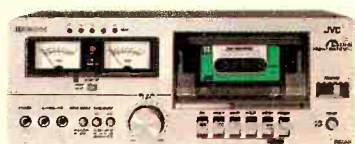
There are a variety of other features to simplify your cassette recording. And our specifications are equal to or better than machines that cost much more.

Once you've seen the things we build in, you'll wonder why the others leave them out.

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*Not all features in all decks.



KD-15



CD-1770



CD-1636



KD-2

JVC

Soundcraftsmen new class 'H' VARI-PORTRIONAL[®] 250 w. amplifier

TEST REPORTS
PRAISE IT...

"Transparent, uncolored sound"
"An outstanding amplifier"

(CIRCLE READER SERVICE CARD FOR TEST REPORTS)

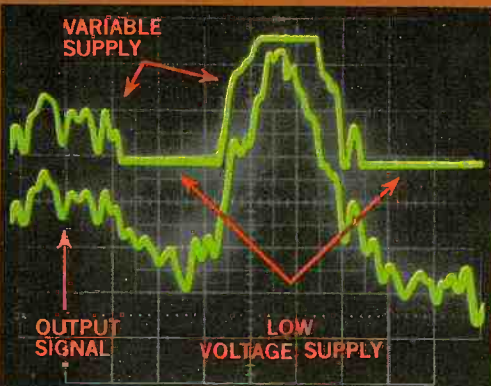
CUSTOMER CARDS
COMMEND IT...

"Great — don't change it"
"Perfect reproduction of my own
Direct-to-Disc recordings"

(QUOTE FROM DIRECT-TO-DISC RECORDING ENGINEER)



SOUNDCRAFTSMEN'S NEW CLASS AMPLIFIER WAS INVENTED AND DESIGNED TO PROVIDE THE BEST PERFORMANCE, MOST-NEEDED FEATURES, GREATEST RELIABILITY AND ENERGY-SAVING EFFICIENCY, PLUS STATE-OF-THE-ART AUDIO REPRODUCTION. LIKE OUR PE 2217 PRE-AMP, THE MA5002 IS A MASTERPIECE OF COST-CONSCIOUS ENGINEERING — A \$1,000 VALUE FOR UNDER \$700.



VARI-PORTRIONAL SYSTEM[®] —

TECHNICAL DESCRIPTION: A brief explanation of the VARI-PORTRIONAL[®] SYSTEM is that its computer-like ANALOG LOGIC CIRCUITRY senses and calculates the amount of voltage required in accordance with the amplifier's rising or falling output power level, and it then directs the power supply to make available precisely the amount of voltage required, with no wasted energy. The scope photo illustrates this Patent Pending system by showing a loud rock music signal penetrating the upper voltage supply and also showing the supply VARIABLY increasing AHEAD of the signal.

VARI-PORTRIONAL[®] CIRCUITRY-BENEFITS:

- enables 350 watts at 4 ohms, 250 watts at 8 ohms, at very low cost.
- reduces AC line current requirement to save 1 kilowatt every 5 hours, yet provide full power whenever needed for high level output.
- combined with ultra-fast output circuitry, provides extremely low T.I.M. for clean undistorted sound, with a SLEW RATE of better than 50 volts per microsecond, far exceeding most other amplifier circuits.

VARI-PORTRIONAL[®] L.E.D.'s: When either channel's output level reaches approximately 50% of total power, the green L.E.D. will start to flash. It is indicating that the ANALOG LOGIC CIRCUITRY is actuating the second power supply, a VARIABLE high-voltage supply, and the A.L.C. is controlling that supply's voltage IN ANTICIPATION of a potentially higher output level requirement. The L.E.D. will glow proportionally brighter, showing the voltage supply increasing, as the metered power output rises above approximately 50%. When the green L.E.D. is NOT ON, the low voltage power supply is in continuous operation, and the amplifier is operating in its most efficient mode, drawing very little AC line current and therefore saving energy costs (for example, you save approximately 1 kilowatt every 5 hours over a conventional Class B or AB amp, both operating at 1/2 power).

CLIPPING INDICATORS: The red L.E.D.'s, indicating clipping, are able to respond to signals much faster than meters can, and the clipping lights will flash dimly as clipping begins. When the clipping lights are bright, the amplifier is exceeding its rated power output. (Clipping will occur at varying power levels, from somewhat over 250 watts at 8 ohms, to over 360 watts at 4 ohms.)

3 models, Power Amp, Meter Amp, Auto-Equalizer[®] priced from \$599.

"AUTO-CROWBAR[®]" INSTANTANEOUS OVERLOAD PROTECTION: This Soundcraftsmen AUTO-CROWBAR[®] protection circuitry is unique among amplifiers. It uses no relays, no circuit breakers. AUTO-CROWBAR[®] circuit will automatically and continuously attempt to reset itself every second or two, until the overloaded condition is removed.

NON-LIMITING CIRCUITRY protects speakers from limiter-caused distortion that results from overdriving in amplifiers that use current-limiting circuitry.

DIRECT-COUPLED output.

SPEAKER-PROTECTING input circuitry with automatic blocking of input below 1 Hz. This prevents DC from any input source from blowing out speaker cones.

CERTIFICATE OF INSPECTION: Actual measurements of each unit are enclosed with each unit to show actual measured rms output per channel, actual measured distortion per channel, actual measured slew rate per channel, etc.

REMOTE TURN-ON TRIAC-ACTUATED delay circuit eliminates turn-on surge of time of switch closure, enables REMOTE AC turn-on plug-in for switching from your preamp.

INPUT LEVEL CONTROLS: The input level controls are designed to assist in system operation by providing input voltage control from 0 to full. This capability is particularly valuable in public address, sound reinforcement, and amplified musical instrument applications where many long cables are in use and where ground loops and other unwanted conditions might exist.

METER RANGE: When the meter range "times 1" (X1) button is depressed, the meter will indicate approximate power output in percentage (100%=250 watts, assuming an 8-ohm load at the speaker output terminals).

MATCHING PREAMP-EQUALIZER

Now the PE2217 rated "State-of-the-Art" and "Best-Buy" in magazine Test Reports is available as the PE2217-R in rack silver-black form as a matching mate for our new amplifier. With the control flexibility of pushbutton-patching for tape monitoring and tape dubbing between two or three machines, together with tape and program discrete-octave equalization, the PE2217-R is still the MOST POWERFUL and FLEXIBLE Preamp, available at \$549.00



LETTERS TO THE EDITOR

Pre-tape Equalizing

● Takes a while to get them imported furrin publications into stores here in Japan, so I just saw the September issue. I don't agree with Craig Stark (lead Q. and A. in "Tape Talk") that material to be taped should never be equalized before recording. I *do* use an equalizer for recording, plus another in the preamp-to-power-amp chain for all-program equalization. I have some \$8,000 worth of electronics, and friends frequently drag over their moth-eaten old discs and commercially recorded tapes for me to "clean them up" onto cassettes. I find that processing through my SAE 5000 impulse-noise reducer and equalizer to the tape deck is invaluable for this kind of dubbing. I also find the pre-recording equalizer useful for dubbing to cassettes for car use. After all, most automobile cassette machines and speakers can't handle the nuances that the better tapes deliver, and they certainly can't deal with dbx or even Dolby processing, so I find a bit of equalizer fiddling is essential for happy driving.

Readers who are going snap-crackle-pop with frustration at the sub-level quality of many discs on the U.S. market might be interested to know that in Japan we have two types of discs available: clean and crummy. The former are Japanese pressings from American and European masters; they account for around 95 per cent of sales here. The others are direct imports, flown in in all their clicky, off-center glory from, mostly, the U.S. This may help explain why Japanese audiophiles are rather glassy-eyed fanatics about their cartridges, head shells, tone arms, turntables, and lead bases: they've got an ocean of good records available that are worth investing money to play. Hey, American audiophiles—move to Japan! Your ears will love you for it!

(Ms) LORA MCHENRY
Tokyo, Japan

Steely Dan

● I was disappointed to find Joel Vance assigned to review Steely Dan's new album, "Aja" (in the January issue). Before reading the review I checked the initials at the end,

and I knew at once that Mr. Vance would find the obscure lyrics frustrating and would wonder why Fagen and Becker don't write songs like *Pearl of the Quarter* any more.

To me such criticism is, at best, irrelevant. Steely Dan is not a conventional rock band, but a vehicle for Donald Fagen and Walter Becker to present themselves as composers (as they themselves admit). Both Mr. Vance and Stephen Holden (who reviewed "Royal Scam," the previous Steely Dan album, for *STEREO REVIEW*) are missing the point when they stress the lyrics in talking about Steely Dan. I suspect that the primary function of their lyrics is to set a mood and to tie the music more closely to the conventional song-oriented conception of rock. Sometimes the lyric is a clear-cut "story" (*Everything You Did*, *Black Cow*), sometimes merely an extension of mood (*Doctor Wu*), and sometimes a foil for the instrumental portions of the song (*Aja*, *The Fez*)—but without exception the sound of Donald Fagen's voice is more important than the words he sings. Like Victor Feldman's keyboard work, his voice is a component of the musical texture in post-"Pretzel Logic" Steely Dan albums.

TERRY TEACHOUT
Liberty, Mo.

Pipe Dreams

● In January's "Going on Record," Music Editor James Goodfriend says that one might wish for an opera by Gustav Mahler and wonders why Mahler "never tried to write one." In his early years, Mahler did write an opera, called *Herzog Ernst von Schwaben*, which, unfortunately, he later destroyed. The libretto was by Mahler's friend Josef Steiner and the work concerned Mahler's brother Ernst, who died in 1874. Somewhat later Mahler made sketches for an opera to be called *Die Argonauten* and still later began one titled *Rubezahl*; neither of these operatic attempts is extant.

I realize that Mr. Goodfriend's point was not that Mahler never wrote an opera, but that none is available today. I too would be very eager to hear a Mahler opera, although I believe that I can imagine how it would sound,

especially if it were about a beloved brother who died at the age of thirteen. It would probably be about as cheerful as Berg's *Wozzeck*.

SAM HOLLOMON
Cleveland, Miss.

Mr. Goodfriend replies: It would be nice if it were as good (particularly since Mahler was fourteen at the time).

● James Goodfriend's wish (January "Going on Record") for a Haydn viola quintet is hereby granted. If you will open your Hoboken catalog to page 298 (under the heading "Divertimentos for four or more parts"), you will find it listed as Hob. II:2. And did you know that, like Brahms, Haydn also wrote a horn trio? Only Haydn's was for horn, violin, and cello rather than horn, violin, and piano. (This work is listed as Hob. IV:5.)

In the graduate course on Haydn's chamber music that I give at the Peabody Conservatory we have a slogan, "Haydn did it first" (HDIF)—"it" referring to just about anything in the style or content of works of later composers from Mozart to Brahms. Even Wagner: we enjoy Haydn's use of the four-note rising chromatic "Tristan" motif in his string quartets (especially in the minuet of the unfinished Op. 103).

ISIDOR SASLAV
Concertmaster
Baltimore Symphony Orchestra
Baltimore, Md.

Magnavox MX Recall

● The Magnavox Consumer Electronics Company is recalling some of its MX-brand component receivers because a possible circuit malfunction could cause damage to non-MX-brand loudspeakers used with the units. Model numbers subject to the recall are 1580, 1581, 1620, and 1630. Approximately 11,200 of the suspect receivers were manufactured and sold by Magnavox from May 1974 on, and some may still be in dealer inventories. Consumers who have these model numbers should contact the Magnavox Consumer Affairs Department to make arrangements for corrective modifications to their equipment. Outside Indiana, call toll free (800) 348-3863; inside Indiana, call (219) 432-6511 and ask for Department 761.

BOB JONES
Magnavox Company
Fort Wayne, Ind.

Peccant Critics

● I'd like to remind *STEREO REVIEW*'s pop-music critics that a "review" is, according to the *Random House Dictionary*, a "critical article or report," while "critic" is defined as "a person skilled in judging . . . musical performances." Such a person does not need to use remarks that have no bearing on the performance, such as "I am a registered Republican given to saying 'Pshaw! . . .'" (review of Cat Stevens' "Izitso"), "It sounds like the kind of album you'd expect from a bunch of vice presidents" (review of Kenny Loggins' "Celebrate Me Home"), or ". . . a feat that adds a new dimension to the concept of 'cheesecake'" (review of Kiki Dee's album). Furthermore, when Joel Vance begins his "review" of "Izitso" by saying

that he has "never been able to work up much enthusiasm for Cat Stevens," whatever else he says must be considered invalid since he's biased from the outset.

CHARLIE THORNHILL
Mt. Vernon, Mo.

● In response to the common reader complaint that reviewers stray from their proper subject matter, I would suggest that music, like all art, is mainly a communication of ideas. A critic may relay those ideas through a discussion of the music itself (mode), the artist (means), or, if he pleases, the destruction of Rome by the Goths (analogy).

THOMAS TONEFF
Tucson, Ariz.

The Editor replies: Yes, and "ideas" are what a "person" has, so they inevitably have personality and "biased" subjectivity. And it strikes me that it might be rather useful to know whether the critic addressing us is a registered Republican—or a closet Marxist!

Sven-Bertil Taube

● I was pleasantly surprised by James Goodfriend's column on Sven-Bertil Taube ("Going on Record," December 1977). I thought that I was the only person in America who knew about Sven-Bertil and his legendary father, Evert. As a youngster, I heard a lot of Evert Taube's music, since my father and un-

cle were Swedish sailors (in the classic sense) and many of his songs concerned seafaring adventures around the world.

A Capitol International Series album featuring Sven-Bertil Taube playing his father's songs was once available in the U.S. It was conducted, of course, by Ulf Bjorlin, with solo players and groups from the Stockholm Philharmonic. The album number was ST 10274.

R. G. KELLSON
Woodridge, Ill.

Discophobia

● I am a rock fan through and through, and I will never "give in, dress up, and accept Irving Berlin's invitation to 'face the music and dance.'" I know I will never get to like it! "It," of course, is disco, and "it" perfectly describes what definitely cannot be called music in any shape or form. I didn't always agree with Steve Simels either, but Paulette Weiss' "Discomania" (December 1977) stank. She should get back to rock-and-roll instead of "it," which has no virtues and which many hope will "go away."

K. BLAIN
Victoria, British Columbia

Direct-to-Disc

● As a record buyer rather than a manufacturer, reviewer, or performer, I'd like to add some comments on the direct-to-disc controversy. I have bought a few d-to-d recordings and have found that the reduction in recorded noise or tape hiss is quite small, sometimes nonexistent, as compared with other high-quality records. The reduction in surface noise may be entirely the result of careful manufacturing and the use of virgin vinyl and have nothing at all to do with the elimination of steps between the artist's performance and the cutting of the master lacquer. However, most, if not all, d-to-d recordings are made without the compression usual with ordinary discs, and for me this has been their most outstanding benefit; the dynamic range is extraordinary. (Of course, some tape-to-disc records are also uncompressed, and I'm equally impressed by their dynamic range.)

As to whether the artist plays better or freer during taping or directly to the cutting lathe, this is obviously a function of the bent of the individual artist. My latest purchase, "Track-in" by the Lou Tabackin Quartet (sold by Specs Corp.), sounds very free and unrestrained, yet some d-to-d records I have do, in fact, sound as if the performers were unduly conscious of the recording process and much too careful.

On the whole, I would say that d-to-d recordings are worth the great expense only in a very few cases, such as when they feature a favorite artist or work that you could listen to forever.

K. A. BORISKIN
Milford, Mass.

● One of Editor William Anderson's main objections to direct-cut discs (October 1977 "Editorially Speaking") is the price. Why not let people like me who are "mad" enough to buy direct-cut discs at such prices go ahead and do it? Rather than being "regressive gim-

(Continued on page 12)

They use
Cizek speakers
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La Scala Opera
House
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like what
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CIRCLE NO. 11 ON READER SERVICE CARD

HOW TO DISTINGUISH BETWEEN THE SO-CALLED CAR SPEAKER AND THE FIRST CAR SPEAKER THAT DESERVES TO BE SO CALLED.

The best of the so-called car speakers, on the left, is identical in principle to a fine home speaker. The Audiovox Comp 60™ on the right, approaches sound from an entirely different point of view. The car. It's easily distinguishable from the so-called car speaker in that it comes in two parts. One, a super efficient, low mass mylar midrange/tweeter for high definition and clear high and middle frequencies. And two, a beefed up 6½" woofer for beefed up bass sound.

The reason the incredible Comp 60 is a breakthrough, as well as a breakapart, is simple. It's the first speaker to put the midrange/tweeter where it should go in a car. In the front. And the woofer where it should go. In the rear. The result is the treble sounds, which are highly directional, get pointed at you, instead of at the back window. And the bass sounds, which are not highly directional, can spread out and move forward to meet the treble at an ideal point in the car. Your ear.

Of course, to be perfectly honest, the Comp 60 does have a few features in common with a fine home system.

Like a circular woofer for clean bass response. And a dome tweeter for uniform sound dispersion. And a copper wound high temperature voice coil that can take the heat in the music without going to pieces. And heavy weight ceramic magnets that total a big 60 ozs. for a maximum of efficiency and a minimum of distortion. Besides a handling capacity of 40 whopping watts per channel. And a frequency response of from 50 to 20,000 Hz.

The Comp 60 also has some parts no home system has. Like butyl rubber edges and gaskets to provide vibration-proof, jounce-proof damping.

If you want to get as much pleasure from your car speaker as your home speaker, make sure you get a lot more than a scaled down home speaker for your car. Get the first real car speaker. The Audiovox Comp 60. The speaker we took apart because of the way your car is put together.

THE COMP 60™ BY AUDIOVOX®

We build stereo for the road. We have to build it better.

mickry." the appearance of the d-to-d technique is the most important thing to happen to hi-fi in recent years—that is, as long as one recognizes its drawbacks: short playing time and high price.

Moreover, the editor does not seem to understand that when taping from a source almost free of hiss (direct-cut discs), one obtains a much higher quality than when taping from an ordinary record. Thus, that Texas millionaire who tapes his direct-cut discs is not as crazy as the one who has prescription-ground windshields in his cars.

JOHAN JØRGENSEN
Edinburgh, Scotland

That was a joke, son. Why avoid tape hiss in

the first place if you're only going to add it to the program afterward?

Gismonti's Compatriots

● We were very happy to read Chris Albertson's review of Egberto Gismonti's "Dança das Cabeças" (November 1977). It shows that someone in the States is interested in what's happening musically in Brazil. Mr. Albertson credits Nana Vasconcelos for composing *Fé Cega Faca Amolada*, but the song is really by Milton Nascimento and Ronaldo Bastos.

Other records by Brazilian artists available in the U.S. include "Milton" by Milton Nascimento (A&M 4611), "Native Dancer" by

Wayne Shorter and Nascimento (Columbia PC 33418), "Amoroso" by João Gilberto (Warner Bros. BS 3053), and "Slaves Mass" by Hermeto Pascoal (Warner Bros. BS 2980).

JERRY UDLER
RICARDO REDISCH
São Paulo, Brazil

Jack Jones

● Rarely does one read such a fine, understanding analysis of an artist as Henry Pleasants' piece on Jack Jones in the November 1977 issue. As Mr. Pleasants discerned, the key to Jack Jones' thrilling singing is the control of his voice that he gained through study with a classical coach. On the day Jack was born, I was having a session of my own with that same excellent coach, Claude Warford. A great many of us at that time (including Jack's father, Allan Jones, and Lanny Ross) owed our success to Warford, who taught us to use our voices as musical instruments.

Claude Warford, from his place in Heaven, must indeed be pleased at how his fine teaching has followed through from Allan Jones to Jack Jones. Moreover, Jack has a wonderful and vigorous heritage of strength and vitality. Few people realize the demand good singing makes upon one's basic health. I had to give up my own career when it was most promising in every respect due to health problems.

H. R. EDMUND AUSTIN
Bridgehampton, N. Y.

Lester Fans

● I have always regarded STEREO REVIEW's popular-music critics as a bunch of overbearing, pompous, know-nothing cretins, and the proof of this has been piling up. Numerous put-downs of Frank Zappa and of the Eagles have been fueling my fury for a long time, but Lester Bangs' November 1977 review of "Love Gun" by Kiss is the last straw.

How could he have the unmitigated audacity to compare Kiss to Led Zeppelin or Bad Company? That is like comparing the Yucca Flats zither and harmonica ensemble to the New York Philharmonic! The members of Kiss have admitted that they have little or no musical talent.

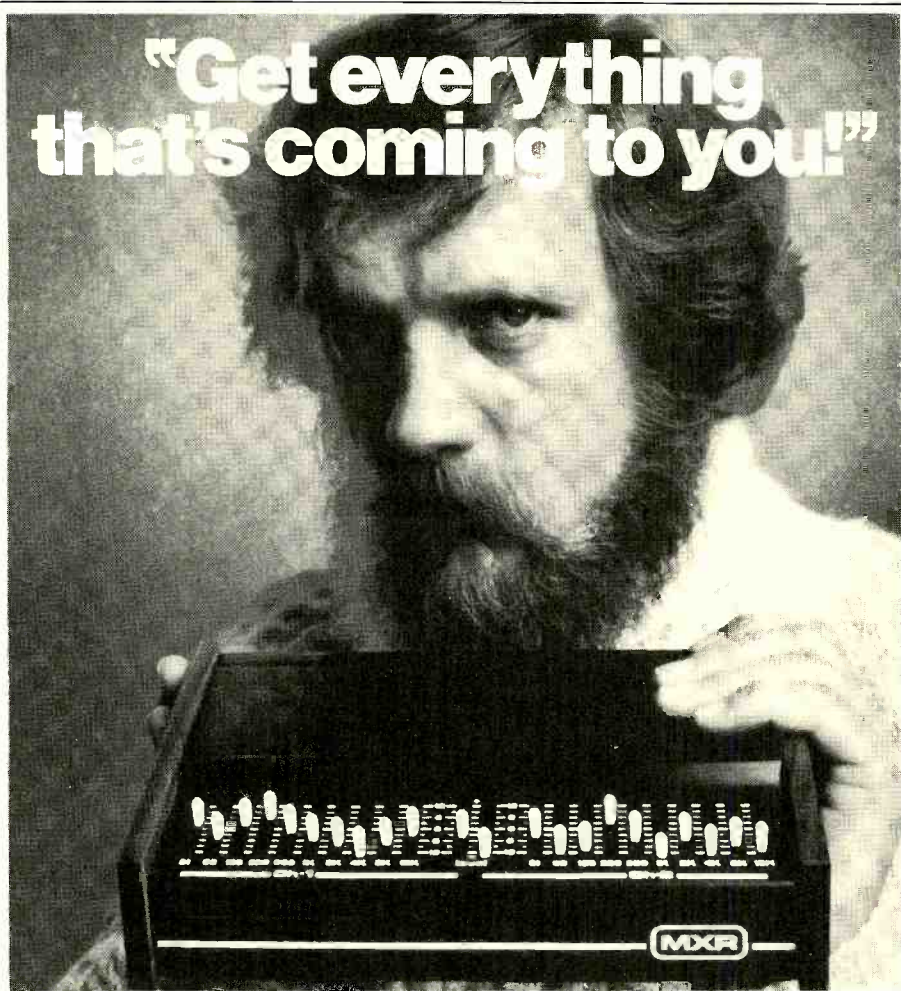
In contrast, Led Zeppelin is the super heavy-metal group of the Seventies, and Bad Company runs a close second. Both groups are composed of excellent *serious* musicians who care about the music they produce.

JAMES DIGIACOMO
Montreal, Quebec

● Reading the December "Letters," I was appalled to discover the distrust and malevolence some STEREO REVIEW readers have for Lester Bangs.

Lester Bangs' reviews are a source of information about new releases that is not obtainable elsewhere. His opinions are precise and to the point. His evaluations provide a guide to discovering new first-quality recordings that promise to give years of enjoyment. I have always found that if I eagerly seek out those records he has given a bad review and avoid like the plague those he has given glowing praise, I will never buy a record I will have to relegate to the back of my collection.

LARRY SYMCHYCH
Oshawa, Ontario



Everything but the effects of poor room acoustics, poor speakers or poor program quality with the MXR Stereo Graphic Equalizer.

Say you've got a room that's a lot like a sponge . . . too soft and cushiony . . . one that soaks up all the aural glory of your system. Or say your system's high fidelity just isn't high enough, whether the source is records, tape or radio.

Get into control with the MXR Stereo Graphic Equalizer. Adjust for acoustics with 10 frequency controls plus level on each of two channels. Play with the lows, boost

the mid-ranges, and soar with the highs. Make a small system sound big . . . a big system sound mammoth.

Hear it and the entire MXR line at fine audio stores. Or write MXR Innovations, Inc., 247 N. Goodman St., Rochester N.Y. 14607. Or call 716-442-5320.

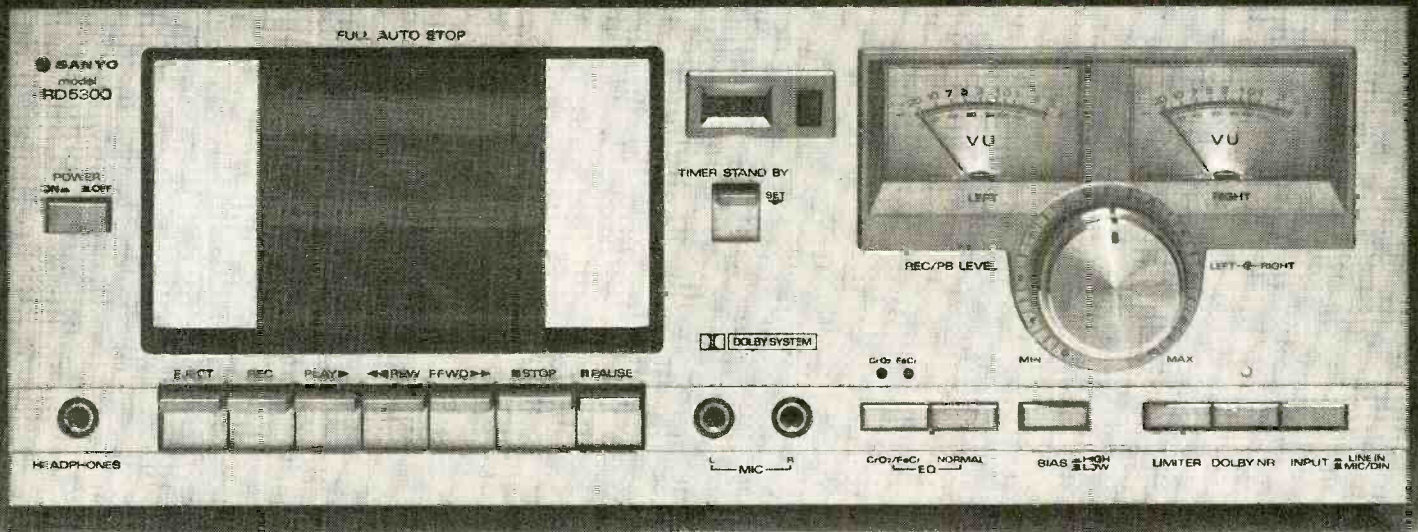
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THE SECRET OF THE WORLD'S FINEST CASSETTE DECKS IS ON THIS FRONT PANEL.



It's our name: Sanyo.

Take the cover off of almost any fine cassette deck, and chances are you'll find Sanyo parts.

Our tape transport mechanisms and electronic components have earned such a reputation for quality and reliability that they're used in some of the most respected equipment you can buy.

So when Sanyo set out to design our own cassette deck, we had plenty of technology and experience to draw from. And we made the \$190* RD5300 one of the truly outstanding values in home tape recording.

The proof is in the state-of-the-art

specs: 30-16,000 Hz response (± 3 dB, CrO₂ tape). 63dB signal-to-noise ratio with Dolby. And an imperceptible 0.05% wow and flutter (WRMS). Plus convenience features like a peak limiter to prevent distortion, and a standby switch that lets you use an external timer to start recording even when you're not home.

If you need more proof, check the test reports. The RD5300 is generating the kind of enthusiasm you would expect for really exotic, high-priced components (phrases like "best buy" keep popping up).

So why should you buy a quality tape deck that's only part Sanyo. When for the right price, you can get the whole thing?

SANYO

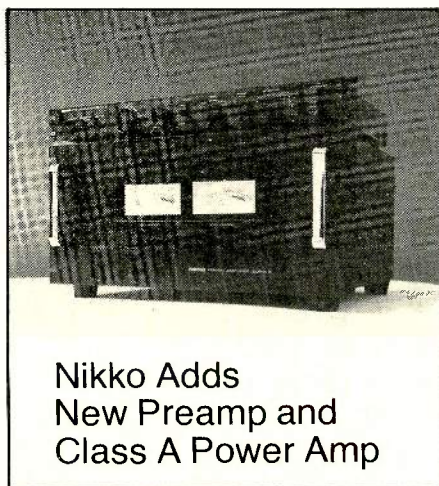
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*Manufacturer's suggested retail price. Actual selling price determined solely by the individual Sanyo dealer.

New Products latest audio equipment and accessories



Nikko Adds New Preamp and Class A Power Amp

□ The Nikko Beta V preamplifier and Alpha V power amplifier are the latest additions to that company's amplifier line. The Beta V's very slim front panel has no tone controls, but features a variety of switchable cartridge-loading values. Phono-input impedance is selectable at 10,000, 33,000, 47,000, 68,000, and 100,000 ohms, while three load-capacitance settings are provided: 0, 47, and 150 picofarads. Phono-input level is adjustable. There is a five-position selector switch used in conjunction with a three-position "channel selector." On Channel 1, phono-input impedance and capacitance are adjustable; on Channel 2 only the capacitance and on Channel 3 only the impedance is adjustable. The Beta V has a 16-Hz subsonic filter as well as a mode switch with positions for stereo, mono, and stereo reverse. The volume control is a step-type attenuator switch.

Key specifications for the Beta V are a phono-input sensitivity of 2 millivolts (mV) and a 100-mV sensitivity for the tuner and auxiliary inputs. Total harmonic distortion is 0.01 per cent. The signal-to-noise ratio of the phono section is 72 dB (A weighted); for the high-level amplifier it is 100 dB. Rated output is 1 volt into 600 ohms. The Beta V, which utilizes Cannon-type three-conductor connectors in place of the standard phono plugs and jacks, measures about 2 x 19 x 17 inches. Price: \$750.

The companion to the Beta V is the Alpha V power amplifier, a Class-A design rated at 100 watts per channel into 8 ohms. The front panel of the Alpha V has separate average-reading power meters for each channel, as well as an on-off switch and a speed control for the amplifier's cooling fan. It is fitted with chrome-plated rack handles. The Alpha V may be used as a d.c. amplifier (response is flat from 0 to 60,000 Hz) or with a high-pass filter inserted. Both total harmonic and intermodulation distortion are rated at 0.06 per cent, and the signal-to-noise ratio is 110 dB (A weighting). Like the Beta V, the Alpha V uses three-conductor Cannon-type connectors. It measures about 9 x 19 x 17 inches and weighs about 60 pounds. Price: \$3,000.

Circle 115 on reader service card

Audio-Technica's Free Microphone Booklet

□ *A Brief Guide to Microphones* is a new booklet being offered by Audio-Technica, which now markets microphones together with phono cartridges and other products. It provides a general description of the operation of most microphones and has eight sections covering microphone types and characteristics. It begins by explaining the differences between dynamic and condenser microphones and between omnidirectional and unidirectional (cardioid) types. It goes on to discuss microphone impedance, feedback effects, sensitivity, and the proximity effect. The booklet has fifteen pages and many illustrations. It is available free from Audio-Technica dealers or from Audio-Technica, 33 Shawnee Avenue, Fairlawn, Ohio 44313.



Revox Announces a New Open-reel Deck

□ The Revox B77 is the new semi-professional open-reel tape recorder from Studer-Revox, joining Models A77 and A700 in the manufacturer's line. The B77 has a direct-drive servo-controlled capstan with 7½- and 3¾-ips tape speeds and is available with a quarter- or half-track head assembly. The B77 has full electronic-logic pushbutton control of tape motion. It also includes a tape-cutting/editing jig on its front panel. The input circuitry of the B77 can handle a large range of input voltages—it takes up to 24 dB (over 0 dB VU) before overloading—so that its overload limitations are really those of the tape. Bias-oscillator frequency is 150 kHz. The front panel has large recording-level meters with VU characteristics, as well as LED's to indicate overload. The microphone inputs take sources with impedances of 600 ohms or higher; the headphone outputs drive 600-ohm or greater impedances.

Rated frequency response of the B77 is 30

to 20,000 Hz +2, -3 dB at 7½ ips, and 30 to 16,000 Hz +2, -3 dB at 3¾ ips. At 7½ ips the signal-to-noise ratio is 66 dB in the half-track format (DIN A weighting). The record-playback total harmonic distortion is under 1 per cent, and wow and flutter are below 0.1 per cent. Maximum speed deviation is ±0.2 per cent. There are special design features to enhance reliability in studio use—for example, it is possible to field-replace all components without soldering. The B77 is housed in a portable polypropylene case with a fold-out carrying handle, the dimensions of which are 16¼ x 18 x 8 inches. Weight is 38 pounds. A soft cover is available. Price: \$1,195.



Bib Device for Disc-static Neutralization

□ Among several new products from Bib Hi-fi Accessories, Inc. is an anti-static gun, the Model 106 (shown). It is used to remove the static electrical charge from disc surfaces, and it is provided with a small electroscope for observing the degree of charge on the disc surface. Also included with the gun is a foam pad for wiping neutralized dust off the record surface.

Another Bib accessory, the Model 150, is a tape-care kit including accessories for cleaning tape heads and splicing cassette tapes. The 150 has a head-cleaning tool with an adjustable probe that permits the user to clean the often hard-to-reach tape heads in cassette recorders. A small dentist's mirror is included for checking the status of the head, as are extra cleaning pads and 22 cubic centimeters of cleaning fluid. The cassette-tape splicer includes a jig for holding the cassette in position as well as a razor cutter and a supply of splicing tape.

Bib is also announcing the Model 44, a leveling device for turntables that fits over the turntable spindle, and the Model 110, a dust-removing brush. Prices for the new products are \$15 for the 110, \$9.95 for the 150, \$24.50 for the 106, and \$4.95 for the 44.

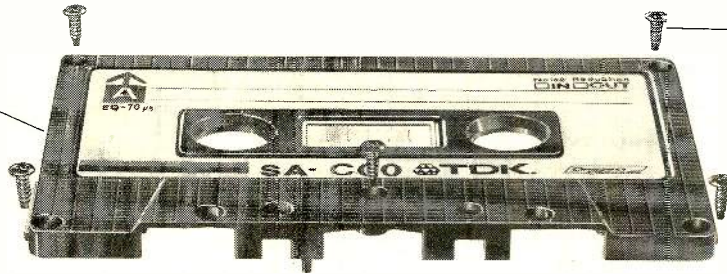
Circle 116 on reader service card

(Continued on page 16)

To get a superb performance, you need a precision machine.

To command a great performance, a cassette shell and cassette tape must be engineered to the most rigorous standards. Which explains why we get so finicky about details. Consider:

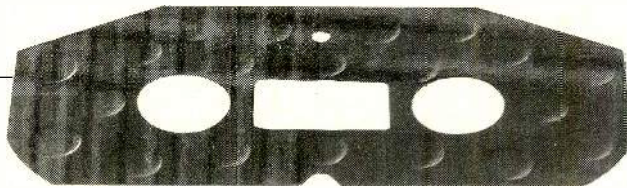
Precision Molded Cassette Shells—are made by continuously monitored injection molding that virtually assures a mirror-image parallel match. That's insurance against signal overlap or channel loss in record or playback from A to B sides. Further insurance: high impact styrene that resists temperature extremes and sudden stress.



Five-Screw Assembly—for practically guaranteed warp-free mating of the cassette halves. Then nothing—no dust or tape snags—can come between the tape and a perfect performance.

Perfectly Circular Hubs and Double Clamp System—insures there is no deviation from circularity that could result in tape tension variation producing wow and flutter and dropouts. The clamp wedges the tape to the hub with a curvature impeccably matched to the hub's perimeter.

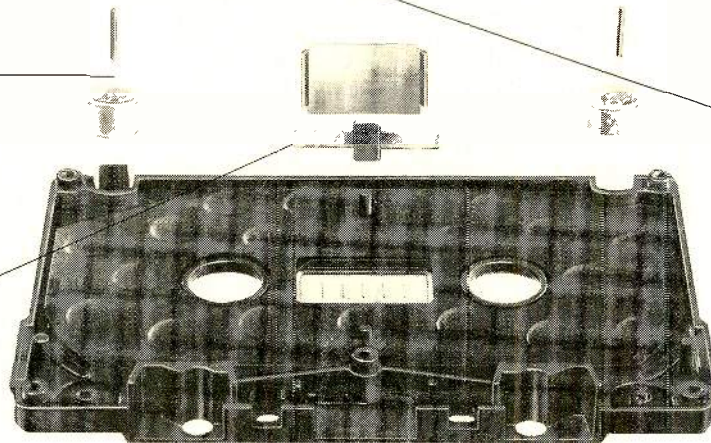
An Ingenious Bubble Surface Liner Sheet—commands the tape to follow a consistent running angle with gentle, fingertip-embossed cushions. Costly lubricants forestall drag, shedding, friction, edgewear, and annoying squeal. Checks channel loss and dropouts.



Head Cleaning Leader Tape—knocks off foreign matter that might interfere with superior tape performance, and prepares the heads for...



Tapered, Flanged Rollers—direct the tape from the hubs and program it against any up and down movement on its path towards the heads. Stainless steel pins minimize friction and avert wow and flutter, channel loss.



Our famous SA and AD Tape Performance—two of the finest tapes money can procure are securely housed inside our cassette shells. SA (Super Avilyn) is the tape most deck manufacturers use as their reference for the High (CrO₂) bias position. And the new Normal bias AD, the tape with a hot high end, is perfect for any type of music, in any deck. And that extra lift is perfect for Dolby tracking.

Resilient Pressure Pad and Holding System—spring-mounted felt helps maintain tape contact at dead center on the head gap. Elegant interlocking pins moor the spring to the shell, and resist lateral slipping.

TDK Cassettes—despite all we put into them, we don't ask you to put out a lot for them. Visit your TDK dealer and discover how inexpensive it is to fight dropouts, level variation, channel loss, jamming, and other problems that interfere with musical enjoyment. Our full lifetime warranty* is your assurance that our machine is the

machine for your machine. TDK Electronics Corp., Garden City, N. Y. 11530. Canada: Superior Electronics Ind., Ltd.

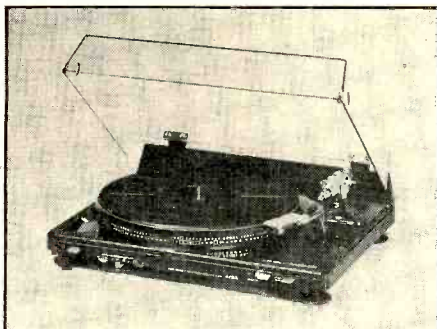


The machine for your machine.

*In the unlikely event that any TDK cassette tape ever fails to perform due to a defect in materials or workmanship, simply return it to your local dealer or to TDK for a free replacement

CIRCLE NO. 56 ON READER SERVICE CARD

New Products latest audio equipment and accessories



Aiwa Turntable Will Activate Cassette Decks

□ Aiwa's new model AP-2200 is a direct-drive semi-automatic turntable with a unique switching feature that can automatically turn several of Aiwa's cassette decks on for recording at the beginning of the record-playing cycle. The AP-2200 also has its operating controls mounted on the front of the turntable base so that it can be operated with the dust cover in place. It is a two-speed unit (33 $\frac{1}{3}$ and 45 rpm) with a pitch adjustment covering a range of ± 3 per cent. The high-density base is synthesized of a ceramic-resin material said to reduce vibration, and it is mounted on adjustable rubber feet.

The AP-2200 has 0.035 per cent wow and flutter (wrms) and a rumble level of -70 dB. Approximate dimensions are 4 $\frac{3}{4}$ x 16 $\frac{3}{4}$ x 14 $\frac{1}{4}$ inches, and the unit weighs about 15 pounds. Price: approximately \$200.

Circle 117 on reader service card



Heath Announces New AM/FM Receiver Kit

□ The AR-1429 is Heath's latest stereo receiver. It features an adapter for an external Dolby decoder for FM broadcasts (a plug-in decoding circuit, the AD-1504, is available from Heath) which can be connected to the AR-1429 internally. A switch on the front panel adjusts the tuner de-emphasis from 75 to 25 microseconds for use with the decoder. There are preamp-out, power amp-in jacks on the rear panel so that signal-processing equipment can be put in the signal path. Signal-strength and channel-center meters are included on the front panel.

The AR-1429 is rated at 35 watts per channel continuous power into 8 ohms. Total harmonic distortion is under 0.1 per cent for any frequency from 20 to 20,000 Hz, and intermodulation distortion is less than 0.2 per cent. The signal-to-noise ratio at the phono input is 65 dB for a 2-millivolt input signal. Key FM specifications include a usable sensitivity of 1.8 microvolts (μV), equivalent to 10.3 dBf, and a 50-dB quieting sensitivity of 4 μV (17 dBf) in mono and 40 μV (37.3 dBf) in stereo. Capture ratio is 1.8 dB, and alternate-channel selectivity is 80 dB. The FM channel separation is 40 dB at 1,000 Hz, 25 dB at 10,000 Hz. FM distortion is under 0.35 per cent in stereo for a 65-dBf input. Dimensions of the AR-1429 are 4 $\frac{3}{4}$ x 20 x 13 $\frac{1}{2}$ inches. Kit price (mail order): about \$320.

Circle 118 on reader service card



Companer Kit from Phoenix Systems

□ Phoenix Systems is offering its model P518-S, a new audio compander for tape recording in kit form. The unit is a full two-to-one compander, offering 2:1 compression on recording and 1:2 expansion on playback. It is not intended to be used as a simple expander for playback only. The P518-S has front-panel pushbutton switches for power and compander mode (record or playback) and a LED which lights whenever the input signal exceeds 0 dBm (1 milliwatt into 600 ohms). The compander circuitry works over the entire audible frequency range (it is not limited to treble only, as are some comparers) and applies compression or expansion to all signals with levels other than 0 dBm. For example, in the compression mode, any signal exceeding 0 dBm in level is attenuated by a factor of two, and any signal with a level of less than 0 dBm is boosted by a factor of two.

The P518-S has a maximum input/output level of 12 dBm, and the maximum output current is 20 milliamperes. Tracking error is ± 0.2 dB. Total harmonic distortion in either the compression or expansion mode is a maximum of 0.3 per cent; however, according to the manufacturer, since the same integrated circuit is used for both functions, most of the harmonic distortion introduced in the recording mode will be canceled on playback. Noise level is -96 dBm (IHF A weighting). The P518-S has approximate dimensions of 2 x 7 x 4 $\frac{1}{2}$ inches. Kit price: \$59.

Circle 119 on reader service card



Two High-efficiency Speaker Systems From Kenwood

□ Two new dynamic speaker systems are available from Kenwood, the LS-407A and the LS-408A (shown). Each is a three-way, vented-box design with a 1 $\frac{3}{4}$ -inch cone tweeter and a 4 $\frac{3}{8}$ -inch mid-range; the LS-407A has a 10-inch woofer and the LS-408A a 12-inch woofer. The tweeter employed in both models has a one-piece cone-and-dust-cap construction. Continuously variable level controls adjust the output of the tweeter and mid-range within ± 3 dB.

The key specifications for both speakers are very similar: frequency response is 48 to 20,000 Hz ± 3 dB, nominal impedance is 8 ohms, and sensitivity is 93 dB sound-pressure-level output for a 1-watt input measured at a distance of 1 meter. For the LS-407A, input power of 20 to 120 watts is recommended; 20 to 160 watts is the recommended amplifier range for the LS-408A. Dimensions are 25 $\frac{3}{4}$ x 15 x 12 $\frac{1}{2}$ inches for both speakers. Price of the LS-407A is \$180; of the LS-408A, \$250.

Circle 120 on reader service card



Panasonic's Auto Sound Equipment

□ Panasonic has announced a new line of amplifiers, tuners, and cassette and cartridge players for use in automobiles. The line includes two cassette players and an eight-track cartridge player, each with under 0.3 per cent wow and flutter (wrms) and 4.8 watts per

(Continued on page 18)

THE FIRST CAR SPEAKER SYSTEM THAT YOU CAN FEEL RIGHT AT HOME WITH.

Up until now, there have been car speakers and there have been home speakers, but quite frankly, they've been in two different leagues.

We decided to change that. We designed the LS70, a 6" x 9" speaker, to meet the same high standards we set for our much acclaimed EPI 70 loudspeaker.

The result is a car speaker that performs like no car speaker ever performed. You get remarkably clear, accurate, "Linear Sound" as well as dispersion that other speaker manufacturers can only dream about.

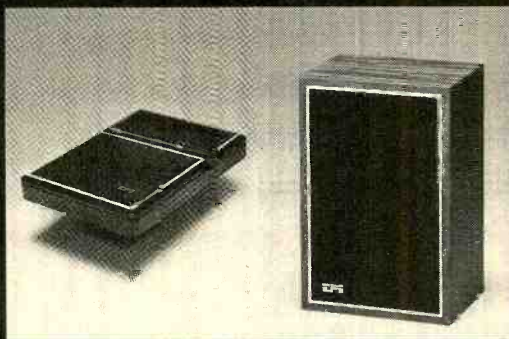
WHAT OTHER CAR SPEAKERS DO WRONG.

In the interest of saving space, most all car speaker manufacturers do something you'd never do with a home speaker — they use an oval woofer.

The problem is that an oval woofer inherently distorts, so right off the bat they're in trouble.

Another problem arises from the traditional co-axial or tri-axial automobile speakers.

In order to conserve space, manufacturers of these speakers literally



LS70 Car Speaker

EPI 70 Home Speaker

stack the tweeters and mid-ranges in front of the woofer. Unfortunately, this blocks and colors sound, causes distortion and impairs dispersion.

WHAT WE DO RIGHT.

First of all, we use a low-mass, 6" round woofer so you can't get the distortion you'd get with an oval.

Secondly, it sits right next to our famous 1" air-spring tweeter, just the way it does in a home system; nothing comes between you and the sound.

Finally, we build LS70's to handle up to 60 watts RMS per channel. Other car speakers blow up at considerably less than this.

LS70's really have to be heard to be believed.

But for now, let us leave you with this last bit of advice:

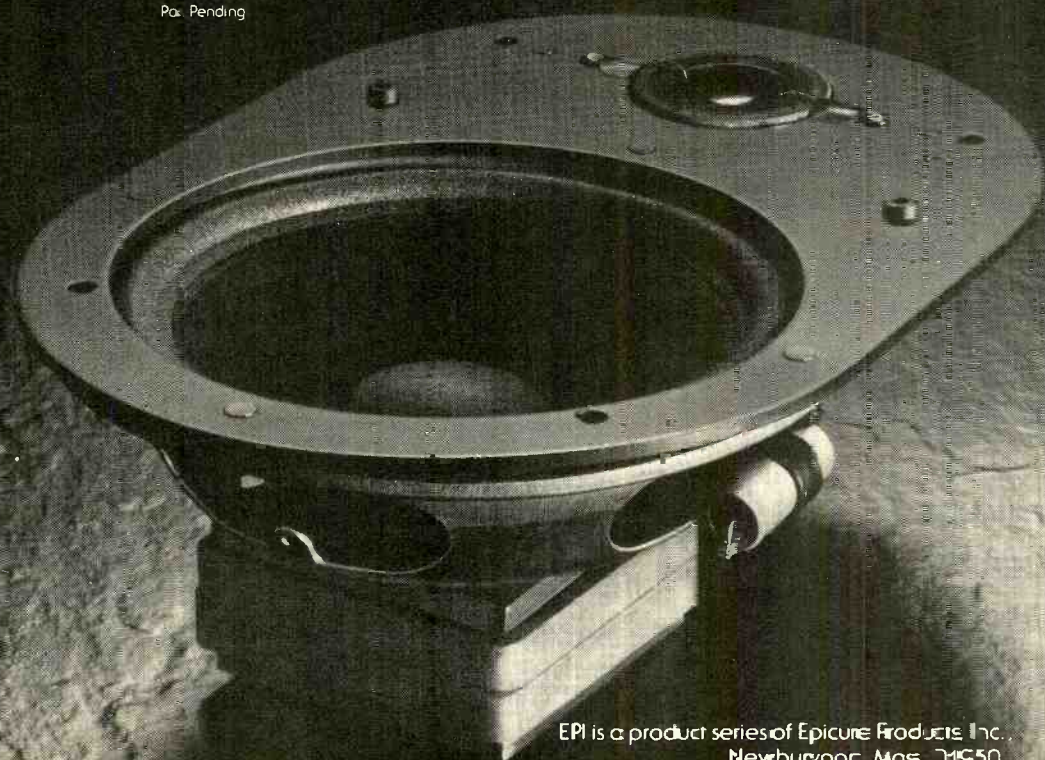
If you do decide to go with LS70's, and you ever sell your car, be sure to hang on to the

speakers; even if you never get another car — they'll still sound awfully nice in your den.

	LS70	EPI 70
Frequency Response	70-20KHz	60-20KHz
Crossover	1800 Hz	1300 Hz
Dispersion	Nearly hemispherical in musical range	Nearly hemispherical in musical range
Tweeter	1" air-spring	1" air-spring
Woofer	6" long traverse	6" long traverse
Impedance	8 Ohms nominal, 4 Ohms D.C.	8 Ohms nominal, 4 Ohms D.C.
Grille	Acoustically transparent perforated metal	Acoustically transparent matte-black foam

Pat. Pending

EPI
LS70
CAR SPEAKER



EPI is a product series of Epicure Products, Inc.
Newburyport, Mass. 01950.

CIRCLE NO. 18 ON READER SERVICE CARD

New Products latest audio equipment and accessories

channel of output power into 4 ohms at 10 per cent total harmonic distortion. The tape players all have separate tone controls for each channel. The top-of-the-line unit, the CX-7100 cassette player (shown), features an auto-reverse function and lockable fast-forward and rewind; other features, such as one-lever operation for transport control, are shared by its companion tape players, the CX-5100 and CX-1100. Dimensions of all three tape players are about 2½ x 7¾ x 5½ inches.

The CA-9500 is a new AM/FM stereo tuner with front-panel indicator lights for AM, FM, and stereo FM, as well as a DX-local switch that serves as an attenuator for high-level input signals from nearby stations. It has a slim front panel measuring about 1½ x 7½ inches (depth is 6 inches) and an on-off switch; the CA-9500's output is used to drive the amplifier in one of the cassette players.

For added power output Panasonic is offering a booster amplifier, the CJ-3510, which is rated at 10 watts per channel into 4 ohms at 1 per cent total harmonic distortion. Input impedance is 4 ohms, so that it can accept the output of one of the tape players. The CJ-3510 has bass and treble tone controls as well as an indicator lamp and an on-off switch that removes the amplifier from the signal path if added power is not desired. Dimensions are about 4 x 2¾ x 7½ inches.

Prices are about \$110 for the CX-7100, \$80 for the CX-5100, \$60 for the CX-1100, \$80 for the CA-9500, and \$80 for the CJ-3510. All are designed to work on 12-volt negative-ground systems.

Circle 121 on reader service card



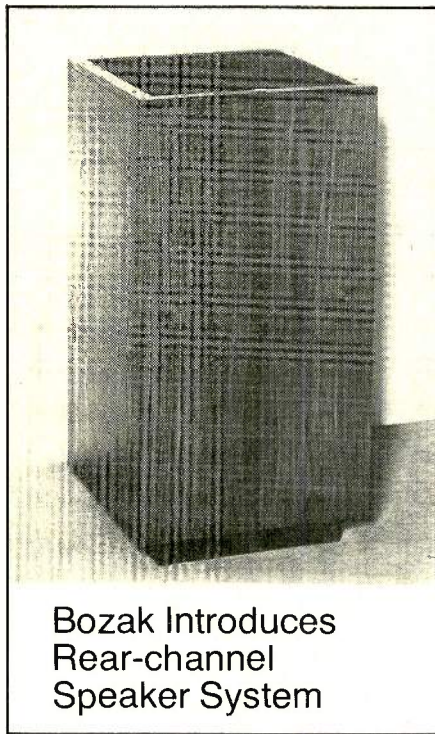
New Version of AR Turntable

□ AR's new AR77-XB belt-driven turntable features their well-known suspension system in which the platter and tone arm are mounted on a sub-platform isolated from the base (and motor) by damping springs. New features include a low-mass head shell and viscous-

damped cueing. The tone arm, balanced in all planes, has an effective length of 9 inches and an effective mass of under 10 grams.

The AR77-XB, with speeds of 33⅓ and 45 rpm (manually changed), has 0.03 per cent wow and flutter, and a rumble level of -65 dB (DIN B weighting); it is guaranteed to meet NAB specifications. Maximum tracking error is 0.32 degree per inch. Tracking force is infinitely adjustable from 0 to 5 grams. Approximate dimensions are 5½ x 16¾ x 13 inches, and weight is 13 pounds. A tracking-force gauge, stylus-overhang gauge, screwdriver, and connecting cables are included, as is the walnut-veneer base. Price: \$150. The turntable is also available fitted with a Shure M91ED phono cartridge for \$175.

Circle 122 on reader service card



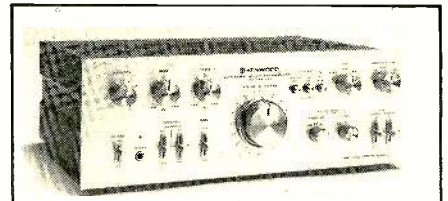
Bozak Introduces Rear-channel Speaker System

□ The Model B-1207 "Celestovox" is a new loudspeaker system from Bozak designed specifically for use as a rear-channel speaker in an ambience-synthesis system. The Celestovox is explicitly intended to operate with the Model 900 "Celeste," Bozak's time-delay unit. The coaxial driver, consisting of a 12-inch woofer and two 2-inch cone tweeters crossed over at 2,500 Hz, is mounted facing upward at an angle of 15½ degrees off the vertical; the columnar enclosure is an infinite baffle. The speaker is placed next to a wall with the drivers facing it; the sound then reflects off the wall and ceiling into the listening area. There is a three-position high-frequency rolloff control with settings of normal, medium, and high attenuation (approximate nominal values are 0, -5, and -10 dB, respectively). The frequency response of the

Bozak B-1207 Celestovox is 40 to 20,000 Hz.

Amplifiers of up to 70 watts per channel continuous power are recommended; 15 watts is the minimum input. Nominal impedance is 8 ohms. The walnut-veneer cabinet measures 30 x 15 x 15 inches. Weight is 60 pounds. Price: \$197.50.

Circle 123 on reader service card



Phono-preamp Gain Switching in Kenwood Amplifier

□ The KA-8100, Kenwood's latest addition to its line of direct-coupled integrated amplifiers, has a switch for adjusting the gain of its phono-input stages over a ±10-dB range. This feature permits the amplifier to accept the small inputs of certain moving-coil phono cartridges when set to +10 dB. The loudness-compensation facility on the KA-8100 has two switchable bass-boost turnover frequencies, 50 and 100 Hz; in addition, the degree of bass (and extreme treble) boost is adjustable. The bass and treble tone controls also have switchable turnover frequencies of 150 and 400 Hz (bass) and 3,000 and 6,000 Hz (treble). The tone controls may also be switched out of the signal path entirely. An 18-Hz subsonic filter is provided along with low- and high-frequency filters. The KA-8100 has two phono inputs; the tape-handling facilities (for two decks) include a tape-through circuit for using the amplifier to dub from one deck to another while it is playing a third program source.

The KA-8100 is rated at 75 watts per channel into 8 ohms. Total harmonic distortion is no more than 0.03 per cent and intermodulation distortion is also 0.03 per cent or less. The input sensitivity of the phono input is 2.5 millivolts (mV) in the standard mode, and the signal-to-noise ratio is 85 dB. With the gain switch in the +10 position sensitivity is about 0.8 mV and the signal-to-noise ratio is about 75 dB. Approximate dimensions are 6 x 17 x 15¼ inches. Price: \$375.

Circle 124 on reader service card

NOTICE: All product descriptions and specifications quoted in these columns are based on materials supplied by the manufacturer.

Recent fluctuations in the value of the dollar will have an effect on the price of merchandise imported into this country. Please be aware that the prices quoted in this issue may be subject to change.

Introducing the new TDK testing machines.

When TDK created a series of cassette test tapes, we approached them as integral components, with both tape and housing engineered as precisely as sophisticated test instruments.

You'd expect that from the makers of TDK SA, the High bias reference standard for most manufacturers of quality cassette decks.

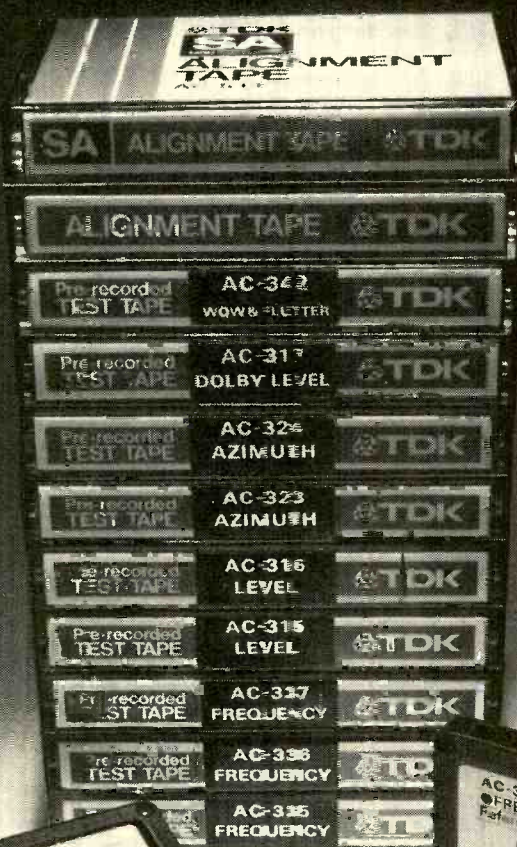
TDK test tapes are loaded into the same Super Precision Cassette Mechanism as our well-known and respected SA and AD cassettes. That means they don't jam, and they're dropout-free. They're built to last under unceasing use. The audio lab critics, dealer service managers, cassette deck manufacturer quality control engineers, and discerning audiophiles who use them, demand that kind of precision and reliability.

To make absolutely sure they get it, each TDK test cassette is recorded one-to-one, in real time. We then test our test cassettes, one by one, to guarantee against slip-ups.

There's a TDK test cassette for any test or setup task: bias/EQ alignment; playback level calibration; Dolby calibration; head azimuth alignment; wow and flutter and tape speed and 11-, five- and three-point frequency characteristics tests.

You see, TDK is more than just another tape company. Our trend-setting cassette tapes are the result of over 40 years history in the design, manufacturing and engineering of advanced electronic products, from the critical ferrite parts which make up your cassette deck, to audio tapes to test tapes to video tapes.

Check out the complete line of TDK test tapes. And, if you haven't done so already, pick up our SA and AD cassettes next time you visit your audio dealer. You'll discover for yourself that the same TDK quality and reliability that goes into TDK test tapes applies all the way down the line.



TDK
World leader in tape technology.

TDK Electronics Corp., 755 Eastgate Boulevard, Garden City, New York 11530. (800) 695-3358

CIRCLE NO. 57 ON READER SERVICE CARD

FREE

details... **A DIFFERENT KIND OF RECORD CLUB**

You can now own every record or tape that you may ever want... at tremendous savings and with no continuing purchase obligations. You can get valuable free dividend certificates, you can get quick service and all the 100% iron-clad guarantees you want.

Now you can stop price increases that leave you with less music for your record and tape budget. You can guarantee yourself more music for less money through membership in Discount Music Club.

Look at these benefits:

TREMENDOUS SAVINGS

on every record and tape in print—no "agree-to-purchase" obligations of any kind.

DISCOUNTS OF 43% TO 73%

off mfg. suggested list... special catalog features hundreds of titles and artists.

ALL LABELS AVAILABLE

including most imports through special custom ordering service. If we don't stock it we'll get it for you.

SCHWANN CATALOG

lists thousands of titles; classical, pop, jazz, ballet, opera, musical shows, folk, rock, vocal, instrumental, country, etc.

DISCOUNT DIVIDEND CERTIFICATES

Dividend Gifts—Every shipment carries a dividend gift or dividend certificate. Certificates redeemable immediately for extra discounts.

NEWSLETTERS

happenings in the world of music; concerts, critiques, new releases... special super-sale listings at discounts of up to 73%.

DISCOUNT ACCESSORY GUIDE

Diamond needles, cloths, tape cleaners, etc. Discount Music Club is your complete one stop music and accessory buying service.

QUICK SERVICE

same day shipping on many orders... rarely later than the next several days. Partial shipments always made in the event of unforeseen delay... all at no extra cost to you.

100% IRON-CLAD GUARANTEES

on all products and services. Everything is guaranteed factory fresh and free of defects or damages of any sort. Your total satisfaction is unconditionally guaranteed.

Discount Music Club is a no-obligation membership club that guarantees tremendous discounts on all stereo records and tapes and lets you buy what you want... when you want... or not at all if you choose.

These are just a few of the money-saving reasons to write for free details. You can't lose so why not fill out and mail the coupon below for immediate information.

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650 Main Street, New Rochelle, N.Y. 10801

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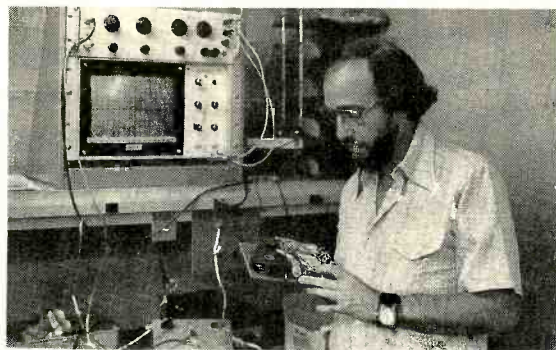
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ZIP

CIRCLE NO. 14 ON READER SERVICE CARD

Audio Q. and A.

By Larry Klein



CU's Test Reports

Q. I've heard various opinions about the validity of the Consumers Union test reports on audio equipment published in their magazine Consumer Reports. What is your feeling about them?

C. WATKINS
New York, N.Y.

A. In general, I think CU's reports are valid and perform a legitimate service. However, as you may be aware, both Julian Hirsch and I have in the past taken strong exception to some of their test procedures and results.

All test laboratories share certain problems, regardless of their particular procedures or the sophistication of the test equipment they use. In analyzing any piece of audio equipment, it is easy to come up with enough test data to fill a looseleaf notebook to overflowing. But these data must be analyzed—insofar as is possible—for their audible significance under normal-use conditions. Many scope photos, instrument readings, graphs, and curves have a direct bearing on what a consumer would hear the equipment doing under given circumstances, but I suspect that most of our hypothetical book of measurements would be totally irrelevant as a guide to sound quality. Irrelevant for either or both of two reasons: (1) the figures might be as much as ten times better or worse and no audible difference would be heard and (2) the test technique may be measuring a factor that has no bearing on sound quality whatsoever. A product with, say, 0.001 per cent harmonic distortion falls into the first category, and you can choose—depending on your point of view—among a number of other old and new "distortion" sources (TIM, speaker-phase incoherency, slew rate, Doppler, etc.) to represent the second category.

In other words, it isn't the accuracy of the data collected by the test labs that is usually in question, but rather the specific "weighting" or relative importance attached to each bit of data in the overall evaluation of the product. Obviously, a sports-car buff is going to have a different set of criteria for a vehicle than a Pinto driver. And in many other areas of life as well, judgment of relative quality or personal preference depends in large part on mostly unexpressed predispositions, values, and assumptions. I am not going to tell an au-

diophile that he made a stupid purchase by paying, say, \$2,000 for a given power amplifier when in my view he could have bought the same audible performance in some other brand for about half that price. The extra thousand dollars probably paid for a thick, beautifully engraved panel, industrial computer-grade components, under-chassis construction that looks like a work of art, ultraprecise power meters, and a measured performance far better than the threshold of sensitivity of the human ear. All of this has a large value for some individuals, for the same reason that a Rolls Royce or a very expensive sports car has special value for others. The analogy between the two special interests is not perfect, however, because an audiophile is likely to insist that his very expensive amplifier also *sounds* better than the less expensive unit. Most probably it doesn't.

The question really divides into two parts: Does STEREO REVIEW agree with CU's techniques for gathering their "raw" audio-equipment test data and does it agree with CU's interpretation of it? The answers are "usually yes" and "frequently no."

Disc-speed Equalization

Q. A while ago I was thinking about the fact that tape decks use different equalizations and bias for different tape speeds. Then it occurred to me that record playing must have a similar problem. The outer part of a 33 $\frac{1}{3}$ -rpm record is moving by the cartridge at about 52 cm/sec, whereas the inner part of a record is going by at about 24 cm/sec. Now, how can a cartridge respond consistently over this range of speeds, or is there some variation in the cartridge's audio-signal output, distortion, frequency response, etc?

JERRY DI MARCO
Bozeman, Mont.

A. You are right; the tape- and record-speed situations are somewhat similar. In each case, the speed of the medium going past the "reading" device (tape head or phono cartridge) has a great deal to do with how easily high-frequency information can be stored and recovered. For many years, treble boost had been automatically applied to the audio signal in increasing amounts as the cutting head ap-

(Continued on page 22)

HITACHI

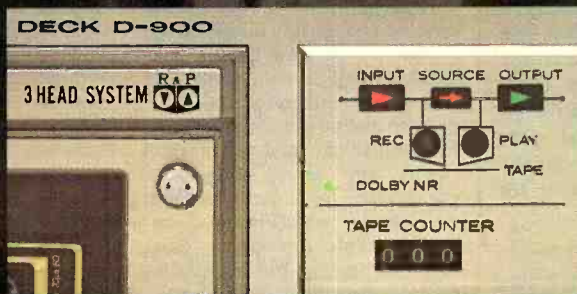
The New Leader In Audio Technology



...introduces the unique
R&P 3-head system cassette deck
for no-compromise performance.

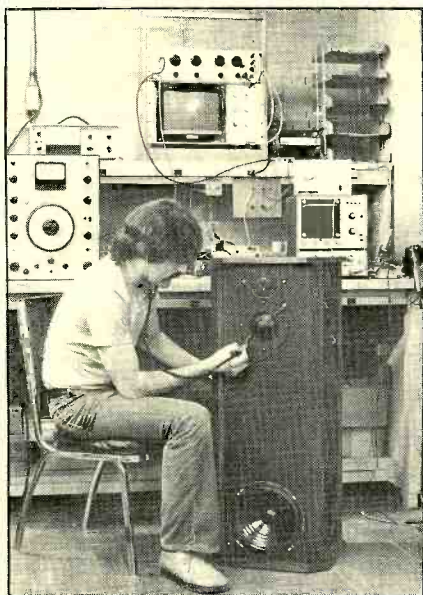
Hitachi's R&P system employs 3-heads for the same reasons professional reel-to-reel recorders do. The record and playback heads have separate and optimum gap widths which significantly extend both dynamic range and frequency. The R&P 3-head system also lets you monitor while recording. All three heads are contained in one unique housing to eliminate azimuth and height problems.

R&P 3-head system cassette decks are just one example of Hitachi's leadership in audio technology. Class G amplifiers, power MOS/FET amplifiers, Uni-torque turntable motors, and gathered-edge metal-cone speakers are just some of the others. There's a lot more. Ask your Hitachi dealer.



HITACHI
When a company cares,
it shows.

Used loudspeakers



Every Allison speaker system you buy as new has actually been "used" for 20 minutes to a half hour. Spending this much time on our test program gives us the confidence to publish a most complete set of specifications for our products, and to provide a full warranty that every one will meet those specifications within ± 2 dB for at least five years.

To that end, we manufacture all our drivers and crossover networks ourselves. (Most of our competitors do not.) We test every driver and every crossover board (not just a random sample) to a set of close-tolerance standards. Only those that meet the standards are installed in cabinets. Then every completed system must pass another long series of performance tests, before the cabinet gets its final coat of oil finish, a careful visual inspection, and is packed for shipment.

We don't have to guess what's inside our shipping cartons. We **know**. If you too would like to know, we'll be glad to send you our free 10-page catalog on request. It includes complete specifications and a statement of Full Warranty for Five Years.

ALLISON ACOUSTICS

7 Tech Circle, Natick, Massachusetts 01760

Audio Q. and A. . . .

proached the inner-groove area. The technique was known as "diameter equalization," and it was used in addition to the RIAA equalization. But although it compensated to some degree for treble loss at the inner radii of the disc, it also unfortunately increased IM distortion and aggravated the usual inner-groove tracking problems.

I suspect that the record-cutting engineers as a group breathed a loud sigh of relief when hot-stylus cutting came into wide use. The technique employs an electrically heated cutting stylus that provides a 1- to 2-dB improvement in response above 9,000 Hz. Better yet, the hot stylus provides a 10- to 20-dB improvement in the signal-to-noise ratio in the grooves from about a 6-inch to a 4-inch disc radius. So, although there is some loss, most recording companies today do not find it severe enough to risk the other problems that could well result from inner-groove frequency-compensating equalization.

Integrated vs. Power Amplifiers

A. *Considering the vast improvements that have been made recently in integrated amplifier specifications, what degree of difference could be heard between a top-rated integrated amplifier and some of the separate super-power amplifiers, assuming that the reference speakers were efficient enough to be used with either the lower or higher power amps?*

DAVID DUNCAN
Penticton, British Columbia

Q. This is one of those "simple" questions that when asked of ten people are likely to produce fifteen conflicting answers. Here's mine. Assuming, as you seem to, that the separate preamplifier and built-in preamplifier of the integrated amplifier are identical, and that the separate power amplifier and built-in power amplifier are reasonably similar, and further assuming that the amplifiers are never being overdriven (clipped), then no significant differences will be heard. However, there are too many assumptions involved here for the question—or my answer—to be terribly meaningful.

The real question behind your question is: in what *significant* ways might A and B (referring to the integrated unit vs. the separate preamp and power amplifier) *not* be identical? For one thing, random interface effects between any given phono cartridge and preamplifier input can result in high-frequency response variations that are immediately audible. This, of course, is not a power-amplifier factor—but it could easily be mistaken for one. It is also true that certain amplifiers react peculiarly to certain types of speaker loads. This is not a problem with the vast majority of either amplifiers or speakers, but there are some speakers employing esoteric driver elements, transformers, or auto-transformers that can cause problems with some amplifiers. And other amplifiers don't like the capacitive loading applied by some special speaker cables.

In my view, the main factor that is going to make amplifiers sound different is their power

reserve—or lack of it. As has been pointed out elsewhere, with a medium-efficiency acoustic-suspension system, background music might require peaks of 20 watts, normal loud listening takes about 20, and loud disco levels easily require 200 watts and more. When the required amplifier power reserve isn't available, the sound seems compressed and lacks openness—assuming that severe clipping distortion is not taking place. I'm aware that there are some very powerful integrated amplifiers (and receivers) available, but in general such units do tend to be lower in power than separates. What it all comes down to is this: when all things are equal, they are; and when they are not, they aren't. Does anyone care to argue the point?

Audiophilia Defined

A. *In discussions with friends, I've been trying to arrive at a definition of "audiophile." Could you provide one since I'm anxious to see how well I fit into the category?*

L. BARTLETT
Los Angeles, Calif.

Q. Over the years, the audiophile's preoccupation with hi-fi equipment has been the butt of many jokes, the subject of much pseudo-Freudian philosophizing, and a contributing factor, I have no doubt, to the disruption of at least a few marriages. (There's the classic, but probably apocryphal, story of the audiophile's wife who when suing for divorce told the judge that her husband's lack of attention had driven her to low fidelity at a high frequency.)

Audiophiles are frequently characterized as suffering from severe means/ends confusions, in that the means (hi-fi equipment) have become more important for them than the ends (music reproduction). However, I find no merit in that observation, simply because the same put-down could be applied equally well to those who row boats in Central Park Lake, hunt, ride horseback, jog, or make love. All of those pastimes—and there are lots more—are now also ends in themselves, when once they were solely means to a specific end.

My experience has been that audiophiles may or may not also be music lovers; I have friends who are as comfortable arguing the merits of various classical conductors as they are discussing the virtues of various semiconductors. On the other hand, we all know—or at least know of—someone who uses several thousand dollars worth of hi-fi equipment mostly to play sound-effects and Mantovani records. And, of course, there are those non-audiophiles who like music, have good equipment, and care not a bit about how it works or why—just so long as it sounds good.

All this leads me to define an audiophile simply as someone who is to some degree interested in the *technical* aspects of musical sound reproduction. The category could be subdivided into Novice, Advanced, and Lunatic Fringe, but that's a subject for some other time.

Because the number of questions we receive each month is greater than we can reply to individually, only those letters selected for use in this column can be answered. Sorry!

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Power at rated Intermodulation Distortion: 87 watts

Signal necessary for 50dB quieting in stereo: 34 microvolts

Stereo separation at 1KHz: 55 dB

I certify that these are the results of my actual measurements made on the above referenced unit. All measurements were made with a line voltage of 120 VAC, a fixed speaker impedance of 4 ohms and an antenna input impedance of 300 ohms. All amplified measurements are made with both channels driven and an average of the two channel is the reported figure.

Leonard H. F. Wood
Technician
Chancellor Chapman
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CIRCLE NO. 44 ON READER SERVICE CARD

By Ralph Hodges



ON NOT TESTING TAPE

STEREO REVIEW has not tested tapes for the past several years, and more than a few people have been asking why. Although the question is simple, an adequate answer involves some relatively complex matters.

In this month's "Technical Talk" column, Julian Hirsch reveals that a laboratory test of a component cassette deck invariably begins with a hunt for the tape or tapes that will do the record-playback performance of the machine justice. Those of you who have followed the evolution of the cassette format for any length of time will realize that what H-H Labs searches for (although indirectly) is a tape whose bias and equalization requirements match the bias and equalization characteristics the machine has been set up to provide. Without this close match, the potential frequency response and/or distortion performance of the tape/machine combination will not be realized, and the test will not truly represent the ultimate capabilities of either.

You might think that test facilities as extensive as those of H-H Labs would be able to establish the specific bias requirements of any given tape—and hence the machine that might best fit them—to a high degree of accuracy. Unfortunately, some of the esoteric equipment required to evaluate tape in this way is rarely found outside the laboratories of tape manufacturers, and even then, although tape manufacturers can usually agree on the *relative* bias requirements of different magnetic products, the *absolute* values are frequently in dispute. This situation has in part contributed to the considerable variance in tape types that are presumably designed to utilize the very same bias and equalization settings on your cassette deck. Data from BASF (see the

accompanying figure) show the wide distribution of bias settings found on the various cassette recorders available.

All this might seem to make the need for tape tests even more acute. It might also make it seem likely that the publication of at least some tape-performance data, however questionable on an absolute basis, would ease the consumer's dilemma of choice at least a little. Perhaps yes, perhaps no. Let's set up a hypothetical tape-testing situation and see why.

A test invariably performed on cassette tapes is the evaluation of the *maximum output level* (MOL) available from the tape at all frequencies before excessive distortion or tape saturation (at high frequencies) occurs. Let's hypothetically evaluate two tapes, Sample 1 and Sample 2, on the basis of this criterion. Sample 1 proves to have good but not exceptional output at low frequencies and "average" output at mid and high frequencies. Its record-playback frequency response, with the machine employing a given bias setting, appears to be admirably flat—out to 15,000 Hz, where it drops off rapidly. Sample 2 tests remarkably strong at low frequencies, slightly above average at mid frequencies, and well above average at high frequencies. However, a frequency-response test utilizing the same bias reveals a rapidly rising high end and a rather "overbright" sound from the cassette as a result. Response remains strong out to beyond 18,000 Hz.

On the basis of these results, which of the two tapes would you pick for your own use? To further complicate your choice, let's say that Sample 1 and Sample 2 are totally identical examples of the same tape! How can the measured differences between them be ac-

counted for? Easily—if we make the assumption that the two samples were evaluated on different cassette *machines*.

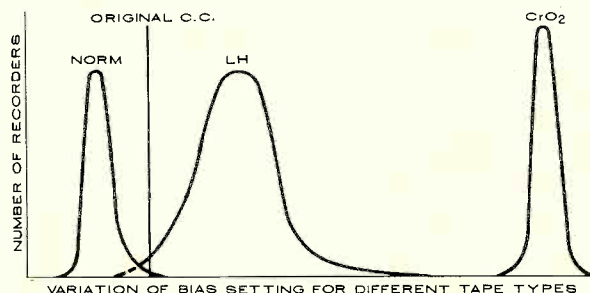
Let's say, for example, that Sample 1 was tested on one of the better two-head cassette decks and Sample 2 on an exemplary three-head machine, and that the tape itself is a generally well-designed product utilizing a rather thick oxide coating. The thick coating offers the potential for very strong output at low frequencies (coating thickness being the key factor at these frequencies), but the two-head machine, employing a record/play head with a relatively narrow gap, cannot penetrate the coating fully with the recording signal to utilize this potential. The separate wide-gap record head of the three-head deck can, and the test results clearly reveal this.

On to the higher frequencies. A thicker oxide coating makes for a comparatively stiff tape that may not provide the best tape-to-head contact under all circumstances. If we assume our cassette has a mediocre pressure-pad system, we can expect losses on the two-head machine to begin at mid-frequencies and become progressively worse at higher frequencies. The net result—a high-frequency rolloff—turns out to be beneficial in the frequency-response measurement: if the tape were making better contact with the record/play head, the high-frequency response would rise instead of remaining flat. On the other hand, the three-head machine employs a dual-capstan tape-drive system that keeps the tape under controlled tension and doesn't depend as much on the pressure pad for good tape-to-playback-head contact. Therefore, although both machines were set up for the same bias, differences in high-frequency output and response have still crept in. And as for the extreme high-frequency response, tape Sample 2 manages to exhibit good output to 18,000 Hz merely by virtue of the three-head machine's narrower playback-head gap.

Now the real question arises: considering that these identical cassettes are completely different animals when different machines are used to evaluate them, which of the machines should be used in the actual testing? The "best" machine, assuming it is the three-head model, is not necessarily the answer. Tape manufacturers can object—and in STEREO REVIEW's experience they have objected—that their tapes are designed for optimum performance with the vast majority of cassette decks in the field, and three-head machines are certainly not numbered among the vast majority. On the other hand, if a "typical" two-head machine is chosen, the objection arises that we are testing (in part) the machine rather than the tape. Finally, either way, we cannot claim to be giving good tape-buying guidance to anyone except the few readers who have machines essentially identical to the ones used in the tests.

In the end, STEREO REVIEW has decided to advise readers to make their own evaluations of cassettes, choosing the one (or ones) that seem to give the most satisfactory results. Buying a representative selection of cassettes for in-home listening tests should not impose an intolerable financial burden, and the "rejects" will certainly work well, if not optimally. In any case, until cassette machines become virtually identical in all aspects of performance, it seems too much to expect that identical cassettes will perform identically on all of them.

Distribution of bias settings among cassette recorders for different tape types. "Original C.C." is Philips' first bias. Note the broad "haystack" distribution for low-noise, high-performance ("LH") ferric-oxide tape.



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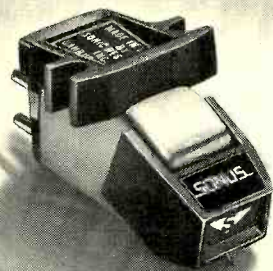
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CIRCLE NO. 49 ON READER SERVICE CARD

Tape Talk

By Craig Stark

Contributing Editor Stark at the control panel of 3M's thirty-two-track digital recorder. The machine is the heart of 3M's \$150,000 mastering system.



MORSE MOZART

UNTIL recently, the key premise of high-fidelity recording and reproduction has been relatively easy to state, though frustratingly difficult to achieve. Whether one is dealing with a pattern of vinyl squiggles on a disc or a pattern of magnetic flux on a length of tape, the rule has been simply this: *the pattern recorded should be an analog of those rapid variations in air pressure that our ears and brains interpret as "sound."* From instant to instant, every pressure variation, however minute, must be turned into a precisely analogous representation in mechanical motion, magnetic flux, or electrical current, or the "fidelity" will suffer.

Our progress in the analog realm has been remarkable, for even the best-trained ears now find it hard, in an A-B demonstration, to distinguish a studio master tape or direct-to-disc original recording from a top-quality cassette copy of it. Yet, trained ears can instantly hear the difference between an original (source) and recorded (monitor) version of a simple 1,000-Hz sine-wave tone fed through the very best studio mastering recorder you can find. The "gritty" or "grainy" quality behind the tone on the tape is unmistakable, and it must inescapably be there (even if we don't hear it distinctly) on even the best analog recordings of music and speech.

In recent years, too, each decibel of improvement in analog recording has become harder to achieve than the last. True, when metal-particle tapes, such as 3M's Metafine IV (and its counterparts from other companies) appear, analog recording will make another quantum leap forward, possibly achieving a state close enough to perfection to suffice for all but the most critical applications. Yet, the *inherent* problems with the analog-recording principle remain. By trying to represent *each and every one* of an infinite number of continuous amplitude variations over the whole 80-dB or so dynamic range of music, the limitations of tape-motional stability in the recorder and of magnetic nonlinearity in the tape conspire to guarantee that we shall capture *none* of those changes perfectly.

Digital recording, on the other hand, abandons the whole idea of a one-to-one copy of reality. It begins by imposing a set of definite limits—on frequency response, on dynamic range, and on distortion, for example. But

within those pre-established limits, it is capable of doing a far better job than any analog technique. Are those predetermined limits good enough? Well, compare the following digital specifications with those of your analog recorder—or of any analog recorder you've ever heard of:

S/N: 85 to 95 dB (without Dolby or any other noise reduction)

Harmonic distortion: 0.03 per cent

Frequency response: 0 to 20,000 Hz ± 0.5 dB (up to and including 0-VU level)

Wow and flutter: unmeasurable

Copy-to-copy degradation: none

I didn't dream up those specs. They're taken from digital recorders available (though in limited quantities) to the professional market right now. The Japanese company Denon, for one, has produced a whole series of discs whose master tapes were recorded digitally on a modified video recorder. Mitsubishi has demonstrated several digital recorders in the last year or so and, in conjunction with Teac and Tokyo Denka, has also shown a few digitally encoded discs and U-Matic cassettes. My colleague Bert Whyte's digital recording of Rimsky-Korsakov's *Capriccio Espagnol*, made with the Boston Pops on a Soundstream recorder, was one of the highlights of the last Audio Engineering Society Convention in New York. There, too, 3M, which has been working with the BBC, introduced both a thirty-two-track digital mastering recorder and a four-track digital mixdown deck.

SINCE theory suggests that there are quite a number of conceivable "systems" for recording music digitally, any description of the process must necessarily be very general. An article by Robert Berkovitz ("Audio's Digital Future") in the July 1977 issue of STEREO REVIEW provides an excellent introductory discussion of digital techniques, but for our purposes a brief, simplified summary will do.

The input signal, on its way to the digital recorder, is first processed to remove any ultrasonic frequencies. Then the amplitude of the to-be-recorded signal waveform is "sampled" at a rate at least twice as high as the highest frequency that remains after filtering (at least 40,000 times per second in the case of 20,000

(Continued on page 29)

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Tape Talk . . .

Hz, for example). The sampling process results in a steady stream of instantaneous signal-waveform values 1/40,000 of a second apart. An analog-to-digital converter expresses these values as numbers—binary numbers—and it is this information rather than the waveform itself that is recorded on the tape.

The playback process recovers the numbers from the tape and checks their accuracy by means of various programmed digital error-detection and correction techniques. With the correct numbers available, the digital-to-analog converter can re-create the signal's instantaneous amplitude values. Of course, what we end up with might look like a picket fence with constantly varying picket heights, but each picket represents the amplitude of the waveform every 40,000th of a second. Another filter following the converter processes these fragments into a smooth, continuous, and remarkably accurate waveform.

Yet, home digital audio recording will come. Memorex's Michael Martin suggested some time ago that, if the need were felt, one could build a home digital recorder—with all the fancy "pro" specs—to sell in the \$1,500 to \$2,000 range. As if to prove it, Sony already has a "black box" digital adapter that can work in conjunction with its Betamax video recorder, though it isn't being offered for sale quite yet. At the present time, since none of the professional formats are compatible, tapes made on one digital recorder cannot be played on another. Happily, however, all the main entrants in the professional area are represented on a committee (chaired by Jay McKnight, president-elect of the Audio Engineering Society) that is already at work establishing standards for professional applications. These standards will be used with consumer machines when appropriate.

I AM convinced that digital recording will in time be as routine in the home as analog is today. If it seems at first almost sacrilegious to chop the music of Mozart up into little Morse-code-like bits, just remember that those bits,

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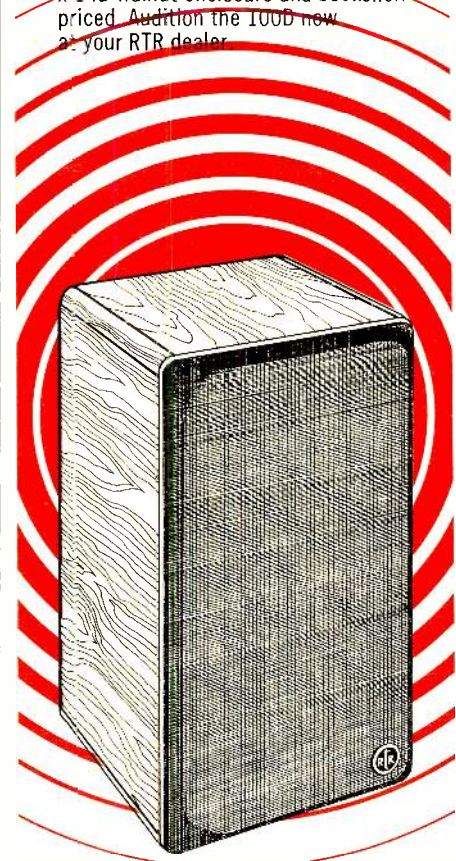
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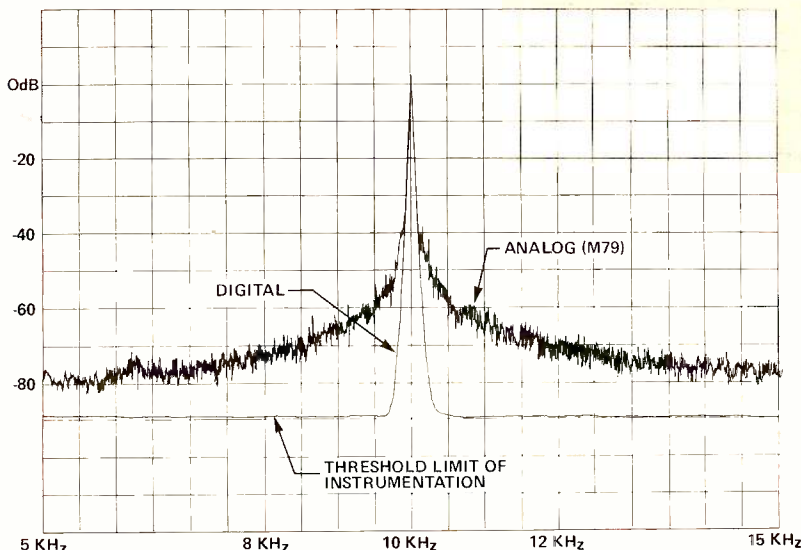
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CIRCLE NO. 36 ON READER SERVICE CARD



The frequency spectra of a 10,000-Hz sine wave recorded by analog and digital methods. The digital recording has a high degree of "spectral purity" (no spurious frequency components); the analog recording is noise-laden largely owing to "scrape flutter."

and the result is sound reproduction so good it has to be heard to be believed. And, as if this weren't enough, when you copy a digital signal, then copy the copy and so forth, there is *none* of the increase in noise and distortion that invariably creeps in with analog dubbing. It's rather difficult to make a mere number "noisy" or "distorted."

All this "near perfection" has its price, of course. The 3M system will set you back about \$150,000 just now, for example, and "simple" two-channel digital recorders are currently priced in the \$15,000 to \$40,000 range. Prices will drop in time, but for the near future, at least, digital decks are likely to find themselves restricted mainly to professional applications.

when reassembled, can bring us closer to the music than was ever possible using conventional analog techniques.

A hundred years before Edison, the philosopher Immanuel Kant argued that so long as we believed that our perceptions had to conform, point by point, to the world external to us, we were never going to reach a satisfactory understanding of it. There's a parallel here, of course, with the difference between analog and digital recording. The analog recording system tries to copy everything exactly, and while it can be very good, it ultimately disappoints us. It seems safe to say—paraphrasing another philosopher—that digital recording is an idea whose time has come. And I, for one, am very pleased to bid it welcome.

By Julian D. Hirsch



● HOW HIRSCH-HOUCK LABS TESTS

TAPE RECORDERS: A basic tape-recorder performance test determines the machine's playback-equalization characteristics as measured with a precision test tape and an a.c. voltmeter. This is usually shown in our test reports as a frequency-response curve. A playback response that perfectly conforms to the established standard will appear as a straight line, and any deviation from this indicates some loss of frequency fidelity in playing back tapes made on other machines. Other tests evaluate overall record-playback performance, including frequency response, distortion, signal-to-noise ratio (S/N), flutter, and various aspects of mechanical operation.

Because so much of the measured performance of a tape recorder (especially a cassette deck) is inseparable from the properties of the tape used in making the measurements, we ask manufacturers submitting machines for review to tell us which tapes they used for rating purposes and to provide test data on the particular sample they give us (together, if possible, with the actual tapes used in the tests). This is almost a necessity if we are to achieve a good correlation between the manufacturer's measurements and our own. Nevertheless, the test data and tapes we request are not always furnished.

Since most of our tape-recorder tests are of cassette machines, I will first describe the cassette test procedures in detail and later mention the few respects in which open-reel-recorder testing differs.

We test all pertinent aspects of a recorder's performance with each type of tape it is designed to use (ferric, CrO₂, or ferrichrome). If no tape was furnished by the manufacturer, we use the recommended tape types (if available) from our own supplies. If, as in most cases, no specific tape is suggested in the instruction manual, we repeat all frequency-response measurements with a number of tapes to find the ones that seem to match the recording-bias level at which the machine is set. If the manual lists several recommended tapes and the suggested bias and equalization settings do not seem to produce the expected results, we repeat the tests with different switch settings, trying to find the optimum conditions. It is not uncommon (unfortunately) for us to have to make frequency-response measurements with six to ten different kinds

of tape before deciding which one shows up the full potential of a given machine.

We first measure the record-playback (R/P) frequency response at recording levels of -20 dB and 0 dB (using a reference frequency of 1,000 Hz). The recorder's own meters are always used to determine levels for this purpose, since we are trying to evaluate the machine *from the user's point of view*. A manufacturer, who can control or measure the magnetic environment of the tape with considerable accuracy, would employ a different approach. With a two-head cassette deck, we first record a few seconds of the 1,000-Hz reference tone at a level of -20 dB. Stopping the tape, we set our General Radio frequency-sweeping oscillator to 20 Hz and simultaneously start the sweep and the tape recorder. The oscillator covers the 20- to 20,000-Hz range in a single logarithmic sweep in about one minute. We then stop the tape deck and rewind the tape to the beginning of the 1,000-Hz reference tone. We connect the playback output to the G-R graphic level recorder, whose chart motion is synchronized to the oscillator sweep (and thus to the recorded signal), and set the system gains for a suitable pen deflection from the reference tone. When the 1,000-Hz tone stops, the chart drive is started and the frequency response is automatically plotted. Following this, we make another recording, this time at a 0-dB level, and its playback is recorded on the same chart used for the -20-dB response.

Cassette recorders inherently require a large amount of high-frequency equalization (boost) during recording to achieve the desired flat frequency response in playback—so

much, in fact, that the tape tends to become saturated at high frequencies even when the recording level at middle and low frequencies is well within the tape's capabilities. This causes the playback curve from a 0-dB-level recording to fall off rapidly, usually somewhere in the 5,000- to 10,000-Hz range. As a rule, the 0-dB and -20-dB response curves will intersect at some frequency above 10,000 Hz, and at higher frequencies the 0-dB recording actually gives *less* audio output than the -20-dB recording. The area between the two curves and the frequency at which they intersect indicate the high-frequency capability of the particular recorder and tape combination. On a given machine, they tell us something about the relative high-frequency performance of different tapes and, with a given tape, they tell us something about the relative amounts of high-frequency equalization used in different recorders (and, by inference, something about the effectiveness of their recording heads).

WITH a typical cassette recorder, we have to make from five to ten such response curves with different tapes, unless the manufacturer has been kind enough to supply us with the requested tapes (and even in that case, we usually test a number of competitive tapes for our own information). Whatever its advantages to the consumer, there is no doubt that the three-head cassette recorder has been a great boon to the tester. With a three-head machine (in which the third head is a true playback head) the R/P frequency response can be plotted in a single pass of the tape by reading the playback output as the recording is being made.

If the machine has the Dolby (or ANRS) system, as all the better ones do these days, we also test the input-output or encode-decode "tracking" of the noise-reduction circuits. Accurate level matching between recording and playback conditions is vital to correct operation of these circuits. A R/P response measurement is made at levels of -20 dB and -40 dB with and without the noise-reduction circuits in operation. Since all these curves are plotted on the same chart, any change in response due to incorrect adjustment or operation of the noise-reducing system can be seen at a glance. Dolby standards allow a 2-dB variation, and cassette decks typically meet this requirement.

Tested This Month

●
Spectro Acoustics 210 Equalizer
Sony PS-X7 Record Player
Dynavector 10A Phono Cartridge
Phase Linear Phase III Speaker
Soundcraftmen MA5002 Power Amp

Other measurements are made, without the chart recorder, using a single-frequency test signal. With the recorder's gain set to maximum, we measure the level of the 1,000-Hz input needed to give a 0-dB meter reading from both the line and microphone inputs. The microphone-input overload is measured by reducing the microphone gain and increasing the input level until the waveform at the playback output begins to clip.

We measure the playback output from a 1,000-Hz, 0-dB recording using samples of the tapes for which the recorder is designed (for example, ferric oxide, chromium dioxide, and ferrichrome as applicable). The third-harmonic distortion in the 0-dB playback from each tape is measured with a Hewlett-Packard spectrum analyzer. We increase the recording level in small increments to determine what input level results in a 3 per cent reference level for playback distortion. This 3 per cent point is generally considered to indicate the maximum recording level for any given machine/tape combination. (If the recorder has a limiter, we also measure the playback distortion from recording levels of +10 and +20 dB with the limiter in use.)

NEXT we record a short section of the 1,000-Hz tone at 0 dB, then reduce the input level to nothing and continue to record. During playback, we note the drop in output (expressed in decibels) when the tone stops. Adding to this figure the number of decibels (above the 0-dB meter reading) that were needed to reach 3 per cent playback distortion, we get the unweighted signal-to-noise (S/N) ratio of that machine/tape combination.

This measurement is repeated with two different weighting filters and also with the Dolby system in use. Both the IEC "A" and the CCIR/ARM weighting curves reduce the low- and high-frequency signals reaching the measuring meter. Since these frequencies are less audible than the middle frequencies, the weighted S/N is supposed to be more indicative of how noisy the machine will actually sound. The IEC weighting gives the "best" overall S/N numbers; the CCIR/ARM weighting gives a reading closer to an unweighted measurement, but shows the noise reduction of the Dolby system to better advantage. We also measure the noise increase through the microphone input at maximum gain (with a 2,000-ohm input termination) relative to the noise level through the line inputs.

The ballistic properties of the recorder's meters are checked with a 0.3-second, 1,000-Hz tone-burst signal repeated once per second. When the meters are set to read 0 dB on a steady-state signal of the same amplitude, the meter indications on the burst signal will be within 1 per cent of the steady-state value if the meters have true VU characteristics (very few do). Slow meter response and overshoot easily show up in this test.

With the exception of the flutter measurement, none of the following tests require making a recording. The flutter measurement really should be a playback-only measurement, since flutter is added to the tape both when a recording is made and again (in a random relationship) when it is played back. Over the years we have acquired a number of flutter-test cassettes, each of which has been claimed to be "state of the art" (meaning its recorded tone is as free of flutter as possible) and thus better than its predecessors. Be that as it may, all the tapes give very different readings, and

when we make a combined R/P flutter measurement (which should give a higher reading than a true flutter measurement) we frequently obtain a lower reading.

Flutter is essentially a frequency modulation of the recorded signal caused by small but rapid variations in tape speed. A flutter tape has a 3,000- or 3,150-Hz tone recorded on it and the playback from the machine is fed to a flutter meter, which is a form of FM receiver that can be tuned to the 3,000-Hz range. The demodulated FM carrier represents the flutter, which is displayed on a meter as a percentage of the carrier frequency.

Currently, most of our playback tests are made using an excellent set of test cassettes issued by TDK. Among them are cassettes with standard recorded levels to check the accuracy of the recorder's meter calibrations (in regard to Dolby level and the actual flux level corresponding to a 0-dB meter reading). There are also a flutter cassette and one recorded on one channel only that can be used to measure interchannel crosstalk at 1,000 Hz. Perhaps the most useful of the TDK tapes are the playback-equalization test cassettes, which check playback frequency response. Most such cassettes we have used in the past left much to be desired in level constancy and accuracy.

The TDK AC-334, which has eleven spot frequencies from 63 to 10,000 Hz, is one of the steadiest tapes we have used, and it is recorded with time constants of 3,180 and 120 microseconds to match the playback equalization of modern recorders (many earlier test cassettes used a 1,590-microsecond equalization, which required correcting the readings in order to get the true response of a machine). Like all other cassette test tapes we have used in the past, this one has an upper limit of 10,000 Hz. However, TDK now also has the AC-337 tape, which goes from 40 to 12,500 Hz. This has proved to match the AC-334 very closely within their common frequency range. The 70-microsecond playback equalization used for chrome- and ferrichrome-equivalent tapes is checked with a Teac 116SP tape covering the 40- to 10,000-Hz range.

Other factors we test on cassette decks include fast-forward and rewind times with a C-60 cassette, accuracy and effectiveness of peak-level recording lights, headphone listening volume with 200- as well as 8-ohm phones, and accuracy in recording and playing back FM-tuner interstation hiss at an indicated

-10-dB meter reading (the playback is compared to the input signal in an A-B test and even very small departures from flatness can easily be heard).

With open-reel recorders the basic procedure is much the same, although the prevalence of three-head machines makes the R/P response measurement much faster and simpler. Moreover, the difference between the -20- and 0-dB frequency-response curves is often so slight that it cannot be measured in the audio range, in which case we also make a measurement between 20,000 and 40,000 Hz. For playback-equalization and flutter tests, we use various Ampex alignment and test tapes. At 15 ips we are able to make only R/P measurements.

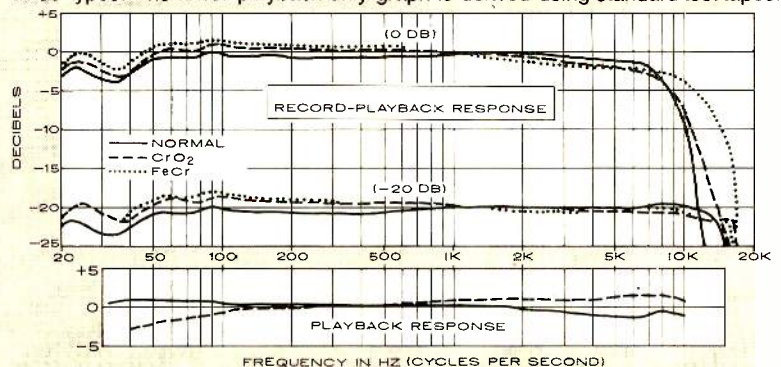
Of course, we also make recordings on every machine tested. We do not have easy access to live music sources, and recording music from FM or records may not fully tax the abilities of the better machines, whether open-reel or cassette. However, such sources are adequate to reveal any handling peculiarities that would merit comment, and we believe that recording interstation random noise is comparable to many live-music recording situations in that it requires a full audio bandwidth with negligible deviation from a flat response and no audible loss of highs from tape saturation. (It also has the advantage of being unaffected by microphone placement and other such variables common in live recording.)

ISUSPECT that some readers are surprised and overwhelmed by both the complexity of the procedures and the amount of instrumentation required for these tests. By the time we have put, say, a simple \$200 cassette deck through its paces, it may have been involved with over \$10,000 worth of test equipment besides many, many hours of test-bench and use time. But if we are to provide a reasonably accurate evaluation of a product it is simply not possible to cut corners.

Most readers are far more concerned with how well a recorder tests than with the specific techniques Hirsch-Houck Labs used to test it. However, I am pleased to have an occasional opportunity to let readers look over my shoulder, so to speak, during our test procedures. A far better understanding and appreciation of the complexities and possible pitfalls of the test process should result.

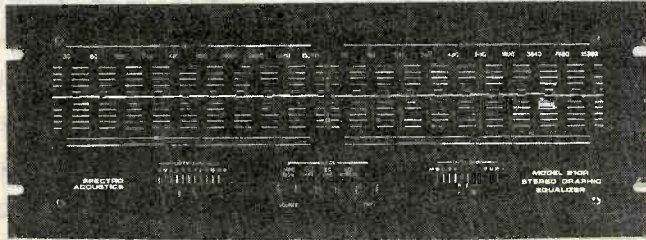
(Continued overleaf)

A set of typical frequency-response curves for a cassette deck. The upper graph displays the record-playback response measured with normal cassettes of the three types. The lower playback-only graph is derived using standard test tapes.



Equipment Test Reports

By Hirsch-Houck Laboratories



Spectro Acoustics 210 Stereo Graphic Equalizer

THE Spectro Acoustics Model 210 is a versatile, high-performance, stereo octave-band graphic equalizer intended for the amateur recordist as well as the serious music listener. Its vertical slider controls (one set for each channel) operate in ten frequency bands, with center frequencies from 30 to 15,360 Hz. A horizontal slider UNITY GAIN control for each channel permits compensation for any signal loss or gain introduced by the equalization process.

In addition to these sliders, the only controls on the front panel of the Model 210 are five pushbuttons. One is the power switch, with a red pilot LED above it. The next, EQ BYPASS, replaces the equalizer circuits with a direct-wire connection; the system will operate in this mode even with the Model 210 turned off. The EQ LINE button inserts the equalizer into the system. Like most such accessories, the Model 210 is meant to be connected into a system's tape-monitoring path, so tape-recording outputs and playback inputs are duplicated on its rear panel. In the normal mode of operation (EQ LINE), the tape deck receives an unmodified signal. Pressing EQ TAPE includes the equalizer in the signal path going to the tape recorder while the line outputs carry an unmodified signal. The final button, TAPE MON, duplicates the functions of the system's tape-monitor switch. It is also possible to connect the Model 210 between a preamplifier and power amplifier, but this is usually less convenient for tape-recording purposes.

With appropriate control settings, the equalizer can, in effect, be placed either ahead of or after a tape deck when recording or playing back a program. The program can be monitored from the tape-playback outputs or at the recorder input. With the TAPE MON switch set to SOURCE, the equalizer operates only on the signal that is passing through the amplifier.

The filter circuits of the Model 210 use a "gyrator" design that electronically simulates

an inductor. According to the manufacturer, such circuits have lower noise and hum pickup, more headroom, and lower cost than actual coil inductors. Each of the ten octave-band controls has a nominal range of ± 13 dB (± 15 dB if two adjacent controls are operated together) around the center (flat) condition. With the UNITY GAIN controls centered, the gain is nominally 1, but it can be adjusted over a ± 15 -dB range by these controls. The Spectro Acoustics 210 has a very high output capability, delivering up to 10 volts rms to a 10,000-ohm load without clipping. It can also drive a 600-ohm load with no degradation of performance except a slightly lower maximum-output voltage. This would permit it to drive at least ten power amplifiers simultaneously, should any user wish to do so.

The Spectro Acoustics 210 is finished in black with gold panel and knob markings. It measures 6 x 6½ x 17 inches and weighs 12 pounds. A rack-mounting version with a 19-inch panel is also available. Price (either ver-

sion): \$295. Optional walnut cabinet for the standard model: \$40.

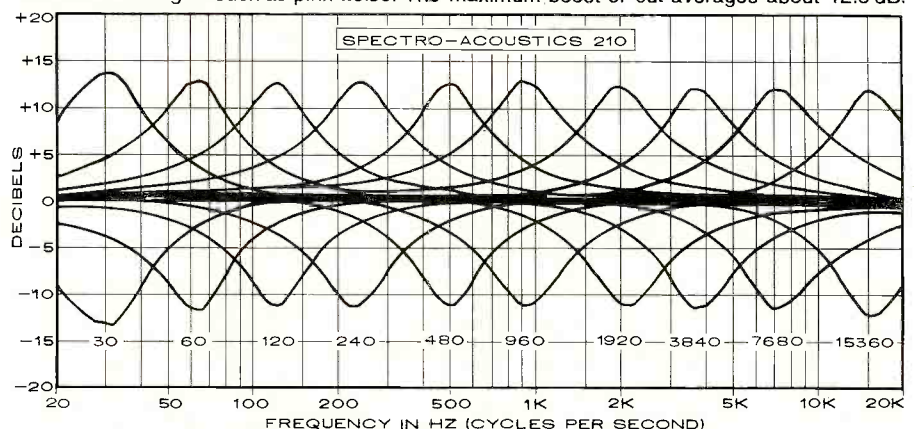
• **Laboratory Measurements.** The center frequencies of the individual filters conformed closely to the frequencies marked on the front panel, and the maximum boost or cut provided by each filter was between 11.5 and 13.5 dB, depending on the frequency. When an adjacent pair of filters was used, the maximum boost or cut was about 14 dB at the rated filter frequencies, with a "valley" of approximately 4 dB between them.

The output with a 1,000-Hz test signal clipped at 10.9 volts rms into a high-impedance load and at 6 volts into a 600-ohm load. The distortion at 1,000 Hz was essentially the residual of our test instruments, reaching a maximum of 0.0034 per cent at 10 volts, just before the output clipped. The distortion into 600 ohms, within the maximum output capability at that impedance, was the same as into a high impedance. At 15,000 Hz the distortion was slightly higher, reading 0.004 to 0.007 per cent from 0.1 to 7 volts output and 0.14 per cent at 10 volts. The IM distortion reading was the 0.002 per cent test-instrument residual at all levels up to 10 volts. The UNITY GAIN control's range was from -12.8 to $+13.5$ dB at 1,000 Hz.

The output noise was measured in a wide-band condition (no weighting). With all the octave sliders centered, the noise level was 225 microvolts (-73 dB referred to 1 volt). The hum, essentially all 120 Hz, was 81 dB below 1 volt. All these measurements were based on a meter bandwidth of more than 6 MHz; a noise measurement limited to a 20-kHz bandwidth would have provided even better figures.

• **Comment.** The Spectro Acoustics Model 210 has nearly unmeasurable noise and distortion, plus an output capability far exceeding
(Continued on page 34)

The maximum effect (in both boost and cut modes) of each of the 210's ten filters is shown for a wide-band test signal such as pink noise. The maximum boost or cut averages about 12.5 dB.





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With its large professional VU meters using LED peak overload indicators, its full electronic logic control of tape motion and its precision tape cutter and splicer, the new B77 stereo tape recorder sets new standards of convenience for the discriminating recordist.

Add to this the legendary ReVox superiority in audible sound quality and you have the finest audiophile recorder in the world at a price that will pleasantly surprise you.

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STUDER REVOX

normal signal requirements. As the instruction manual points out, it would be very difficult indeed to create a distorted condition, no matter what associated equipment was used or how carelessly the various equalization controls were set.

The instruction manual is a very well written twenty-eight-page booklet that covers all aspects of the operation of the Model 210. It

is evident that Spectro Acoustics feels that for most purposes the adjustment of the equalizer is best done by ear rather than with a pink-noise signal and test instruments. Rather than attempting to equalize room response at a particular point in space, they suggest using the Model 210 as a "creative equalizer" to make the sound suit one's own taste.

There is nothing wrong with this approach,

but it can take some practice, since the equalizer has twenty more or less independent adjustments. We have used octave equalizers in the past to reduce the effects of room resonances (aggravated by speaker resonances). They are invaluable for that purpose, and, by any standard, the Spectro Acoustics Model 210 is one of the best of the genre.

Circle 105 on reader service card



Sony PS-X7 Record Player

THE Sony PS-X7 is a fully automatic, single-play record player with, among other features, a new direct-drive quartz-locked motor and a carbon-fiber tone arm. In line with a current trend in high-quality turntables, the Sony PS-X7 phase locks the speed of the d.c. servomotor to the frequency of a quartz-crystal oscillator. The turntable speeds of 33 $\frac{1}{3}$ or 45 rpm are selected by pushbuttons on the motorboard and are not adjustable.

The PS-X7 has a permanently magnetized pulse pattern in a ferric strip around the inside of the turntable rim. A sensing head on the motorboard picks up these pulses as they pass by and generates the feedback control signal that governs the motor speed. The motor has a very high torque so that it can come up to speed (or change speed) very rapidly. It is also totally unaffected by added vertical loads such as those from permanently installed record-cleaning accessories.

Stroboscope markings for the two speeds are cast into the rim of the platter; they are illuminated by a neon lamp next to the platter. Since there are no speed adjustments to be made, the stroboscope's sole function is to reassure the user that all is well. The PS-X7's record mat consists of two rubber discs sealed together with a viscous fluid inside. This is intended to minimize vibration transmitted

from the turntable platter to the record and to damp any vibrations in the disc itself. The combined weight of the platter and mat is approximately 4 pounds.

The tone arm, conventional in its basic design, is made of carbon fiber. The aluminum cartridge shell, of the widely used bayonet-mount type, is cut away to minimize its mass. The counterweight carries the tracking-force scale, which reads from 0 to 3 grams in 0.1-gram intervals. An antiskating dial next to the arm's base is calibrated over the same range. The cueing lever is part of the arm base and operates through a curved bar that rises under the arm tube.

A four-position knob control on the motorboard has automatic arm-indexing settings for 17-, 25-, and 30-cm (7-, 10-, and 12-inch) records, plus a MANUAL setting. The other operating controls of the PS-X7 are on the front of the base and are thus accessible with the dust cover closed. A pushbutton turns the power on and off, and there are electronic touch controls for automatic START/STOP and REPEAT functions. The base itself is molded of Sony's SBMC plastic compound, which looks and feels like cast metal but is claimed to be acoustically inert.

Touching the START/STOP contacts turns the motor on and causes the tone arm to index to

the selected diameter and then lower to the record surface. (In the MANUAL mode, the motor will start but the arm must be cued in manually.) Touching these contacts again causes the arm to lift and return to its rest, after which the motor shuts off. At the end of a record side, a photo sensor under the motorboard automatically trips the shut-off mechanism without exerting any force on the tone-arm system. To repeat a record, one touches the second pair of contacts (REPEAT); the record will then play repetitively until either REPEAT or START/STOP is touched again. Each pair of contacts has a LED between them that glows when the function is activated.

The Sony PS-X7 is mounted on very resilient feet, viscous-damped like the record mat, to isolate it from external vibration and shock, and it is furnished with a hinged plastic cover. The signal-cable capacitance is compatible with the requirements of CD-4 cartridges. The record player is 17 $\frac{1}{2}$ inches wide, 6 inches high, and 14 $\frac{3}{4}$ inches deep; it weighs 22 $\frac{1}{2}$ pounds. Price: \$330.

● **Laboratory Measurements.** We installed a Shure M95ED cartridge in the head shell of the PS-X7 for our tests. The record player comes with a protractor for accurate setting of the stylus overhang, but we found that the recommended spacing of 49 mm from the stylus to the reference mounting surface of the head shell was sufficiently accurate to give a low tracking error.

The arm's maximum tracking error was an excellent 0.5 degree per inch of radius, and the typical error was a fraction of that amount. When the arm was balanced according to the instructions, the tracking force was about 10 per cent higher than indicated, and the vertical balance condition was somewhat ambiguous. We therefore suggest using an external stylus-force gauge for operation at 1 gram or less.

The automatic operation of the PS-X7 could hardly be simpler. A touch of the finger on the START/STOP contacts is all that is required. The arm is always raised when the unit is shut off, regardless of the position of the cueing lever. This makes the stylus relatively immune to damage from accidental displacement of the tone arm. However, it does complicate checking the tracking force or the tracking error.

The quartz-locked turntable, as might be expected, operated at exactly correct speeds, which did not vary with line-voltage changes or even rather large mechanical drag forces applied to the platter. The torque of this turntable is so high that one must literally grab the

(Continued on page 36)



Music you never knew was there.

There are probably beautiful musical passages on many of your records that you've never heard. And you never will unless your cartridge is sensitive enough to clearly reveal all the subtle harmonics within the audio spectrum.

Today's sophisticated "direct to disc" technology has raised the quality of disc recording to a new state of the art. You need a cartridge that does justice to these fine recordings: an ADC cartridge. With an ADC cartridge you will find the state of the art has been brought almost to the state of perfection.

Long known by audiophiles for incredibly pure sound reproduction, ADC cartridges have also proven their amazingly low record wear. This year, they have even surpassed themselves.

First, there's the remarkable new XLM with the unique ALIP TIC stylus: it combines the better stereo reproduction of the

elliptical stylus shape with the longer, lower wearing, vertical bearing radius of the Shibata shape. As a result, sound reproduction is completely transparent and clean. Individual instrument placement is more easily identifiable. And frequency response is truly flat ± 1 dB to 20 kHz and $\pm 1/2$ dB to 36 kHz. It tracks at $1/2$ to $1 1/2$ grams.

Then there's the new XLM MK III with the same reduced mass, tapered cantilever but with a true elliptical shaped nude diamond tip. It has 50% lower mass than our previously lowest mass XLM MK I. It tracks at $3/4$ - $1 1/2$ grams.

The QLM 36 MK II with the innovative Diasa elliptical nude tip also has excellent frequency response, wide separation, and an incredibly clean sound. It also tracks at $3/4$ - $1 1/2$ grams.

The QLM 32 MK III offers elliptical shape and tracks as low as

1 gram with flat response out to 20 kHz ± 2 dB.

The CLM 32 MK III is a 2-4 gram elliptical with great sound. It's one of the best budget ellipticals around.

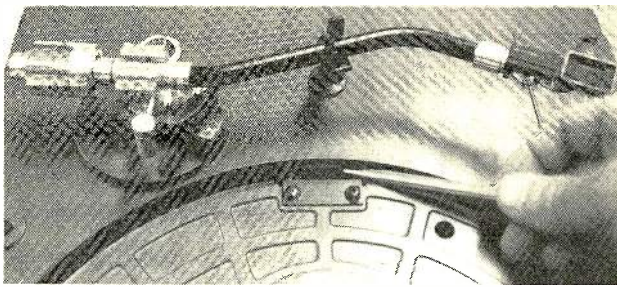
And ideal for automatic changers, the QLM 30 MK III is a 3-5 gram conical stylus that's compatible with a wide range of stereo equipment.

The ADC cartridges. Think about it. You probably don't even know what you're missing.

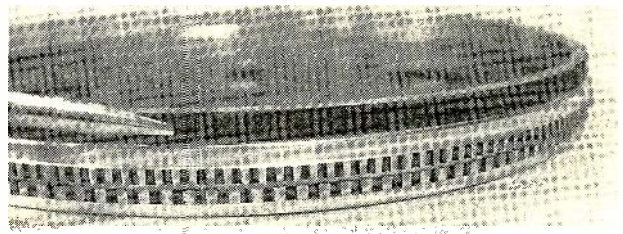


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CIRCLE NO. 2 ON READER SERVICE CARD



The special magnetic pickup head of the PS-X7 is seen positioned on the base near the edge of the platter. The magnetic strip on the platter edge is shown at right. It has "pre-recorded" on



it a series of precisely spaced pulses (like a length of recording tape). The pickup senses the pulse-repetition rate and uses it to monitor and control (via a phase-locked loop) the platter's speed.

platter and stall it in order to make any perceptible uncontrolled alteration in its speed. On the other hand, shifting between 33 $\frac{1}{3}$ and 45 rpm took less than 0.5 second. The unweighted rms wow was 0.05 per cent, and the flutter was 0.03 per cent (this figure cannot be compared to the manufacturer's rating of 0.025 per cent, which is a weighted measurement). The flutter spectrum had a broad maximum in the 50- to 70-Hz range, which would be attenuated significantly by any of the currently used weighting curves.

The rumble of the PS-X7 was lower than average, even for a direct-drive turntable. Unweighted, it was -35 dB, and with ARL weighting it was -62 dB. The rumble was principally at frequencies below 30 Hz. Out of curiosity, we substituted a rubber mat of conventional construction for Sony's fluid-filled mat. It made no difference in the rumble—or anything else—that we could measure.

The arm mass was slightly lower, at 17 grams, than we have measured on many other automatic record players. It resonated with the compliance of the M95ED stylus at 8 Hz with an amplitude of 6 dB. The cable capacitance was 90 picofarads (pF) from either

channel to ground and a low 3.3 pF between channels. The anti-skating was optimum when set to match the tracking force. Cueing had to be done slowly to avoid jarring the pickup. On its descent, the arm drifted slightly outward, repeating several seconds of the record. The automatic operating cycle was quite fast, with 8 seconds elapsing between touching START and the set-down of the stylus in the lead-in groove. The shut-down cycle required only 4 seconds.

The soft mounting feet give the PS-X7 exceptionally good isolation from base-conducted vibration. Its susceptibility to such vibrations from 20 Hz on up was typically 10 to 20 dB lower than that of most comparable record players we have tested. In fact, only three or four players we have handled over the years have had measurably better isolation than the PS-X7.

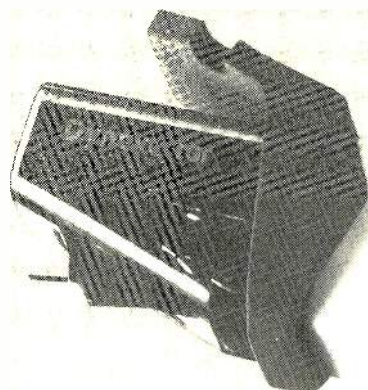
● **Comment.** The externally accessible operating controls of the PS-X7 are undeniably convenient, but they go only part of the way toward permitting complete operation of the record player with the cover down. If cueing could also be done from the front, the ma-

chine's utility would be greatly enhanced. Moreover, it seems to us that in the details of its design the tone arm of the PS-X7 does not match the refinement exhibited by the turntable itself. Aside from the already mentioned tracking-force ambiguity and cueing drift, we found the finger lift poorly designed.

However, these few criticisms are not intended to denigrate the overall quality of the PS-X7, but only to put matters into perspective. For its basic function—playing records—this machine would be hard to beat. The acoustic isolation of the base of the PS-X7 is far superior to that of the typical direct-drive record player, and we would rate that feature as more important than all the minutiae of tracking error, rumble, and the like, for these have little or no audible effect once a certain level of performance has been surpassed. Acoustic feedback, in contrast, is probably the most serious—and, usually, least appreciated—of the problems afflicting record players today. In many installations, the 20 dB or so of added isolation afforded by the PS-X7's mounting feet could well be crucial.

Circle 106 on reader service card

Dynavector 10A Phono Cartridge



"DYNVECTOR" moving-coil phono cartridges are manufactured in Japan by Onlife Research, Inc., and distributed in this country by Audioanalyst, Inc. (Elsewhere they are better known as "Ultimo" cartridges.) Like most moving-coil cartridges, they have styli that cannot be replaced by the user. Unlike most, they have a relatively high signal output (nominally 2 millivolts), which permits connecting them directly to most preamplifier phono inputs without interposing a "pre-preamplifier" or step-up transformer.

There are several cartridges in the Dynavector line, all similar except for their stylus assemblies. The two most expensive models (20A and 20B) have Shibata styli mounted, respectively, on aluminum and beryllium cantilevers; they operate at a vertical tracking force of 1.5 grams. Their high-frequency response extends to 50,000 Hz, making them appropriate for CD-4 quadraphonic playback as well as conventional stereo.

(Continued on page 38)



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The truth is clearly seen in every Scotch® Master™ Cassette, thanks to our see-through cassette shell. It lets you watch the inner workings of the cassette. And it shows you the mechanical improvements that make for true, pure sound, no matter what switch position you prefer.

Normal Bias Recording. Our Master I Cassette features an excellent dynamic range, low distortion, uniform high frequency sensitivity and output that's 10 dB higher than standard tapes.

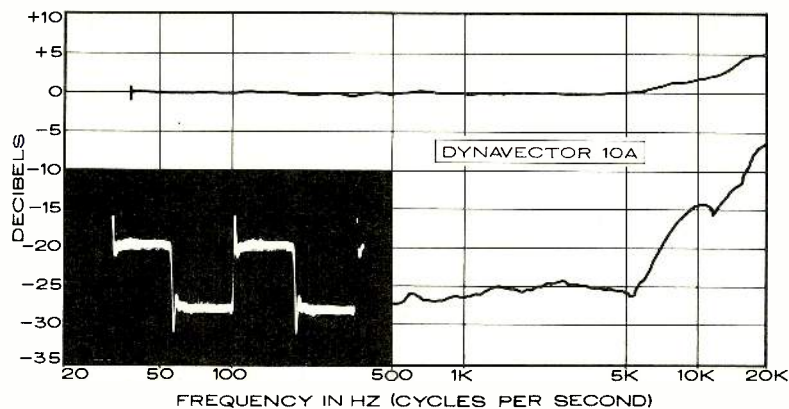
Chrome Bias Recording (70 micro-second equalization). Our Master II Cassette features some spectacular performance characteristics, including a special coating that gives it a 3 dB better signal-to-noise ratio at low and high frequencies than chrome cassettes.

Ferri-Chrome Bias Recording. Our Master III Cassette is formulated with the most advanced technology available, giving a 3 dB output improvement at low frequencies and

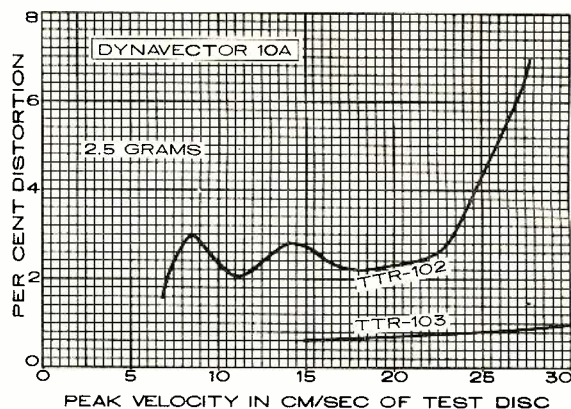
2 dB at high frequencies. The unique dual layer construction increases both low and high frequency sensitivity over chromium dioxide and ferric oxides.



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In the graph at left, the upper curve represents the smoothed, averaged frequency response of the cartridge's right and left channels; the distance (calibrated in decibels) between it and the lower curve represents the separation between the two channels. The inset oscilloscope photo shows the cartridge's response to a recorded 1,000-Hz square wave (see text), which indicates resonances and overall frequency response. At right is the cartridge's response to the intermodulation-distortion (IM) and 10.8-kHz tone-burst test bands of the TTR-102 and



TTR-103 test records. These high velocities provide a severe test of a phono cartridge's performance. The intermodulation-distortion (IM) readings for any given cartridge can vary widely, depending on the particular IM test record used. The actual distortion figure measured is not as important as the maximum velocity the cartridge is able to track before a sudden and radical increase in distortion takes place. There are very few commercial phonograph discs that embody musical audio signals with recorded velocities much higher than about 15 cm/sec.

The Dynavector 10A, which is the subject of this report, is the least expensive cartridge in the Dynavector line. It employs a 0.6-mil spherical stylus on an aluminum cantilever. The stylus assembly is also "stiffer" than the assemblies of the 20A and 20B and requires a tracking force of 2.5 grams.

The other specifications of the 10A cartridge are the same as those of the more expensive 20 series, including an 85-ohm d.c. coil resistance, 2 millivolts output, and more than 20 dB of channel separation at 1,000 Hz. As with other moving-coil cartridges, the 10A's frequency response does not depend on the load impedance, which can be anything greater than 100 ohms. Lacking the Shibata stylus, the 10A is not a CD-4 cartridge, but it is virtually equivalent to the 20 series in stereo reproduction.

The Dynavector 10A is housed in a translucent red-plastic body with standard 1/2-inch mounting centers. The cartridge mass of 9.5 grams can be balanced by almost any tone arm. The connection pins on the cartridge have a smaller diameter than those used on other cartridges, but a set of connecting wires fitted with smaller clips is supplied with the cartridge to simplify its installation in tone-arm head shells. Price: approximately \$165.

● **Laboratory Measurements.** The Dynavector 10A was tested while mounted in the tone arm of a Sony PS-X5 record player. We also installed it in several other record players for listening tests. Since the cartridge instructions are quite specific in stating that the tracking force should be 2.5 ± 0.1 grams, that is the force we used. The cartridge output was almost exactly 2 millivolts, as rated, for a recorded velocity of 3.45 centimeters per second (cm/sec), and the channel levels were balanced within 0.65 dB. The vertical stylus angle was 22 degrees, close to the industry standard of 20 degrees.

The 10A tracked our high-velocity test records, including the 70-micron level of the German Hi Fi Institute record, without difficulty. The intermodulation distortion as measured with the Shure TTR-102 record was between 2 and 3 per cent at velocities of up to 23 cm/sec,

and 7 per cent at 27 cm/sec. This is good performance, though not exceptional for a high-quality cartridge. However, when we played the 10.8-kHz tone bursts of the Shure TTR-103 record, we found that the repetition-rate distortion was at least as low as we have ever measured and considerably less than the typical readings of top-ranking cartridges. It varied only slightly with level, from 0.6 per cent at 15 cm/sec to under 1 per cent at 30 cm/sec.

We measured the 10A's frequency response with the CBS STR 100 test record. Cartridge loads from 100 to 100,000 ohms had no effect on the response curve, although the 100-ohm load dropped the output level somewhat. The frequency response was smooth and flat throughout the audio range to 5,000 Hz, rising gradually to +4.5 dB at 20,000 Hz. (A response curve provided with our test sample—one is included with every Dynavector cartridge sold—showed a rise of only 2 dB at 20,000 Hz; however, it was made using a B&K QR-2009 test record and thus cannot be compared with our results from the CBS record.) Channel separation was from 20 to 30 dB over much of the audio range, measuring from 15 to 20 dB at 10,000 Hz and from 10 to 13 dB at 20,000 Hz.

With the Sony arm, the low-frequency resonance took the form of a double peak at 12 and 18 Hz, and there was less than 1 dB rise in response at any frequency above 30 Hz. The square-wave response (measured with the CBS STR 112 record) was nearly perfect, with only a single overshoot whose amplitude was about 70 per cent of the square-wave amplitude. There was the usual 40,000-Hz ringing across the square wave, a property of the record. The shape of this 1,000-Hz square wave tells us not only that the cartridge response is flat from below 100 Hz to above 10,000 Hz, which we knew from other measurements, but also that it introduces negligible phase shift over that range.

In listening tests with the Shure "Audio Obstacle Course-Era III" test record, the Dynavector 10A was most impressive. Not only did it play everything on the record without audible mistracking, but it reproduced the maximum levels of the sibilants and the musi-

cal bells without the slightest sense of strain. Except for being louder, they were indistinguishable in playback from the lowest-level passages of these sounds on the recording. This is unusual, since even cartridges that do not obviously mistrack generally sound a trifle strained at the maximum levels.

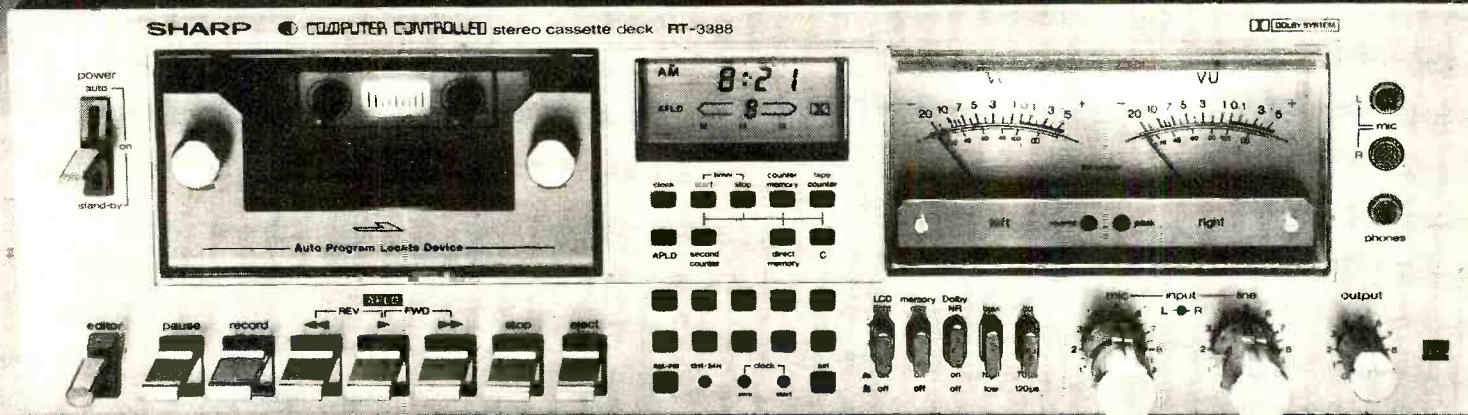
We were concerned with the need to operate the cartridge at 2.5 grams. Exerted through a 0.6-mil stylus, this force could conceivably cause undue record wear. To settle our doubts on this matter, we played a three-minute portion of a very high quality record some 120 times in succession. We expected that if there were any significant amount of wear, we would hear some degradation in that portion of the record compared with the preceding and following sections. There was not. We could not tell, either by listening or visual examination, where the groove had been played only once and where it had been played 120 times. On the assumption that no single record is likely to be played more than 100 times during an owner's lifetime (and certainly not in succession without some cooling-off period), we concluded that, at least with this particular cartridge, the 2.5-gram force does not represent a threat to one's record collection.

● **Comment.** We are well aware of the reputation some moving-coil cartridges have for listening qualities that do not necessarily correlate with their measured performance. In the case of the Dynavector 10A, the correlation was very close and we were not compelled to ascribe its sound quality to any unknown or mystical factors.

And that sound was, in a word, superb. This came as no surprise, since the 10A (at its 2.5-gram force, to be sure) had better tracking ability throughout the audio range, and especially at the highest frequencies, than just about any other cartridge we have used. Its frequency response was in general very flat, rising only at the extreme top end where a little added "bite" is often beneficial. The cartridge is exceptionally free of phase shift in the audio range, if that matters (we are not

(Continued on page 40)

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sure it does). The response, both in and out of the audio band, is completely independent of external load conditions, and the cartridge itself will not affect the equalization of any phono preamplifier. The cartridge's low impedance will in most cases significantly reduce preamplifier input-circuit noise. Finally, the low stylus compliance places the arm resonance well above the region where warp effects could degrade the sound quality.

Impressive as these attributes are, we would be somewhat less enthusiastic if they were attainable only by using a \$200 cartridge with a pre-preamplifier of comparable cost, which is the case with most other moving-coil cartridges. But (and it is a vital distinction) the

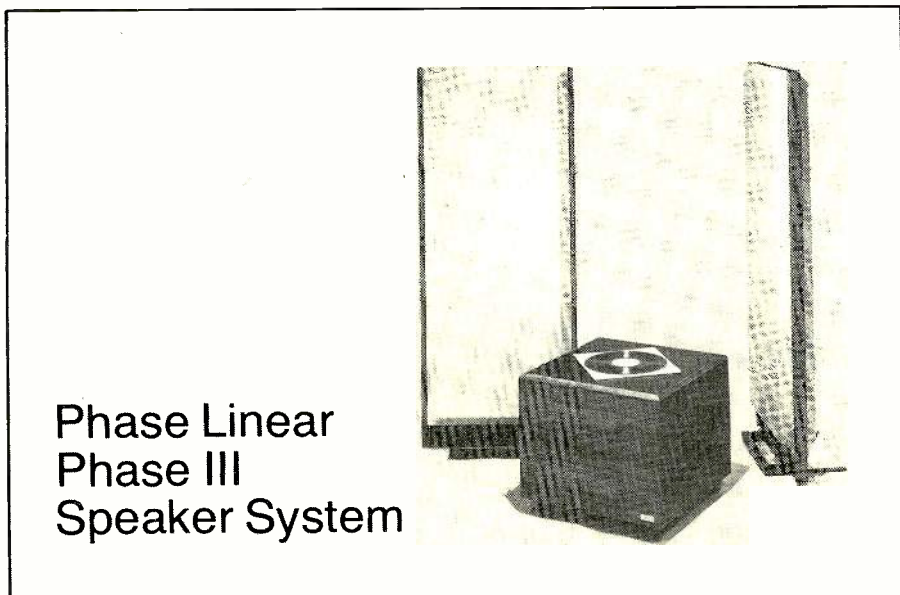
10A costs only slightly more than the best conventional magnetic cartridges from several major manufacturers and its output is compatible with any good amplifier without requiring a further investment in step-up or amplifying accessories. Even if much of the time its sound is indistinguishable from that of a similarly priced conventional cartridge in a listening test, there will be some occasions when it will outperform the latter.

Its only drawbacks, so far as we could determine, are the non-replaceable stylus (which is no problem if one exercises care in the installation and use of the cartridge and keeps it away from small children) and the fact that its mounting holes are about 1/8 inch

closer to the stylus than those of virtually every other cartridge we have tested in the past twenty-odd years. This means that in some tone arms (Dual, for example) there will not be enough overhang-adjustment range for minimum tracking error.

If you *can* buy, install, and use the Dyna-vector 10A and manage to overcome any preconceptions about the relationship between tracking force and record wear (which was one of the most difficult problems for us), the sound will more than compensate for any minor inconveniences. We understand that a less expensive model, the 10X, will be available shortly.

Circle 107 on reader service card



Phase Linear Phase III Speaker System

THE Phase III loudspeaker system is the latest product to emerge from the innovative mind of Phase Linear's founder, Bob Carver. Like his noise-reducing "Autocorrelator" and the largest super-power amplifiers for home use, the Phase III departs visibly and audibly from common practice.

Like that of most speaker designers, Carver's goal was to generate a smooth, wide-range, essentially undistorted response over the full audible spectrum. Beyond that goal, he also hoped to re-create at the listener's ears a sound field that would resemble the conditions existing in a concert-hall environment and therefore be perceived as sounding more "realistic" than conventional loudspeaker sound.

Carver's investigations into human perception of sound led him to the conclusion that four basic objective/subjective factors must be considered: *Echo*, or reverberation, gives the listener a sense of the spatial properties (size and acoustic characteristics) of a concert hall or listening room. The *phase relations* of perceived sounds reaching one's ears at different times help locate sound sources in space. *Short-term reflections* (too close in

time to the original sound and to each other to sound like echoes) add a sense of depth. And finally, there is the *difference in the energy spectrum* reaching one's two ears arising from interference effects between different frequencies as they travel slightly different paths. (Carver refers to this as the "bounded-ripple" or "comb-filter" effect.) It is Carver's belief that a correct mixture of these four properties will enable a listener to experience more believable (or realistic) music reproduction in his home, and his reasoning is presented in detail in the pamphlet describing the theory behind the novel design. We, of course, were more concerned with how this theory was translated into hardware, and were willing to let the Phase III (originally Andromeda III) speak for itself, as it were.

The Phase Linear Andromeda III was designed to be as omnidirectional as possible. It consists of two large upright panels and a separate bass module ("sub-woofer") together with an active equalizer that is called, rather cryptically, a "Motion Control Module." Each panel contains two 8-inch upper-bass drivers facing forward but open to the rear (so that their radiation is in a dipolar or

"figure-8" pattern). These drivers operate from approximately 100 to 600 Hz. Higher up on the panel are two small cone mid-range drivers, nominally 4 inches in diameter. One faces forward and one to the rear, and they operate from 600 to 3,000 Hz.

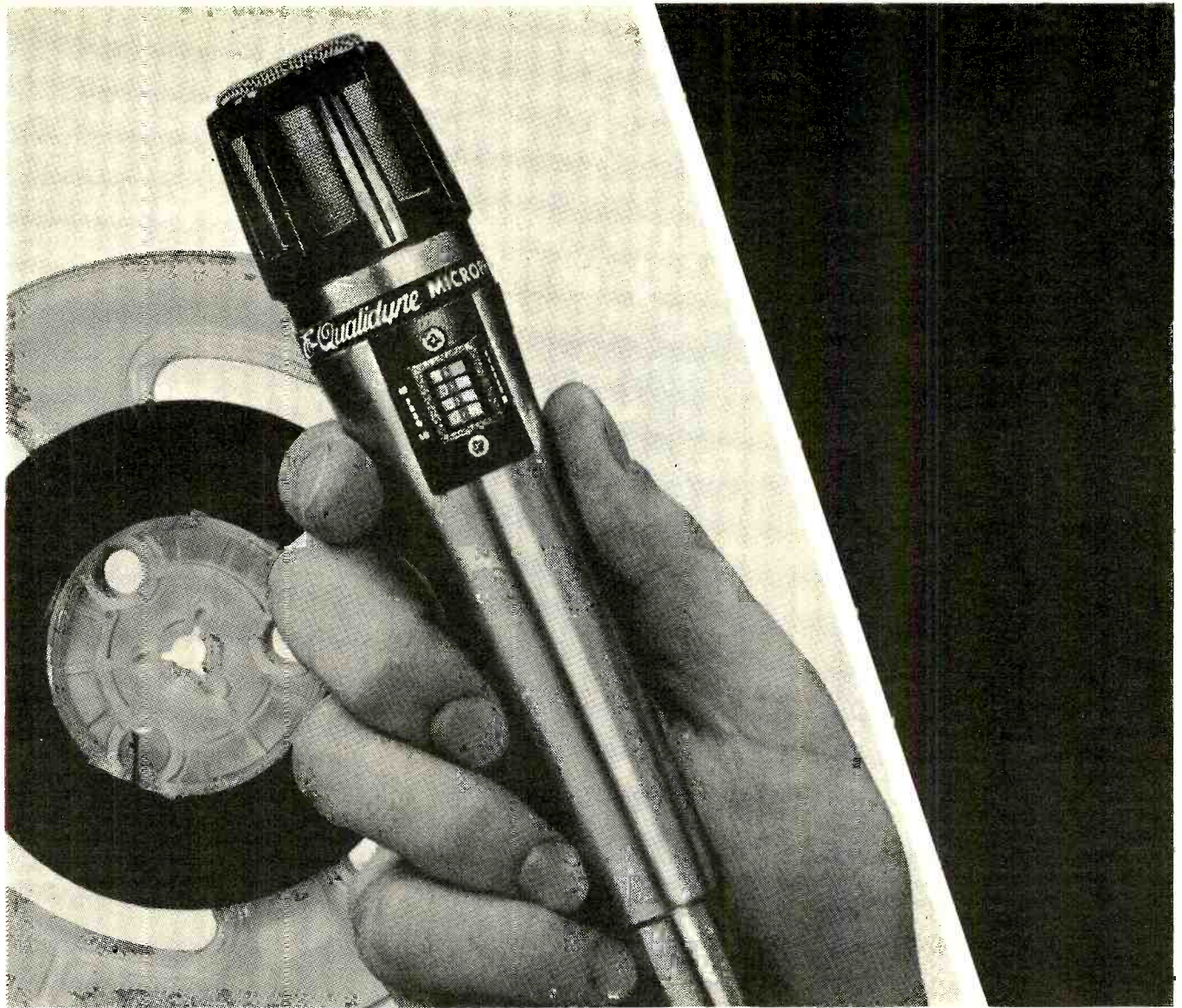
Surrounding the mid-range drivers are four small cone tweeters (approximately 1 inch in diameter) mounted in cut-outs in the panel and facing upward. A plastic conical deflector above each tweeter gives it a nearly omnidirectional response at frequencies above 3,000 Hz. In the center of the panel is a 1-inch dome tweeter angled slightly upward. A crossover network on the back of the panel distributes the signal to the various drivers. The speaker panels, which have removable cloth grilles on both sides, have metal supporting feet that angle the entire panel slightly backward.

Although the 8-inch woofers (which have compliant, long-throw suspensions) would be capable of excellent bass response, the size of the baffle on which they are mounted limits their effective range to frequencies above about 100 Hz. The lower frequencies for each channel are radiated from separate 12-inch drivers housed in a single internally divided enclosure with two ducted ports. The sub-woofer has been designed to provide a strong, low-distortion bass output down to 24 Hz. The signal leads from the amplifier go directly to the bass module, where the first crossover takes place, and the frequencies above 100 Hz are channeled from there to the two panels.

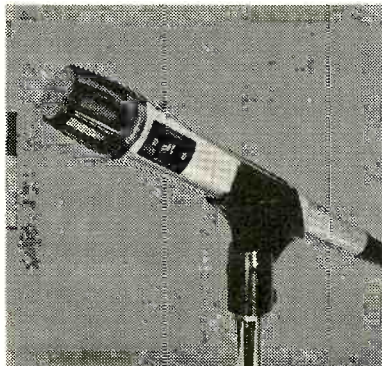
The electronic "Motion Control Module" is actually an equalizer, a unity-gain device meant to be connected between the preamplifier and the power amplifier. Three slide switches provide a slight adjustment of the levels in the low-, middle-, and high-frequency ranges. Each switch boosts or cuts the level in its range by 2 to 4 dB. A "spatial-imaging" knob gives a continuously variable cross-blending of out-of-phase information between the two channels to provide increased ambience.

The upright panels of the Phase Linear Andromeda III are 24 inches wide, 63 inches high, and 5 inches deep; they weigh 70 pounds each. The bass module is 22 inches square and 18½ inches high; it weighs 90 pounds. The system's total of twenty drivers gives it a very large power-handling ability, and it is rated

(Continued on page 42)



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for operation with amplifiers delivering from 50 to 350 watts per channel. The nominal impedance is 6 ohms. Separate fuses on each panel and the bass module protect the system against damage. Price: about \$1,300.

● **Laboratory Measurements.** The large number of dispersed drivers used in the Andromeda III system would make anechoic measurements essentially meaningless because of the inevitable interference between the drivers. However, the system should be well suited to the type of live-room measurements we make, in which the total output of the system is measured after any absorption by the normal room environment.

With the system's equalizer switches centered and its spatial-imaging control turned off, we placed our microphone on-axis about 10 feet in front of one speaker panel. It was about 12 feet from the other panel and approximately 30 degrees off its axis. The speakers were placed about 5 feet from the back wall and 3 to 4 feet from the side walls of a 15 x 20-foot room. The bass module was placed near the back wall about midway between the speakers, although its output was not included in the live-room measurements.

The smoothed response curve showed moderate dips at 550 and 3,000 Hz, possibly due to crossover effects at these frequencies. The high-frequency output was strong, measuring somewhat higher than the mid-range level. It was quite uniform between 5,000 and 15,000 Hz (the upper limit of our microphone calibration). The omnidirectional radiation of the speaker panels is illustrated by the fact that the response curves from the left and right panels were virtually identical over the full measurement range.

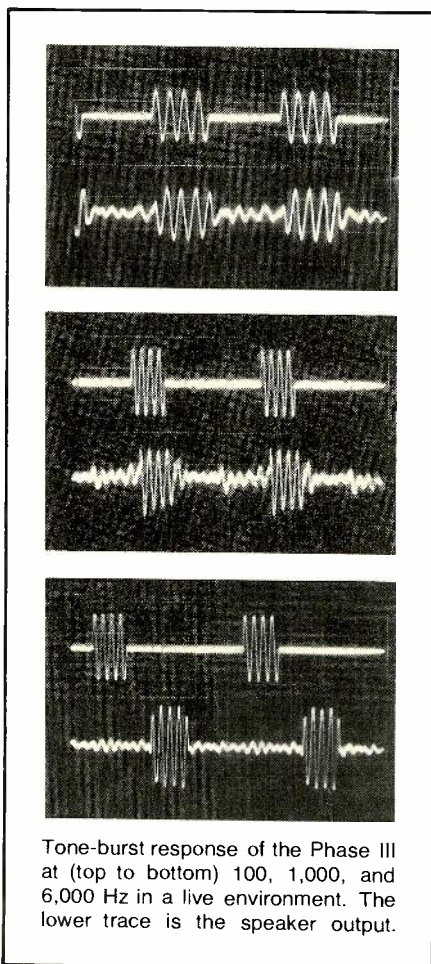
The woofer response was measured with close microphone spacing to simulate anechoic conditions. The response was measured separately at the driver cone and the port, with the two combined to form a total bass-response curve. Since the bass crossover network is in the bass module, its effect is included in the measurement. The woofer response peaked at 55 Hz, dropping off above and below that frequency. Splicing this curve to the high-frequency curve, we obtained a combined frequency response within ± 3.5 dB from 30 to 5,000 Hz with an elevated but flat top end about 5 or 6 dB above the mid-range level. With the equalizer set for decreased high-frequency output, the speaker response was within about ± 5 dB from 28 to 15,000 Hz.

Because of the unusual nature of the Andromeda III and the considerable contribution of speaker placement (and, to some extent, of the equalizer settings), these numbers should not be given undue weight. What they do show, quite clearly, is that the Andromeda III is a very wide range, nearly omnidirectional system.

The equalizer actually has a very modest effect on the total sound quality of the system. Unlike some speaker-system equalizers, its electrical response with centered controls is nearly flat, within ± 2 dB from 20 to 20,000 Hz. The switches have a typical range of about ± 3 dB, so that even in the most extreme case there should not be excessive demands on the amplifier's power output because of equalizer settings.

However, the Andromeda III in and of itself is extremely inefficient, requiring more amplifier power than almost any other system we know of. This is not too surprising;

amplifier power is the very basis for the existence of Phase Linear, and Carver was much more concerned with achieving certain quality goals with this speaker than with conserving power. We found that 1 watt of random noise in the octave centered at 1,000 Hz produced a sound-pressure level of 80 dB 1 meter from the center of the grille. Driving the system with a Phase Linear 400 amplifier, we frequently noticed the amplifier's meters reach-



Tone-burst response of the Phase III at (top to bottom) 100, 1,000, and 6,000 Hz in a live environment. The lower trace is the speaker output.

ing the 0-dB mark, and when the spatial-imaging control was turned up to blend the out-of-phase signals (which increased the equalizer gain some 5 to 7 dB in the low- and mid-frequency ranges) it was very easy to drive the meters to their limits in spite of the fact that we do not normally listen at ear-splitting levels. We were, perhaps, seduced into using higher levels because the Andromeda III did not sound strained under any conditions we could create.

The Andromeda III presents a very large apparent sound source which never seems to sound as loud as its measured output. We are sure that it could handle the full output of a Phase Linear 700 amplifier, for example, without sounding unpleasant (and it would be very loud under those conditions). For ordinary listening, we found the 200 watts plus per channel of the Phase Linear 400 to be adequate, but we have reservations about the suitability of, say, a 50-watt amplifier for more than background-listening levels.

The bass distortion of the Andromeda III at a drive level of 2.8 volts (1 watt into 8 ohms) was unusually low. It measured between 0.5 and 1 per cent from 100 to 50 Hz, and it never exceeded 2 per cent all the way down to 20 Hz. The measurement was made at the cone for frequencies above 40 Hz and at the port for lower frequencies (where its radiation was dominant). A 10-dB increase in drive level produced considerably higher distortion—from 1.5 to 3 per cent down to 50 Hz and up to 9 per cent at 30 Hz.

The overall system impedance was quite low: about 3 ohms at 20 Hz and from 5,000 to 20,000 Hz. It was between 4 and 6 ohms at most frequencies from 30 to 1,000 Hz except at 450 Hz, where it reached its maximum of 12 ohms, and between 2,000 and 3,000 Hz, where it was about 8 ohms. Since no one is likely to parallel two of these systems on a single amplifier, this low impedance will probably not cause problems and will make it easier for any amplifier to deliver its maximum output to the system.

In view of the large number of drivers in the Andromeda III, which could be expected to create interference effects, the tone-burst response of the speaker was surprisingly good at all frequencies. There were no obvious signs of ringing or other anomalies.

● **Comment.** Although we have not emphasized the physical size of this system, it is what first strikes anyone seeing it for the first time. The two panels will dominate any ordinary-size room.

We listened extensively to the Andromeda III both before and after making our measurements. Our first impressions remained unchanged and were not explained to our entire satisfaction by the test results. The Phase Linear Andromeda III had one of the smoothest, most extended, and best dispersed "top ends" we have ever heard. Most of the time we listened with the equalizer high-frequency switch centered, but sometimes (especially with program material having excellent highs) we preferred a reduced setting.

With this superb high end goes a completely unified sound. One never senses that each panel has nine different drivers; rather, the sound emerges from the entire panel surface somewhat as it does in a full-range electrostatic speaker (but the Andromeda III sounds very different from such a speaker overall). However, like an electrostatic (or dipolar or omnidirectional radiator), the panels of the Andromeda III can be approached with no sense of increasing sound pressure. In fact, we spent much of our time within five feet of one of the panels without ever feeling overwhelmed or "too close" to the sound source.

The polar response of the panels is actually dipolar over most of the audible range and omnidirectional at other frequencies. To our ears, it came close to sounding completely omnidirectional; we could walk behind the speaker panels with virtually no change in sound quality.

The bass module could never be heard as a distinct or separate contributor to the total sound. It probably could have been placed anywhere in the room with equal success. The low-bass output was most impressive, especially on pipe organ and bass-drum sounds, but with most program material one might never suspect that the sub-woofer was in use. In fact, at one point we blew the fuse of the

(Continued on page 44)

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bass module and didn't realize it for some time after, since most program material has little energy below 100 Hz. We greatly appreciated that the Andromeda III never added artificial heaviness to male voices, outperforming many otherwise bass-shy speakers in this respect.

We were concerned that our simulated live-vs.-recorded listening test might not be applicable to this speaker. In order for a speaker to accurately imitate the sound of our "live" program, it must have a polar response similar to that of our reference source—and nothing could be more dissimilar in configuration than the Andromeda III and our program source. Not surprisingly, the Andromeda III never sounded so much like the live sound that we were unable to tell them apart. However, it did have the same overall frequency balance and we could not hear any change in highs or middles when we switched from the original program to the Andromeda III trying to reproduce it. Only the spatial properties changed, not the sound quality.

While we cannot comment on the validity of the reasoning that led to the creation of the Andromeda III, there is no question that the

One of the Phase III's large and complex speaker panels with grille removed and the subwoofer turned on its side to expose drivers.



design provides a sense of spaciousness missing from the output of most conventional speaker systems. One is never conscious of the speakers as the immediate source of the sound, as is usually the case with conventional systems. Yet, though the apparent sound sources within the recorded program were never "pin-pointed" by the Andromeda III, they were also never vague or directionless. After living with these speakers for some time, we gave up trying to analyze their qualities and just enjoyed the experience of listening to them.

To summarize, Bob Carver's venture into speaker-system design has resulted in a product as innovative as his electronic creations have been, despite their total dissimilarity. The Andromeda III requires a very large amplifier, of course, but Phase Linear has done more than their share to make *that* possible. Our capsule impression of the Andromeda III is that it is one of the most visually obvious yet sonically subtle—and impressive—speakers we have experienced. You will have to hear it for yourself, since it sounds like no other we can think of.

Circle 108 on reader service card



Soundcraftsmen MA5002 Power Amplifier

THE proliferation of new power-amplifier "classes" continues unabated, with the Soundcraftsmen MA5002 (tentatively labeled "Class H") power amplifier being the latest variant to reach the consumer market. The class of an amplifier circuit usually refers to its internal operating conditions, such as the quiescent (no-signal) current drawn by its tubes or transistors and the fraction of the signal cycle during which each part of the amplifier is active. Recent developments have extended this usage somewhat to include any means by which an amplifier is induced to deliver more power, or to deliver it more efficiently, than conventional design allows.

In the case of the MA5002, the amplifier circuits (except possibly the protective circuits) are conventional and operate in class AB at all

times. The difference lies in the use of a power supply whose voltage increases with the signal level, thus giving the amplifier more "headroom" as needed to accommodate high signal amplitudes. Given low- or no-signal conditions, the output transistors operate with a reasonably low voltage and correspondingly low power dissipation. The result is a very powerful amplifier (rated to deliver 250 watts per channel to 8-ohm loads from 20 to 20,000 Hz with less than 0.1 per cent total harmonic distortion) that is claimed to draw appreciably less power from the 120-volt a.c. power line when idling or delivering normal listening levels than other amplifiers of comparable ratings. At full power output, however, the MA5002 draws an impressive 1,000 watts from the power line.

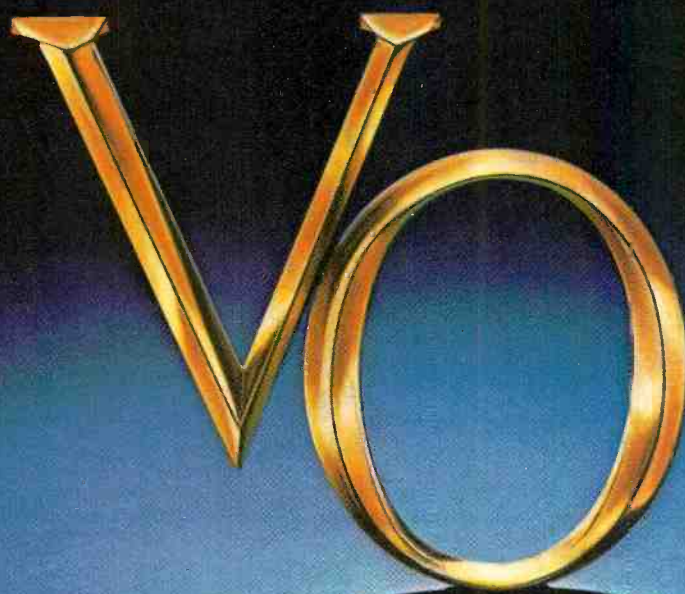
The Soundcraftsmen amplifier has two power supplies (actually, each is a dual positive/negative voltage supply), with one delivering up to 50 per cent more voltage than the other. At power outputs up to 50 per cent of the rating (125 watts), only the lower-voltage power supply is connected to the output stages and the unit operates like a very conservatively rated 125-watt amplifier. When the instantaneous signal amplitude is sufficient to drive the amplifier beyond 125 watts, a "Vari-Portional" circuit goes into action and begins to turn on the high-voltage supply, which takes over smoothly from the lower-voltage one. It follows the signal waveform so rapidly that the effective operating voltage on the output transistors increases *faster* than is required to handle the increased signal level. As the manufacturer points out, the high-voltage power supply is in effect a powerful, wide-band audio amplifier whose slew rate is greater than that of the audio amplifier proper (which is itself rated at a very high 50 volts per microsecond).

No current limiting is used to protect the output transistors. Instead, the MA5002 has an "electronic crowbar" that shuts down the amplifier totally in the event of an output short circuit or excessive load current. After about 2 seconds, the unit turns on again automatically (if the fault remains, it will not come on fully and will emit a click every 2 seconds).

The front panel of the MA5002 has two large meters calibrated from -20 dB to +3 dB; their 0-dB points are supposed to correspond to the rated output of 250 watts into 8 ohms. Between the meters are pushbutton switches that increase their sensitivity by factors of ten or one hundred so that they can indicate output levels of a fraction of a watt. Each channel has a front-panel LEVEL control plus a green VARI-PORZIONAL light and a red CLIPPING light. The green light begins to glow

(Continued on page 46)

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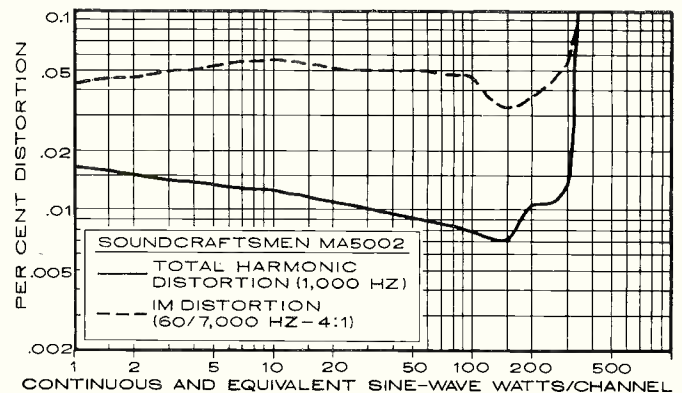
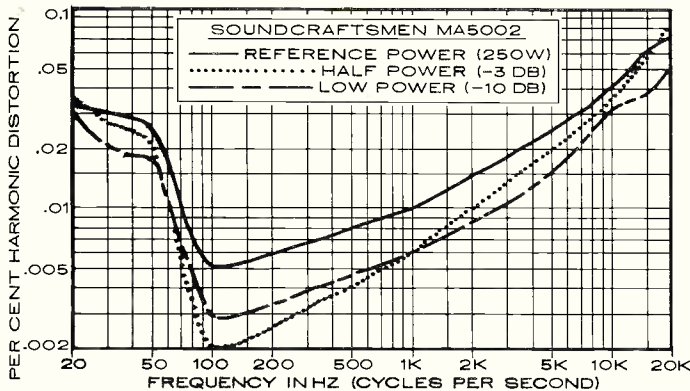
when the higher-voltage power supply goes into action, and the red light is a fast-responding indicator of output clipping. An OVERLOAD light comes on when the electronic crowbar has been tripped, and there is a red POWER pilot light. Two SPEAKERS switches and a POWER switch complete the controls.

Most of the rear apron of the MA5002 is devoted to two large heat sinks; between them are two pairs of speaker-output binding-post terminals and the two input phono jacks.

microsecond on one channel and 40 volts per microsecond on the other. The frequency response was down 0.2 dB at 5 and 25,000 Hz, and down to -3 dB at 100,000 Hz. We also made a difference-tone distortion measurement using equal-amplitude signals at 18 and 19 kHz and driving the amplifier to a level only 0.2 dB below the clipping point. The 1,000-Hz difference-frequency IM product was 79 dB below either input tone (85 dB below peak-envelope power), and third-order

low-sensitivity range 0 dB corresponded to about 50 watts on a steady sine-wave signal, or about 250 watts on brief musical peaks, into 8 ohms. The relative accuracy of the meter readings and range switches was good, and the least-visible meter deflection was at about 0.1 watt (sine wave).

● **Comment.** On the basis of its actual performance, the Soundcraftsmen MA5002 is a very powerful, clean amplifier capable of de-



There is a power-line fuse and a heavy-duty line cord with a three-prong grounding plug.

The Soundcraftsmen MA5002 is furnished with finished-walnut side plates, removable for rack mounting, and sturdy black handles on the front panel. The amplifier is 19 inches wide, 15 inches deep, and 7 inches high; it weighs 55 pounds. Price: \$699.

● **Laboratory Measurements.** The one-hour pre-conditioning at one-third rated power made the amplifier's heat sinks too hot to touch for more than a couple of seconds. However, throughout the rigorous testing that followed there was no sign of excessive temperature on any other external surface of the amplifier.

With a 1,000-Hz test signal, both channels driving 8-ohm loads, clipping occurred at 312.5 watts per channel. The 4-ohm output before clipping was a very impressive 458 watts, and the 16-ohm clipping level was 207 watts. At the rated 250 watts output, the harmonic distortion was well under the 0.1 per cent rating, measuring about 0.03 per cent at 20 Hz, 0.005 per cent at 100 Hz, and increasing smoothly to 0.07 per cent at 20,000 Hz. At half and one-tenth power the characteristic was similar, with lower readings.

At 1,000 Hz, the harmonic distortion was between 0.007 and 0.025 per cent from 0.1 watt to 310 watts output. The intermodulation (IM) distortion was nearly constant at around 0.05 per cent (it ranged from 0.034 to 0.065 per cent) over the full power range from less than 10 milliwatts to 310 watts.

The amplifier required an input signal of 0.25 volt for a reference 10-watt output, and the unweighted noise level was 85.4 dB below 10 watts (or 113 dB below rated power). The rise time of the output waveform was 3 microseconds, and the slew rate was 48 volts per

distortion products at 17 and 20 kHz were at -62 dB.

The VARI-PORTRIONAL lights began to glow at 125 watts, and the CLIPPING light flashed at 331 watts. The literature on the MA5002 includes scope photos illustrating the response of the Vari-Portional circuit to high signal levels. We repeated this test for ourselves, and the resulting scope photos show clearly how the power-supply voltage (upper line) begins to increase as the peak of the signal waveform reaches 125 watts, finally increasing enough to accommodate some 380 watts output at the clipping point. (This reading is higher than our original clipping measurement because we drove only one channel and allowed the line voltage to rise to 125 volts instead of the standard 120 volts.) The accompanying photo shows only the positive power supply, but an identical effect takes place with the negative supply voltage.

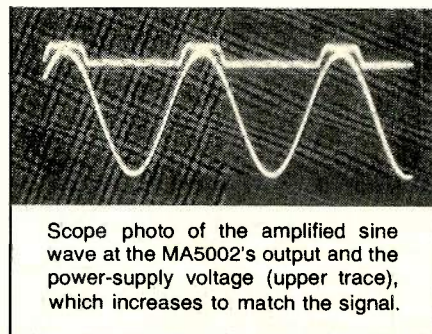
We short-circuited the amplifier outputs repeatedly, at various power levels, and the crowbar circuit worked perfectly every time to prevent any damage to the amplifier. The output-meter calibration was such that in its

delivering considerably more power than many other comparable- or higher-price units. Not many \$700 power amplifiers can deliver close to 1,000 clean watts to a pair of 4-ohm speakers (and not too many 4-ohm speakers can absorb 500 watts safely, so caution is advisable!). We found the protective system of the MA5002 to be excellent in respect to problems of shorted outputs or too many pairs of speakers connected in parallel.

In normal use, the MA5002 power amplifier indeed runs very cool, as one would expect from a "125-watt" amplifier whose output semiconductors (eight per channel) and power supply are designed for two to three times that power. If it is "pushed" it gets hot, of course, but we cannot imagine ever needing a fan or other external cooling means.

We listened to the amplifier at length, often driving it until all its signal lights except OVERLOAD were activated. At no time was there any audible evidence of anything out of the ordinary; the MA5002 behaved and sounded just like the very rugged and clean high-power amplifier that it is.

It is worth mentioning that, unlike some other techniques for increasing the short-term power-output capability of an amplifier, the Soundcraftsmen "Class H" system is capable of full-time operation. In other words, the extra power is available not only for a fraction of a second during a musical peak, but for as long as may be required by the musical program material, without any damage to the amplifier or change in its operating characteristics. One may argue whether the Soundcraftsmen design truly represents a new class of amplifier operation, but it is certainly a very effective means of economically providing large amounts of clean audio power when it is needed.



Scope photo of the amplified sine wave at the MA5002's output and the power-supply voltage (upper trace), which increases to match the signal.

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Going on Record

By James
Goodfriend



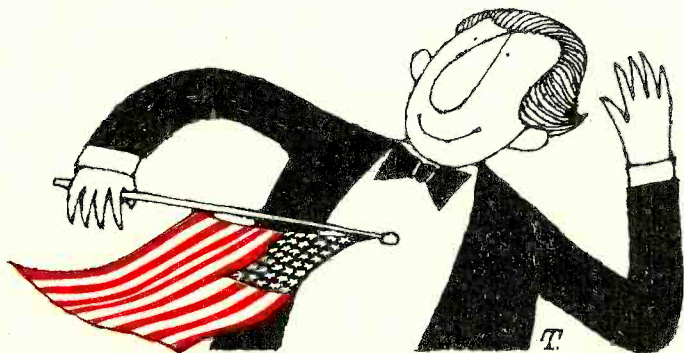
A LITTLE FLAG WAVING

MUSICAL nationalism, as we all know, was a movement of the nineteenth century, beginning, perhaps, with Glinka in the 1830's in Russia and Smetana in the 1850's in Bohemia. Or that, at least, is the way we learn it in the general run of books on music history and in elementary courses of study. How, then, one wonders, do we account for such things as Telemann's "Polish music" in the early eighteenth century and such obviously nationalistic pieces as Copland's *Rodeo*, Alfvén's *Midsommarvaka*, and Rodrigo's *Concierto de Aranjuez* in the twentieth? Perhaps the best way is by denying that nationalism was a nineteenth-century movement at all.

Nationalism, or regionalism, has been a factor in musical creation since there was such a thing as musical creation. Internationalism or cosmopolitanism, its opposite, was a later creation. The first cosmopolitan notated music we know is Gregorian chant, codified at the turn of the seventh century and existing today in essentially the same form. It was an international music for this very simple reason: that in every Roman Catholic church, located in whatever country, the music performed was the same. You might exit the church to a world of troubadour songs, of Polish peasant dances, or of Gaelic harp music, none of which had anything to do with the other, but within the church you were in the presence of an international musical style. Religion, crossing national boundaries as it does, has always been one of the great propagators of international rather than national music.

But there are international musics other than religious ones. In the nineteenth century, the mainstream of music comprised three styles, which can, in retrospect, be identified by the national names of German, Italian, and French. While different from one another in many respects, they had certain things in common, and together they constituted the accepted international style of the time. It was international basically in the sense that you could walk into virtually any concert hall or opera house in Europe (or America, for that matter), and what you would hear would be recognizably German, Italian, or French music or some mixture thereof. It wasn't that the composers of the music were necessarily German, Italian, or French (though hordes of them were), but the *music* was. Again, you could exit the concert hall to a world of Scots pipe music, Mexican *cantos*, or Norwegian folk fiddle music, but within the hall you were in the presence of an international style.

It would be fascinating to investigate *why* the musical world across the years moves back and forth between international styles and national ones, but it is important to know simply that it does. The nationalist movement of the nineteenth century (to revive it again in that form) was only one of the most noticeable of such pendular movements. Glinka and Smetana, among others, decided that they were Slavs, not Germans or Italians with Slavic names, and they tried, with a certain success, to compose Slavic music—or, more accurately, to take the international musical style as a mere medium and to fill it with Slavic musical content.



Now, it is a truism not only of music history but *especially* of music history that similar things happen at different times in different places. No one sends out a broadside for general distribution saying that the Renaissance is over, let's all get busy writing this Baroque music (though some musical documents do, in fact, come close to that, and in recent decades, at least, the word does get around awfully fast). It requires, after all, the *existence* of a talented composer in a particular place to pick up on that sort of idea at all.

So when Glinka and Smetana's full-blooded nationalism—and Chopin and Liszt's half-hearted nationalism—made their example known, not everyone was ready for it. Grieg produced a Norwegian national music almost instantaneously, but it took the Danes and the Finns somewhat longer to produce, respectively, a Carl Nielsen and a Jean Sibelius, and in Sweden nationalism has been very much a twentieth-century phenomenon. Spanish nineteenth-century nationalism began only toward the end of the century with Albéniz and Granados, and, though there were distinctive moments before, English music did not really shake free of its German models until the advent of Ralph Vaughan Williams and Gustav Holst. In the United States, our greatest flowering of national music (there were precursors) was in the Thirties and early Forties, precisely the period during which the aforementioned Aaron Copland wrote the aforementioned *Rodeo*.

THOUGH we have been in and out of international styles several times already in this century, the *idea* of nationalism, even in its nineteenth-century sense of local color, folk song and dance material, and atmospheric titles, is still very much a living issue in many countries of the world.

None of this, however, quite explains Telemann's "Polish music," for Telemann was, first of all, a very cosmopolitan composer and, second, a German, not a Pole. But Telemann's temporary nationalism (for it is still nationalism of a sort) is of a second variety, the extraterritorial type. He had visited Poland in 1704-1707, developed a taste for the (to him, not to the Poles) "exotic" music he heard there, and incorporated its stylistic elements into certain works of his own. Needless to say, this extraterritorial nationalism was a very popular idea later on. Tchaikovsky wrote a *Capriccio Italien*, Rimsky-Korsakov a *Capriccio Espagnol*, Debussy an *Ibéria*, Copland an *El Salon México*, Milhaud a set of *Saudades do Brasil*, Ravel a *Tzigane*, Strauss an *Aus Italien*, and so on.

Far stranger, though, is the incorporation of specific details of Hungarian music in the works of composers whose music has nothing ostensibly to do with Hungary. The transference came about because of the strength of the artistic personality of Béla Bartók, whose style, built largely on a scientific study of Hungarian folk music, became of international importance.

FOR a time it was common to look down on national music as a sort of second-rate (not to say secondhand) artistic statement. That time should be past, for the national-international opposition forms, like the oppositions of melody and harmony, polyphony and monophony, form and content, classicism and romanticism, and others, one of the great fields on which the game of music is played.

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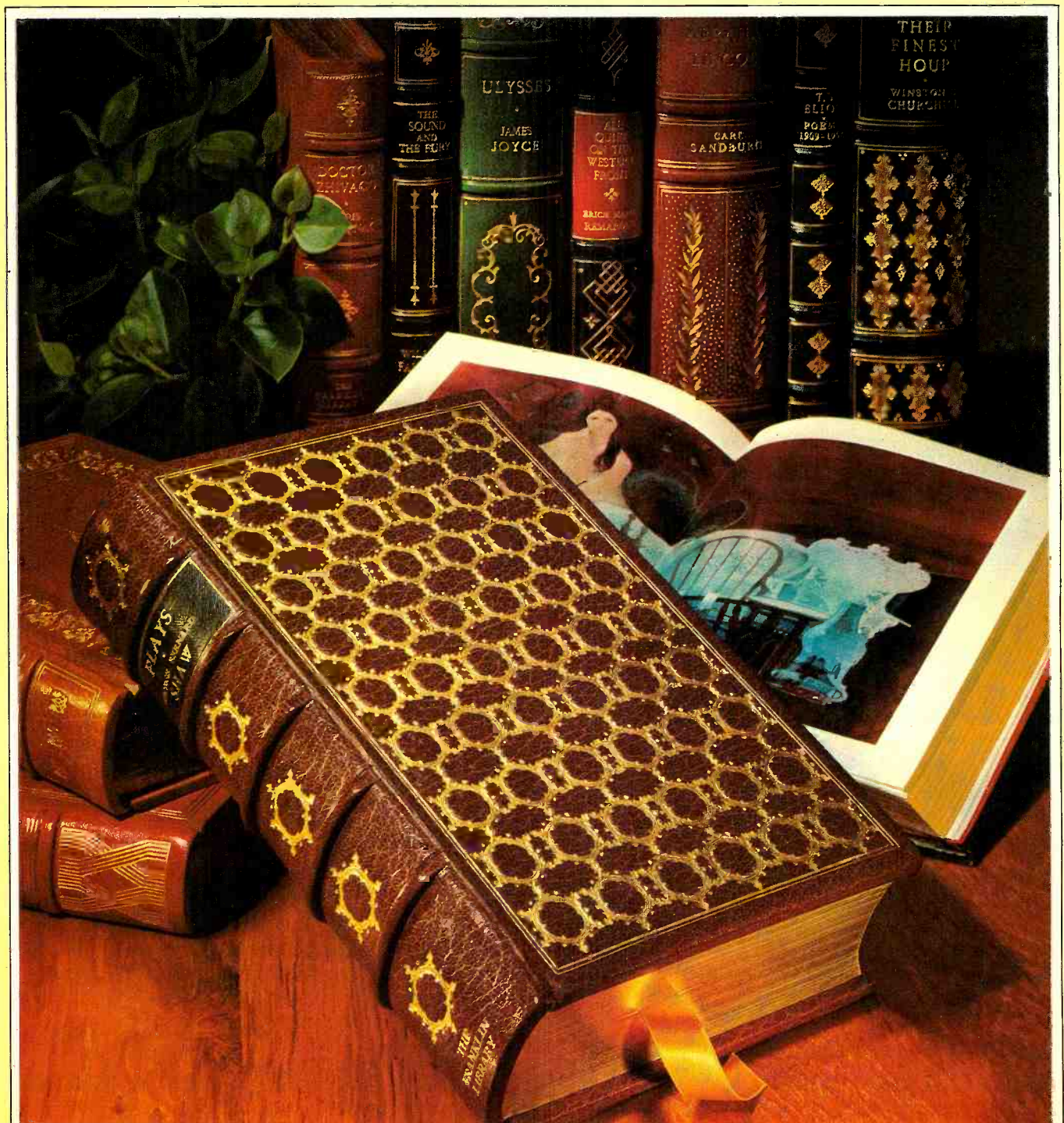
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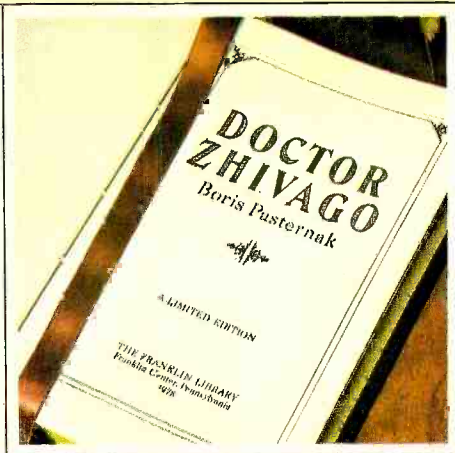
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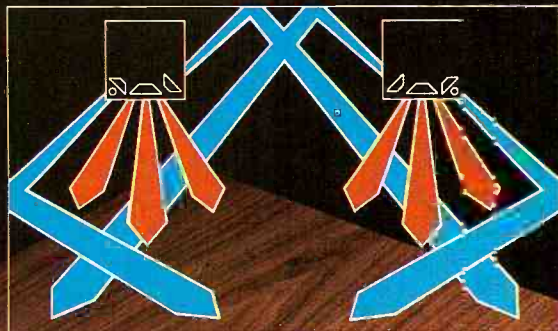
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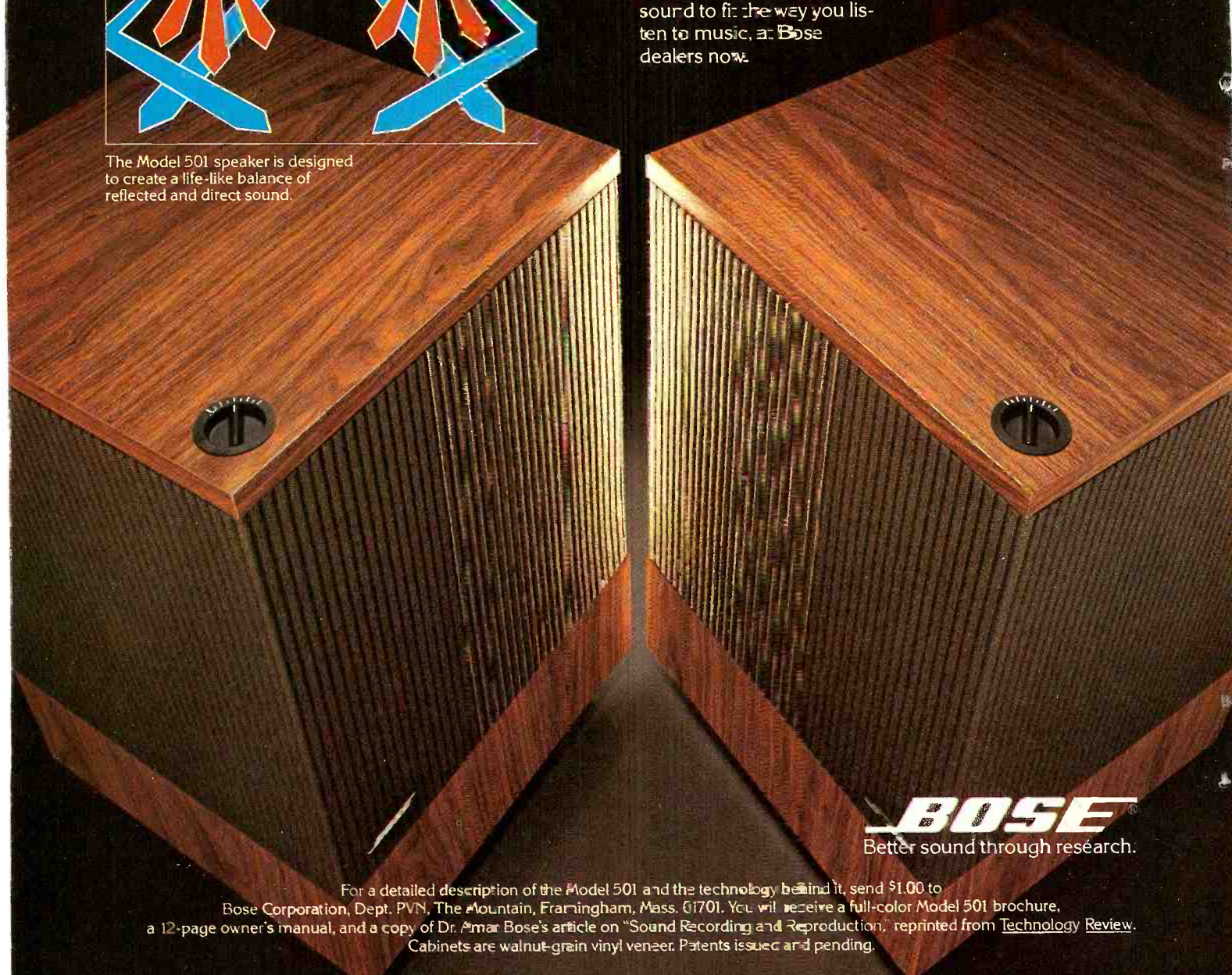
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The Pop Beat

By Paulette
Weiss



LOCO, BUT NOT ROTTEN

THE always-a-bridesmaid days are over for Willie "Loco" Alexander, Boston's leading New Waver. And it's about time. After years of promiscuous flirtation with band after band in the rock underground, Willie has at last found a legitimate home with his Boom Boom Band on MCA records. The three-album contract that wed him to MCA last August will expand his audience beyond Boston, where he is adored. His brand of rock is a crazy-quilt of Fifties and Sixties musical and cultural odds and ends—a Ronettes quote tucked in here, a Chuck Berry riff patched in there—all delivered with a demented intensity that is appealingly puckish rather than sinister. When he squinches up his face and touches the corner of his mouth with his tongue in childlike concentration in performance, you know the man may be a little "loco," but he's not rotten.

Alexander is an oddball example of a breed of rocker we've been seeing more of lately, those steady pacers whose music has over many years earned them a living and a devoted following but not the coveted recording deal with its promise of big bucks and national recognition. Bob Seger, Steve Miller, and Peter Frampton have all finally managed to hop that fast train to fame, and now Willie intends to do the same.

In his thirty-five years Willie has done *some* moving around. His career might have picked up steam back in the Sixties had the British invasion not stalled so many young American groups in their tracks. A 1965 Capitol single with his first group, the Lost, never got anywhere. Neither did a later album with his next band, Bagatelle, nor his solo effort in 1968. Willie joined the Velvet Underground after Lou Reed's departure, and then in 1972 experimented with the glitter scene as leader of a band called the Radio Hots, but somehow he just couldn't bring this last image into focus either.

"I put a little green stuff on my eyes, but I looked a little sickly," he said in a 1977 *Punk* interview. "No platforms or anything . . . a friend of mine had some but I felt like Rhonda Fleming—I kept falling all over the place."

About two years ago he put out a solo single on his own label, Garage Records. Both sides, *Kerouac* and *Mass. Ave.*, became hits in the Boston rock underground. He then hooked up with a band called Wild Honey, which became the Boom Boom Band, and the group appeared on another independent single, (*Roll Her Over*) *Hit 'Er with de Axe*. This tongue-in-cheek Lizzie Bordenesque send-up must have titillated an MCA talent scout, because the album "Willie Alexander and the Boom Boom

Band" (MCA 2323) was committed to vinyl and released in early January. It features a hard-rock rendering of the Righteous Brothers' *You've Lost That Lovin' Feelin'* that is bursting with energy yet displays a lyrical tenderness and the affection for this music that makes Willie so endearing. The disc also includes one of the songs that won Boston's heart, *Kerouac*, a simple paean to an older generation's hero made unique by Willie's mad vocals. All ten songs are idiosyncratic performances by an artist whose highly individual style was formed long before punk rock brandished its threatening safety pins over the land. Nonetheless, he has been swept into the New Wave bag along with many others whose music is actually quite varied. What makes the label "punk" appropriate for Willie is his irreverence, his raunchiness, and his frequent appearances at the few low-down clubs that would have him.

I WENT to Boston to see Willie because I had heard "Live at the Rat" (Rat 528), a two-disc album recorded at Jim Harold's club, a notorious punk stronghold. Willie's three cuts left me wanting more, and the only way to get it was to travel because, unlike their New York counterparts, none of the Boston New Wave bands had recorded for major labels until Willie got his MCA contract.

Willie's December 6 performance (in the middle of a blizzard at the Paradise, the latest addition to Boston's New Wave club circuit) marked the public announcement of the first punk LP by a Boston group, and it was my first glimpse of the scene that gave birth to it. Besides Willie, who covers vocals and keyboards, the Boom Boom Band consists of drummer David McClean, bassist Severin Grossman, and guitarist Billy Loosigian, whose ample technique and intelligent fills actually sound rather *anti-punk* insofar as true New Wavers revel in their instrumental incompetence.

The importance of the evening took its toll of poor Willie, who was far too tense to chat with the mobs of press and MCA executives on hand for the occasion. The tension carried through to his performance, his first in the Paradise, which was packed and noisy despite the snow. The club became a punk emporium less than a year ago, and the sound system could not take the volume. Willie's set emerged in one great sonic wad. His odd gestures and vocal mannerisms commanded attention despite the overall murk, and I couldn't help thinking that these idiosyncrasies will either make him or break him. He uses a most peculiar vocal punctuation, a kind of gurgled "ga-ga" sound like the feeding call of some large, slow, clumsy bird, to chop a lyric into the semblance of free-associative bits. Fortunately, the production on the album (by Craig Leon, record producer for the Ramones and Climax Blues Band) is infinitely cleaner, permitting Willie's delivery and original lyrics and Loosigian's guitar work to light up your life with a few colored lights Debby Boone likely never dreamed of. Unfortunately, there's no lyric sheet, but if you listen very carefully, you'll be rewarded with some *wild* pop-culture nuggets between the ga-ga's.

WILLIE'S honeymoon with MCA will be spent touring the country, so you can soon toss some rice in person. Or you can just take my word for it that Willie makes a beautiful bride.

MCA Records



SEMI-PRO recording, judging from the amount and variety of equipment now available, obviously has enormous interest for today's aspiring musicians and recording engineers. The recording gear, although certainly not cheap, is priced at about the level of high-end home hi-fi equipment. Given the proper equipment and the know-how to operate it, a talented "basement" recordist can produce tapes of master quality—meaning worth cutting a disc from.

Some months ago I was approached by a friend, Peter Ponzol, for some advice about recording equipment. Peter is a talented jazz musician who has appeared on records with Buzzy Linhart and Todd Rundgren and live with José Feliciano, Ira Sullivan, and other well-respected performers. He had recently received a Jazz Performance Grant Fellowship from the National Endowment for the Arts to make a recording of his own works. It occurred to me that here was an opportunity not only to help Peter, but to acquaint our readers—many of whom are already into semi-pro recording to some degree—with some of the latest gear and how it is used.

I recruited (it wasn't difficult!) another friend, Vincent Ficara, to serve as the recording engineer on the project. Vinnie was ideal for the job: he was an experienced home recordist (he owned a pair of Tandberg open-reel machines long before they were transistorized), had played electric bass in a moderately successful local rock band,

and had taken several electronics courses at the RCA Institute. By profession, he is also a computer programmer, a fact that I did not at first think was relevant to the recording project. But it turned out to be very important, for training in writing computer programs makes it easy to conceptualize the complex signal-flow paths that normally occur when you use a mixer's multipurpose inputs and outputs to full advantage. It was also important that Vinnie had no experience with the type of semi-pro gear he would be using, for I felt that someone who had come to the equipment fresh would be best able to appreciate and write about the problems facing the novice in the field of semi-pro recording.

Throughout the article that follows, the authors assume that the reader already knows basic tape-recording and microphone theory, and they have tried to maintain a balance between providing too much detail about technique and too little. And keep in mind that this is a mere introduction to a large subject; no one article or even a book could provide all the information needed to turn anyone into a Master Recordist overnight. We are grateful to the various manufacturers who loaned equipment and gave generous advice in both planning and execution stages of this project, and we hope that all our efforts provide some insight into the joys, the problems, and the fantastic creative potential semi-pro recording opens up to the ambitious amateur.

—Larry Klein, Technical Director

SEMI-PRO RECORDING

• HOW TO MAKE YOUR OWN MASTER TAPES •

Preliminary Planning

We had thought originally that we would do the recording on a four-track tape deck, but we rejected that approach because it would have meant premixing stereo tracks for drums, acoustic bass, and synthesizer, leaving only two tracks for overdubbing reed and percussion instruments. You can, with a little ingenuity, "bounce" tracks around and record, say, nine different tracks on a four-track deck, but with an inevitable loss of sound quality. In a typical four-tracker you might first record three tracks, play them back, mix them as desired, and then rerecord the three tracks combined onto the fourth track. Then you erase the original three tracks, opening up three "new" tracks to record on. But . . . each time you "bounce" a track it is another generation away from the original, and each new generation means some deterioration of the original sound.

All other things being equal, the best results in multitrack recording are

-
- **THE PROJECT:** production of a master tape that would be used to produce a record album.
 - **THE INSTRUMENTATION:** five musicians playing drums, acoustic bass, synthesizer (keyboard and percussion), sax, flute, and percussion.
 - **THE SITE:** the living room—a little tight, but we would manage.
-

achieved when there's a separate track available for each microphone being used. But in the real world of home recording this is seldom possible: you never seem to have enough tracks no matter how many are available. Although most amateurs will be working with a four-track deck, an eight-tracker permits recording each track at optimum level and equalization. It also

offers the option of adding reverberation and/or other signal processing to any of the recorded tracks individually during the mix-down session rather than earlier. And, finally, it provides complete control of the mix of the individual instruments during the mix-down session. It was for these reasons (as well as the fact that one was available) that we chose to use an eight-track deck, but much of what follows is as applicable to four tracks as to eight.


Prior to this project, the closest I had been to eight-track equipment was at the 1976 Audio Engineering Society convention in New York, where I spent a good part of a day at the Teac/Tascam exhibit twisting knobs to my heart's content. It was my first exposure to the Model 80-8 eight-track, ½-inch tape deck and the Model 5 mixing board. Fascinated, I gathered all the allied literature I could get my hands on at the convention and spent the rest of the year digesting it.

When this recording project suddenly developed, I found that a considerable amount of additional research was

By Vincent Ficara
and Peter Ponzol

THE EQUIPMENT

- **Main record deck:** Teac/Tascam Model 30-8 eight-track, ½-inch 15-ips tape deck with DX-8 dbx.
- **Mixdown deck:** Tandberg Model 10XD two-track, ½-inch, Dolby tape deck.
- **Mixing equipment:** Teac/Tascam Model 2 mixing board with Model 1 "submizer."
- **Microphones:** Electro-Voice CS15 condenser (two); Electro-Voice RE16 dynamic (two); Shure SM56 dynamic (two); AKG C-451E condenser with CK-1 capsule (a microphone/preamp combination).
- **Monitoring headphones:** Shure SA-2E Solo-Phone headphone amplifier; Koss Pro/4AAA main monitoring phones; various other musicians' phones.
- **Signal-processing accessory:** MXR digital delay unit.
- **Tape:** Ampex Grand Master 456 ½-inch tape (10½-inch reels); Maxell UD55-189B ¼-inch tape (10½-inch reels).



The living room was big enough for recording, but not for photography. Author Ficarra is shown at the console as set up in our photo studio (photo by Bruce Pendleton).

"As a first step, I made up a chart listing all the instruments to be recorded."

necessary before I could decide what equipment I would need, especially in the microphone area. So the first thing I did was to get my hands on a number of reference books (see the recommended reading list herewith). Then, armed with this secondhand expertise (and with a few firsthand experts available to ask questions of), I selected the equipment; you'll find it all listed in the box on the previous page.

The Mixing Board

The mixing console is the heart of the recording session. It provides complete control over the signals that come into the board as well as how the signals will be handled in terms of equalization (EQ), reverberation, or any other signal processing you may have connected to the setup. You can direct any input signal to record on any track. You can play back previously recorded tracks while recording new tracks (providing the tape deck has multitrack synchronizing capabilities). You can combine two or more inputs, mix them together, and direct the combined signals to any track(s) you wish. You have monitoring facilities that enable you to monitor any or all incoming signals in any combination you wish. You have facilities to feed any signal to the musicians' headphones. In fact, there are so many options that it would take a separate article to describe them in detail.

My own interconnections between the Model 5 and Model 1 mixers and the Model 80-8 eight-track deck for these recording sessions were arrived at after a great deal of deliberation. Considerable thought was required in order to work out the interconnections for maximum convenience and minimum need to plug and unplug audio cables each time I had to do something different. I found it very worthwhile to invest some time in organizing a logical approach to the problem. As a first step, I made up a chart listing all the instruments to be recorded. I then decided which instruments would go on the basic tracks and which would be overdubbed. I also worked out and listed the microphones, the console inputs, and the track assignments I would use for the specific instruments.

Microphone Setup

When track assignments were decided upon, I was ready to set up the microphones. I anticipated that the drum set would be the most time-consuming setup, so I did that first. Microphone inputs 1 to 5 on the console would be used for the five microphones covering the drum set. Input 1 was fed a signal from the CS15, a cardioid condenser microphone mounted on a "baby" boom positioned approximately one foot above the left cymbal and aimed directly down toward the edge where the sound seemed to be richest.

I chose an electret condenser mike over a dynamic because I believed it would be better able to handle the high-frequency transients produced by the cymbals. But this also meant that I had to be careful to avoid overloading the microphone's built-in electronics with high sound-pressure levels. Once an overload has occurred within the microphone itself, trimming the console's input doesn't help since the arriving signal has already been distorted.

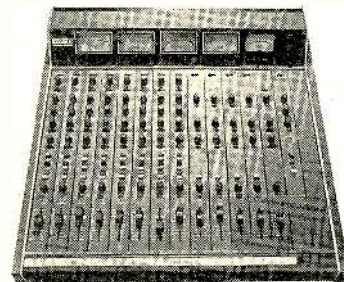
Having considered this possibility, I decided to install a 10-dB attenuator "pad" between the capsule and the electronics of the microphone. Any further gain or attenuation needed in its signal output would be handled at the mixing board. Although the main reason for placing this microphone where I did was to pick up the left cymbal, I also wanted it to provide overall pickup of the left side. I set the basic equalization at the mixer to roll off everything from 200 Hz on down.

Mixer input 2 was fed a signal from the RE16 dynamic cardioid microphone located several inches above and off to the side of the floor tom-tom's head. The cardioid microphone takes its name from the heart-shaped pattern of its directional (polar) response. It is designed to respond best to sound reaching it head-on and to reject sounds coming in from the sides and rear. However, because of the nature of sound, it is difficult for any microphone to reject off-axis low frequencies, and some lows do get through unaccompanied by the rejected highs. The result is referred to as "off-axis" coloration. The RE16 was chosen because it suffers from this problem less than most and has a good overall frequency response.

Obviously, experimentation with mike aiming and placement will also help avoid off-axis coloration and the muddy-sounding tracks it can produce. In any case, you can assume that there will always be some leakage of the sound of one instrument into another instrument's microphone, and there are

certain steps you can take to minimize it. In the case of the floor tom, I rolled off everything above 10,000 Hz—the tom has no significant output up there anyway—so that high-frequency room noise and leakage from the cymbals would be cut back.

The kick drum was next. I used an SM56 dynamic cardioid microphone. The SM56 has good bass and good overall response. I packed the kick drum, one head of which was removed, with a blanket pressed against the skin to provide more of a "thud" quality, and I aimed the SM56 off-center where it picked up the sound quality I wanted. The signal from this microphone was fed to input 3. I set the mixer to filter frequencies above 5,000 Hz to help minimize leakage from the rest of the drum set. I placed another RE16 equidistant from the hi-hat cymbal and the snare drum, filtering everything below 200 Hz to minimize leakage from the kick drum. The microphone was connected to input 4. For the overhead-right cymbal I used another CS15, with the same EQ setting as the overhead-left cymbal, connected to input 5.



Above, Teac/Tascam Model 5 mixer.



Stacked, MXR digital delay unit, Shure SA-2E headphone amp, Teac/Tascam Model 1 submixer; below, Teac/Tascam 80-8 tape recorder with dbx DX-8 noise reducer.



It is not always necessary to use this many microphones in order to capture a good drum sound, of course. Two cardioid microphones directed 90 degrees apart and aimed at the drum set from several feet away can produce a very good sonic image. However, this method requires a favorable acoustic environment; otherwise, the mikes will pick up too much room-reflected sound, which will dilute the "tight" drum quality that is wanted. Close miking would, for the most part, pick up only the direct, tautly damped sound.

Fixing the Phase

My decision to use five microphones created difficulties that required several hours to resolve. The major problem was controlling phase cancellation. Consider the fact that there are many sound waves emanating from the different components of the drum set. These sound waves reach the differently located microphones at different times, thus creating random phase electrical audio signals. When such signals are mixed, some frequencies will add

and be boosted, while others will cancel and be reduced. Close miking of the instruments helps considerably in avoiding this, because sound reaching a distant microphone from other instruments will have a lower sound-pressure level and will therefore have less effect on the mixed signal. One technique for guarding against phase cancellation employs what is known as the 3-to-1 rule: whatever the distance one microphone is from an instrument, no other microphone should be closer than three times that distance. For example, if you place a microphone 1 foot from the cymbal, you should not place another microphone within a 3-foot radius of it.

Frequency cancellations will not be heard when monitoring tracks *individually*. Each component of the drum set may sound good until the mix-down, when you suddenly find that the whole is unfortunately less than the sum of its parts. In order to avoid such surprises, it is a good idea to listen to the drum tracks mixed down into mono *before* taping them. Any problems can be detected at that point and adjustments can be made in your microphone place-

ments and EQ. It took me several hours of trial and error before I got the drum tracks to sound right.

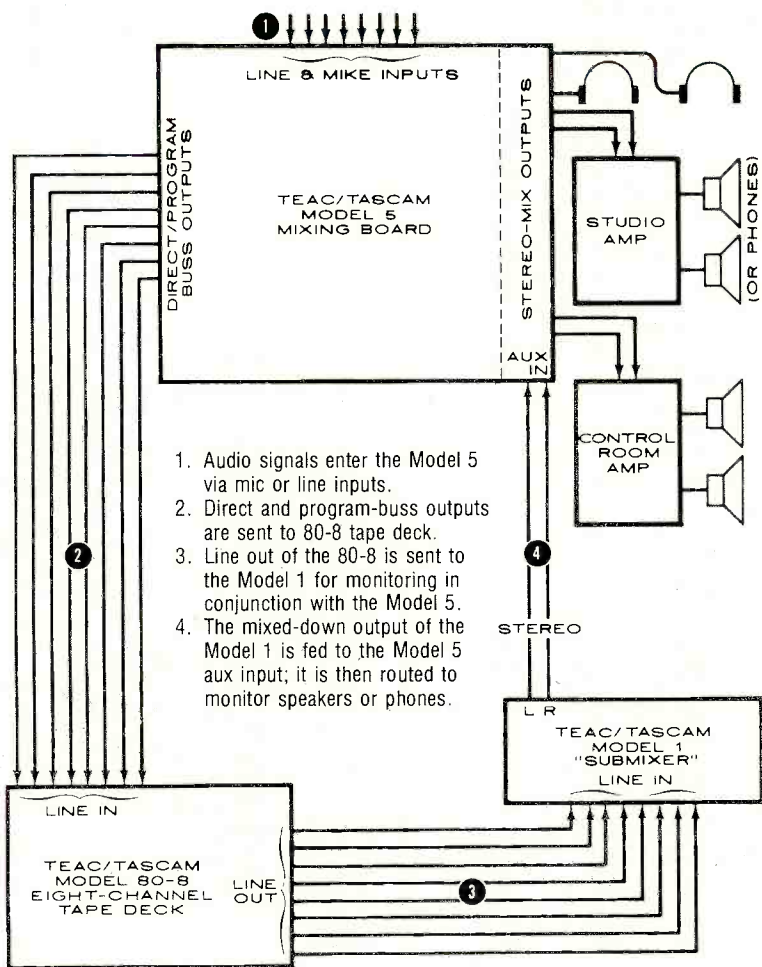
The Model 5 mixing board has extensive monitoring facilities that enable the operator to mix and monitor the incoming signals in various ways *without* affecting signals going out to the tape deck. These include separate panning and volume controls, plus the solo buttons that allow the operator to monitor one or more inputs to the exclusion of all others.

Signal Assignments

At this point I had five mikes picking up the drum set and connected to mixer inputs 1 to 5. It was necessary to mix the five inputs down to a stereo pair that would be recorded on two of the eight tracks. The Model 5 has four "summing" busses that are used when it is necessary to combine two or more signals. For the drums I used output busses 1 and 2, which were destined to represent the left and right channels of the stereo drum mix. I panned the left-overhead (input 1) and the tom-tom (input 2) toward the left channel, and I directed the kick-drum signal (input 3) equally to both left and right channels, thus placing it in the center of the stereo image. The right-overhead (input 5) and the hi-hat/snare (input 4) were directed toward the right channel. Output buss 1, left channel, was connected to tape-track 2. Buss 2, right channel, was connected to tape-track 4. I purposely separated the two tracks in order to minimize crosstalk between the left and right channels and maintain the best separation possible.

After I had established the proper recording levels, I moved on to set up the keyboard synthesizer; this wasn't going to be miked, but instead would be fed directly into the mixer via its high-impedance unbalanced output. I connected the synthesizer's output to a *direct box* whose purpose is to match the output characteristics of the synthesizer to the input of the console. The synthesizer's electronics were a little noisy, so I rolled off the high end just enough to cut out some of the hiss without affecting the quality of the signal. I established a good recording level and assigned the synthesizer (input 8) to tape-track 5.

Next to be dealt with was the bass guitar. It had a pickup on it which enabled me, using another direct box, to feed it directly to console input 7 and *also* to the input of its bass amp. I set up the bass amp in another room and placed an SM56 microphone to pick up the signal slightly off the center of its 15-inch speaker. (The bass amp was set



SEMI-PRO...

"A psychological danger is posed by the mixing board. You may feel you have to use everything at all times just to be sure you're getting your money's worth."

up in the other room to avoid acoustic leakage from the drums onto the bass track and vice versa.) The SM56 microphone was connected to mixer input 6. I used both a direct-box pickup and a microphone pickup because the direct signal into the mixer was too "clean" and lacked the special tonal characteristics of the bass amplifier and its associated speaker.

Using output buss 3, I mixed the two inputs so as to combine the best qualities of both pickups, filtering everything above 10,000 Hz for both inputs. It was vital that both the direct and the miked signals be in phase here; otherwise, the low frequencies would cancel. This is similar to the earlier problem with the drums, except that with the bass amp it is a matter of *electrical* rather than acoustical phase. Most amps have a phase-reversal switch for checking out potential problems. The combined signal assigned to output buss 3 was directed to tape-track 3, giving us a premix of the drums on tracks 2 and 4 and the bass guitar on track 3.

The Basic Tracks

We were finally set to record the basic tracks. Each musician had to wear headphones in order to hear what the others were doing. I used the line-level studio feed of the Model 5 to drive a Shure stereo headphone amp which has two headphone feeds. For the third musician I used the built-in headphone amp from the model 5. Since the musicians would have no trouble hearing the drums (they're *loud!*), it was not necessary to give them a drum mix in their headphones. The three musicians were fed the same mix of bass guitar and synthesizer. If it were necessary, the Model 5 could have delivered different mixes. We played around with the level and balance controls of the headphone feeds until everyone was satisfied. Like most amateurs, I didn't have a soundproof control room to monitor from, so I also used a pair of headphones for monitoring. It was important that *my* phones be able to tell

me exactly what was going onto the tape while being able at the same time to sustain high sound-pressure levels and maintain good acoustic isolation from room sounds. The musicians' headphones weren't as critical in these respects.

While the group was warming up, I established the levels for both the Model 5 mixing board and the Model 80-8 tape deck. The Teac/Tascam 80-8 came already biased and set up for Ampex Grand Master 456 tape, so that's what we used. The machine could, of course, be readjusted for any type of tape, but the Ampex tape is recommended by Tascam, and rebiasing is a fairly involved process, something not to be attempted without adequate equipment and know-how.

It became necessary at this time to make some minor adjustments in level and equalization, for when you hear all the musicians playing together, the interaction of the various tracks can sound different than when heard individually. That's why it is imperative that all the tracks be monitored in approximately the same stereo mix as the final mixdown. However, each track should be *recorded* with optimum level and equalization, since once the musicians have gone home, you have to work with what you've got and there's only so much you can fix in the mix, especially with the premixed tracks.

A psychological danger is posed by the mixing board with its profusion of knobs and switches. You may feel that you *have* to use every one at all times just to be sure you're getting your money's worth. But be careful: it is *very* easy to misuse the equalization facilities. Experiment with different *subtle* equalization settings to achieve the results you want. On the other hand, despite its imposing appearance, I found the Teac 80-8 tape deck very simple to operate. You depress the function-select button for those tracks you wish to record, and the dbx noise-reduction unit (optional) will automatically switch to the encode mode. The LED's blink for those tracks that are in the record-ready mode. Simply press the forward and record buttons of the tape transport and you are recording. You can, of course, "punch in" if you find it necessary to rerecord over only a portion of a track. Punching in switches a track from the play to the record mode *while the tape is running*. For example, say you've recorded a good track, except that at one point a musician came in a little late or played a wrong note. Rather than rerecording the entire track, you can have the musician monitor and play along with his

INPUT-source selection, MIC ATT (pad), and level adjust (TRIM) are handled here.

CUE sets the signal level sent to monitoring headphones. ECHO sets the signal level sent to an external processor.

EQ section allows up to 15 dB of variable high- and low-frequency boost or cut at switch-selected frequencies of 3 or 10 kHz and 75 or 200 Hz.

SOLO sets up monitoring for any one of eight input channels. ASSIGN selectively connects module to any of four busses. PAN works with ASSIGN to "place" a signal's image at any point between any pair of monitors.

The OVERLOAD LED warns when input stage is being overdriven. FADER adjusts output level of the input module.

MODEL 5
INPUT
MODULE
(ONE OF
EIGHT)

previously recorded version—and at the appropriate moment, between notes or during a natural pause, you *punch in*. When you reach the next natural pause you simply “punch out.” If the timing and the levels are right, the “correction” will not be heard as such in playback.

The Noise Reducer

The DX-8, as the dbx unit available with the Model 80-8 is called, is a wide-band compression-expansion system that provides noise reduction across the full audio band (not just the hiss frequencies) of about 30 dB for each of the eight tracks *individually*. In addition, the dbx DX-8 system is able to provide a tape recording with a dynamic range greater than 100 dB—important when you’re doing live recording. Not only can you get more signal on the tape, but you can also record at lower levels than normal without hiss, which insures lower distortion and more headroom when required.

Overdubs

Over several weeks of evening sessions we managed to lay down all the basic tracks, and the overdubs were recorded over the next several weeks as the various musicians became available. Tracks 1, 6, 7, and 8 were available for overdubs. Our first overdub was of a soprano saxophone. I used a C-451E electret condenser microphone with a cardioid-pattern capsule (the C-451E has provisions for interchangeable capsules). I set up the mixer to feed a mix of previously recorded tracks to the musician’s headphone feed so that he could play along with them. Of course, when a take didn’t work out right for some reason we could rewind and start again without affecting the tracks already recorded. I had the C-451E connected to the Model 5’s input 1 while I directed the output to tape-track 7. The track was recorded with very little equalization.

Some of the overdubs involved recording an alto saxophone and flute, with the musician occasionally changing instruments during the same cut. Other cuts were overdubbed with a percussion synthesizer that uses a drum-like surface instead of a keyboard to generate its sounds; the harder you hit it, the higher the pitch. This synthesizer was connected to mixer input 2 via a direct box. A CS15 was also mounted nearby in order to pick up the various other percussion instruments—bells, triangle and a gong—as well as a vacuum-cleaner hose (when swung through the air it creates interesting

sounds, particularly when a microphone is accidentally struck!) and an assortment of various other sound-producing devices. The CS15 was connected to console input 3. Inputs 2 and 3 were mixed using output buss 4 and directed to tape-output 1.

Finally, we completed the planned recording. Tracks 6 and 8 were left open in the event we wanted to add something at a later date. Track 6 was eventually used to record some special effects using the flute track and the MXR digital delay. Although the MXR unit is capable of a wide variety of effects, the basic function of the unit is quite straightforward. The input signal is processed through circuitry that delays it by a selected amount of time. It is then mixed back with the “dry” or

Final Mix-down

For the mix-down sessions, all of the eight input modules of the Model 5 were fed by the line outputs of the 80-8 tape deck. The seven recorded tracks were mixed onto program busses 1 and 3, which fed the left and right channels of a Tandberg 10-XD two-track deck biased for Maxell UD35 backcoated tape. The program busses of the Model 5 provide a pair of jacks in parallel for *each* of its four outputs. This enables a monitoring amplifier and speakers to be connected so that you can listen to the mix being fed to the two-track deck.

Each of the eight modules of the Model 5 can also be switched to send a signal through the MXR unit for processing. In the MXR the processed

RECOMMENDED READING

THE following five books make up an extremely useful small reference library for the semi-pro recorder. If you are unable to find them at your local bookstore, library, or audio shop, you can order directly from the publisher at the addresses given. Be sure to include applicable state and local sales taxes when ordering by mail.

- *Microphones: Design and Application*, by Lou Burroughs, 260 pp., illus., \$20 hardbound, \$12.95 softbound (postpaid). Sagamore Publishing Co., 1120 Old Country Road, Plainview, N.Y. 11803.
- *Sound Recording*, by John Eargle, 327 pp., illus., hardbound, \$16.95

(postpaid on prepaid orders). Van Nostrand Reinhold Co., 450 W. 33 St., New York, N.Y. 10001.

- *Handbook of Multichannel Recording*, by Alton Everest, 322 pp., illus., \$10.95 hardbound, \$7.95 softbound (postpaid on prepaid orders). Tab Books, Blue Ridge Summit, Pa. 17214. (A “best buy.”)
- *Modern Recording Techniques*, by Robert Runstein, 368 pp., illus., softbound, \$9.95 plus 50¢ postage. Howard W. Sams & Co., Inc., 4300 W. 62 St., Indianapolis, Ind. 46206.
- *The Recording Studio Handbook*, by John Woram, 496 pp., illus., hardbound, \$35 postpaid. Sagamore Publishing Co., 1120 Old Country Road, Plainview, N.Y. 11803.

undelayed signal at the output of the delay. The effect produced will depend upon the amount of delay time chosen. The basic effects that can be obtained by using appropriate portions of the wide delay range provided by the MXR unit include discrete echoes, vocal doubling, and hard reverberation. In addition to those basic effects, the MXR contains circuitry that permits such unique effects as flanging (mixing an erratically delayed version of the main signal with the main signal itself), pitch alterations (vibrato, pitch bending), frequency modulation, and infinite (non-deteriorating) signal repetition.

The end result was a tape full of discrete tracks that had to be brought together into a standard two-channel stereo version. It was mix-down time!

signals are mixed with the “dry” (unprocessed) signal and can be selectively returned at various levels to any and all program busses. Aside from some special effects, the MXR was basically used to add reverberation whenever the close-miked instruments lacked “depth.” As with equalization, reverberation can be overdone. Unless you’re going for some special effect, it’s usually best to keep it subtle.

How did it all work out? In a word, superbly! Peter Ponzol has his master tape, and I have realized a long-standing fantasy of serving as a recording engineer. In addition, I had the pleasure of working with some really beautiful equipment. What more could anyone ask—except to own it! □

By Rick Mitz



HOW TO GET INTO THE

MUSIC BUSINESS

Dear Scott:

So you want to be a songwriter, or perhaps a performer? (Isn't that how all those high-school "how to" books begin?) No, not "want to be"—anybody who writes songs is a songwriter, just as anyone who gets up and sings them for someone else is a performer. You just want more people to know about it than you, your mother, and your marvelous multisync Teac (or microwave oven, depending on whether we've gotten to you in time).

A week from Thursday, huh? Well, prepare yourself. It might take until Friday—two or three years from now.

Actually, Scott, you're not alone. There are a million tunes out there looking for mouths to sing them and thousands of mailmen waiting to deliver the royalty checks they've earned. You turn on your radio and you hear songs—songs you could well have written better or sung better. So why haven't you? Well, you've probably been hooked by the time-worn romantic fantasy of how it's all *supposed* to begin, a fantasy based on a few success-story articles in the tabloids and three remakes of *A Star Is Born*. You sit on a drugstore stool humming, and some kingpin of the music biz happens by, discovers your overwhelming talent, and immediately makes you rich and famous. Unfortunately, if you spend all your time sitting on drugstore stools humming, it's very likely you'll be discovered only by the men in the white jackets.

Record-company execs don't often wear white jackets, but they *do* wear headphones a lot, and attached to those headphones are wires leading to tape machines on which are turning tapes of unknown songwriters and

performers showing off their potential. Those tapes are called demonstration tapes, and the demo tape is the *single* most important thing you should know about when you're trying to get anyone in the music business interested in your songs or your act. It doesn't make much sense to put in a person-to-person call to the president of Columbia Records and ask him to sit and listen while you sing him your latest punk-rock ditty over the phone.

If you want to get your music heard, you have a limited number of options. You can hope to be "caught" in a live performance by a music executive who will quickly sign you to a long-term recording contract (which is a *great* option—if you *have* a live performance that's promising enough and if the executive doesn't have to travel to Sandusky to catch you). You can hang around the exec's office, make a nuisance of yourself, and hope for the best. Or you can call a rich uncle and ask him to give you a record album for your birthday—your *own* LP—perhaps 10,000 copies? Or you can get your stuff—and your life—in order and get ready to make a real commitment to your career by making a demonstration tape. With a demo tape, your voice (or piano, guitar, whatever) can be heard in music executives' offices all over the country while you're home taking a bath.

● PRODUCING THE DEMO

You can take another kind of bath when it comes to producing that demo tape. Some people spend hundreds—even thousands—of dollars and end up making the wrong kind of tape. Most aspiring songwriters and performers don't realize how very important

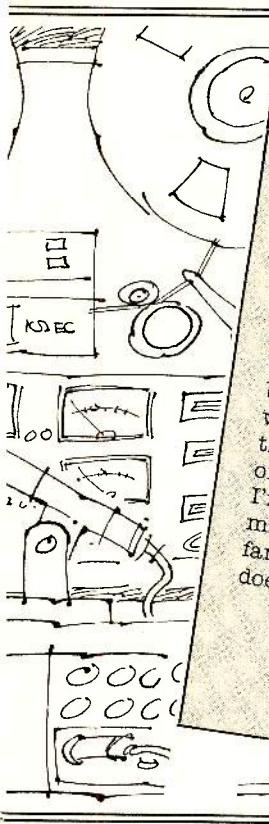
that demo can be to their career. In fact, more than anything else—more, even, than a weekend in the country with the head of any record company—the demonstration tape is the key to opening the door to a career in music. It is the main means of communication between you and your prospective employer. Think of it as a résumé set to music. But also keep in mind that no matter how professional your tape is, it is still merely a *tool* in the difficult job of building a career. A tape featuring a thirty-seven-piece orchestra and all the overdubbing you can muster will not disguise poor material or a poor performance. And even if everything is great, it's more than possible that no one will take the bait.

Okay. Maybe you're feeling a bit discouraged at this point. Your fantasy of instant fame and fortune is boiling down to the reality of hard work, dedication, and a preliminary cash outlay. What you need, Scott, are a few encouraging words from people who've made it, so we asked for a few.

Here's what Stevie Wonder has to say: "If you're a songwriter by heart, instinct, and personality, nothing anyone says will keep your talent from finding its way into the business. A lot of people say you need drive to realize your talent, but the truth is that your talent is your drive."

Says James Taylor, celebrating his eleventh year in the music business, "I really believe that if someone has talent—and if he sticks to it—he will make it. I really believe that."

Besides all the faith and determination stuff you'll hear about, there's often some luck involved too. Take the case of Danny Peck, who one day accompanied a friend to Arista Records. He mentioned to the pro-



Dear Stereo Review:

I am a young songwriter looking for advice. Now, I'll be glad to throw away my Yes albums and agree that anyone who doesn't say "ain't" is not a real person. I'll even agree that John Denver isn't Michael Murphy with a missing chromosome. But I won't send you any money, so you might want to forget the whole thing right now. I will send you ten autographed copies of my first gold record if you, as a magazine that knows something about the music business, will write me, who is utterly bewildered by it, and tell me what to do with all these incredibly marvelous songs that I've incredibly marvelously recorded on my marvelous multisync Teac (which I'm going to convert into a four-track microwave oven or something if I'm not famous by a week from Thursday). How does one approach these people?

Yours very truly,
Scott Mitchel
Austin, Texas

OUTSIDE READING

THE following are sources of information about the music business that might be helpful to you in your pursuit of that elusive stardom.

BOOKS

- *How to Write a Hit Song . . . and Sell It.* by Tommy Boyce. \$7. Wilshire Book Co., 12015 Sherman Road, North Hollywood, Calif. 91605.
- *The Songwriter's Handbook*, by Harvey Rachlin. \$8.95. Funk & Wagnalls, 666 Fifth Avenue, New York, N.Y. 10019.
- *The Songwriters' Success Manual*, by Lee Pincus. \$6.95. Music Press, 21 East 40th Street, New York, N.Y. 10016.
- *This Business of Music*, by Sidney Shemel and M. William Krasilovsky. \$16.95. Billboard Publications Inc., 1515 Broadway, New York, N.Y. 10036.
- *Official Talent & Booking Directory*, \$40. Published (annually) by Specialty Publications, Inc., 7033 Sunset Boulevard, Suite 22, Los Angeles, Calif. 90028. (Lists everything—including T-shirt companies!)

RECORD BUSINESS MAGAZINES

- *Billboard*, 1515 Broadway, New York, N.Y. 10036. Besides its weekly trade publication, *Billboard* publishes special supplements that are invaluable for the songwriter. These include: *Billboard International Buyer's Guide* (lists domestic and foreign music publishers, record companies, producers, wholesalers, etc.), *Billboard's Annual Campus Attractions* (contains the names or recording artists, their record labels, their managers and booking agents, addresses and phone numbers—free for subscribers), *Billboard's Annual World of Country Music* (lists top country songs, labels, music publishers, artists, and country news).
- *Cash Box*, 119 West 57th Street, New York, N.Y. 10019. Published weekly; also publishes an annual directory.
- *Record World*, 1700 Broadway, New York, N.Y. 10019. Published weekly; also publishes an annual directory.

SONGWRITER MAGAZINES

- *Songwriter's Review*, 1698 Broadway, New York, N.Y. 10019. Published every two months; carries features of interest to songwriters as well as tips, advice, and trade information.
- *Songwriter Magazine*, P. O. Box 3510, Hollywood, Calif. 90028. Features include interviews, information on which music publishers are looking for material, chart listings, and music news.
- *New on the Charts Music Business Reference*, 1500 Broadway, New York, N.Y. 10036. Lists songs, artists, producers, publishers, and record labels making the charts, plus their addresses and phone numbers and information on the artists.
- *Tunesmith*, P.O. Box 3839, Hollywood, Calif. 90028. A monthly newsletter telling which artists, producers, and publishers are looking for material.

Depending on where you live, some of these publications may be available on the newsstand (and in some libraries). However, we recommend that you first write to the publication to find out the subscription cost (it may be cheaper than the newsstand price) and where you can get the publication in your area.

ducer there that he too sang and wrote songs. The producer handed him a guitar and gave him an impromptu audition. Miracle of miracles, Peck was asked to sign on the dotted line, and now he is working on his second Arista LP.

Another true story: a young man worked in the mail room of a large music-publishing company. One day during his lunch break, he slipped into a studio and started playing some of his own songs. A company producer liked what he heard and decided to use the songs for an album he was working on.

And, just to get you totally hooked on the idea of making it big, listen to the success story of a super-hot disco group, K.C. and the Sunshine Band. It wasn't always so sunny for them. Says Richard Finch, the group's co-leader, "During high school, I was involved in a local soul group in Miami, but I didn't know how to get into recording. I knew this guy in school and he knew a record distributor, so we hung around the record warehouse a lot. I got a job there, packaging records during the day. At night, I would go into the recording studio in the back of the building and hang out, learning how to use all the equipment. And there was this other guy who worked in the warehouse and had a band, Harry Casey (later to become K.C.). We met and decided to pool our talents and make a demonstration record. I remember that one night we came up with a song called *Rock Your Baby*. It was released locally and sold 250,000 copies. And from that LP, we had a national hit called *Get Down Tonight*.

"I know it sounds easy," Finch says. "We had a bit of luck. And I don't know how long it's going to last. But I think you have to push, you have to have a lot of in-

centive. You can't get depressed. You have to let things roll off your shoulders."

Okay—so much for inspiration. Now on to the How To's. How do you go about preparing a demo tape? The best way is to follow the Rachlin Routine. Harvey Rachlin is known as the Godfather of the Grooves. He's also a songwriter, music publisher, record producer, and—best of all—author of a wonderfully informative book called *The Songwriter's Handbook*, which does for songwriting what all those manuals have done for sex: it tells you how (and, perhaps more important, how *not*) to go about it. Rachlin has many sound ideas on how to get into the music business.

"A demo," Rachlin says, "is a recording of a song that's used to show its potential to producers, recording artists, record companies, and music publishers in hopes that they'll record or publish it." There are many types of demo tapes, he says, and the kind of demo you make depends on a couple of things—like who you're sending it to and what your budget is. For example, you can send a demo tape of your voice and your song to a record company in hopes of having the company like not only your *song*, but also your performance enough to offer you a recording contract.

You will want to send your tape to the pop A-&R (artists and repertoire) department of a record company. But it's important to call first and try to get the name of the right person in the department to whom the demo should be sent. And it's also important to familiarize yourself with the repertoire on certain labels. For example, Casablanca deals mainly with rhythm-and-blues artists, and your folk-song recital would probably not be an appropriate submission. It should be not-

MUSIC BIZ...

"... they don't want to see your sheet music; songs today are heard, not read."

ed that there are some record companies that will *not* listen to unsolicited tapes; they only want tapes—even by totally unknown artists—that are presented by a manager. So, it might not be a bad idea to get one.

"Your best chance is with music publishers, who are more likely to take you on,"

Rachlin says. "They will try to find you a record company if you want to record your own songs. But mainly they act as trustees for your music."

Music publishers will do a number of things for you. They will screen songs and try to get them commercially recorded, they will promote and protect the copyright, and they will collect income from all sources. There are a number of types of music publishers, and you'd better know what you're looking for before you start sending them your material. There are small, one-person companies and huge corporations like Chappell Music, which is described further on in this article. There are thousands of publishers who will not want to hear your songs, or anybody else's, for that matter, for they are not functioning publishing companies but rather legal entities formed to retain ownership (and collect royalties) of material they already have. So don't just pick a publisher

out of the trade listings. Find out if they're interested in auditioning *new* material. (Incidentally, these people don't want to see your sheet music; songs today are to be heard, not read).

Many publishers have staff people whose job it is to screen new material that comes into the office, to find potential hits, and then to get them recorded through their various contacts—producers, other artists, A-&-R men. You can either mail your tape to the publishing firm or try to get a personal appointment. Many fledgling songwriters have been surprised—and delightfully so—at how easy it has been to get personal appointments with some of the top people in the business.

• DIRECT SUBMISSION

There is another way to make yourself known, and that's to submit your songs di-

ADVICE FROM THE EXPERTS



CLIVE DAVIS

"... I recommend that any aspiring artist get a manager first."

CLIVE DAVIS, former president of Columbia Records, is now head of Arista Records, a company he took over several years ago and with a magical musical touch transformed into one of the leading companies in the industry. Today, artists on the label include Barry Manilow, Melissa Manchester, the Bay City Rollers, and about seventy others. Davis is one of those men with golden ears who have an uncannily consistent ability to spot talent on tape and on stage, and his record company is well respected for its care and nurturing of new talent. So we asked Davis what makes those golden ears perk up and just how an aspiring performer or songwriter can get to them.

"There are many ways to get into the music business. It all depends, of course, on the kind of talent you have and the category you fall into. The best way is to create a local following. If you live in Kansas, become well-known there with your songs or your band. Even make recordings locally. Then, later, you will receive national attention."

What about submitting demonstration tapes?

"I have never signed anybody—even though I know the talent is there—through an unsolicited tape. On the other hand, there are tapes that are sent in by

managers who have a track record, and then we listen and go see the acts in a showcase. But most often, we seem to sign an artist who's creating something exciting in an in-person situation. Then, we also try to meet with a manager in the business who has experience or a track record in order to get that manager interested. I would prefer to hear a tape first—but then I would want to go to a live audition."

Davis says that he tries to sign artists very selectively. "I don't want to play odds and sign five people and hope that one makes it. I want to keep our ratio of successful artists high. Today it costs about \$100,000 or \$150,000 initially for a new artist, so I view each artist's signing very, very carefully."

What criteria does Davis use in deciding to sign an artist? "Originality, someone who's identifiable, someone who can write potential hit singles. I look at the lyric content. And there must be an electricity that can be projected on-stage as well. For example, Barry's and Melissa's performing abilities are very striking."

"When I sign someone, I trust my instincts. But I'm not a dice roller. I also get involved creatively, getting the right producer paired with the right artist. You have to know what—and what

not—to do. For example, sometimes you just have to leave an artist alone. Patti Smith just does what she wants to do. Others we will submit material to—like Barry. You supply an input where you feel it might be needed."

Does Davis have any specific recommendations for aspiring artists? "Well, as far as demos go, I don't think it makes any difference if it's on a cassette or on a reel-to-reel. Do I listen to them myself if they are sent to me? No. I send them to the A-&-R people. But I recommend that any aspiring art-

ist get a manager first. It's important that you get someone knowledgeable and experienced in business so you can concentrate on the creative side of things. Most important: have a commitment to work hard and a knowledge that it will not happen overnight. It's not easy. Music isn't a get-rich-quick thing. You have to be able to grow and develop a long-term career. I think there are a lot of people who don't put their houses in order. It's important to have talent, but it's also important to *develop* your craft to get your career going."



IRWIN SCHUSTER



IRWIN ROBINSON

CHAPPELL MUSIC is considered to be the largest music publishing company in the world. And that's large. Their client roster includes such diverse stars as Charles Aznavour, Rodgers and Hammerstein (not to mention Rodgers and Hart), the Ohio Players, Lonnie Liston Smith, and Graham Parker, along with many others.

The top men behind the music are Chappell president Irwin Robinson and vice president Irwin Schuster, two Irwins who have been in the music business for a total of thirty years. One day recently, they took time off to talk about how to break into the music business.

Schuster: "I think that a song-

writer should be attuned to what is happening in the market for which he or she is writing, and I think today it's basically a singles-oriented market. It's important to know what's happening, and then to write the best songs you can. And I think that a beginning writer should shoot for the biggest market, which is the Top Forty radio market."

Robinson: "True. But don't copy and don't plagiarize. There are certain kinds of songs that are played on the radio because they're appealing, because they have a memorable 'hook.' They have a lot of things in common, even though they may say 'I love you' ninety different ways."

Schuster: "A writer should

rectly to record producers, those behind-the-grooves people who oversee each note that goes into an album. What you have to do is find out which producer is working with which performer. (You can find that out by carefully reading the trade papers, the three biggest being *Billboard*, *Cashbox*, and *Record World*. These papers are also an invaluable fount of information on the most up-to-date activity in all areas of the music biz.) Of course, some producers—Elton John's for one—are obviously not looking for new material because their artists record only their own material. But today, songwriters seem to be in luck; we are in a musical era when such established songwriters as Waylon Jennings and James Taylor are happy to sing other people's songs as well as their own.

There are two types of record producer: the staff producer who works exclusively for a record company, and the independent

record producer who is a free-lance but who will make independent agreements with record companies. Established independent producers often have their own publishing companies. Also, a record company's A-&-R chief often doubles as producer for one or more artists signed to the company.

Now, what about the demo tape itself? "The simple demo," Rachlin says, "contains a voice accompanied by a piano or a guitar, and it's made on a home cassette or reel-to-reel tape recorder. It's important that the melody and the lyrics sound clear." There's also a more sophisticated type of demonstration tape. "This would be a demo with a rhythm section—piano, bass guitar, lead or rhythm guitar, drums—a lead vocal and background vocals, made in a recording studio, usually on four or eight tracks. This could be expensive (at least \$500) and should not be done without a great deal of thought." [See the article "Semi-Pro Record-

ing," dealing with technical aspects of how to make a demo tape, on page 58.] Rachlin stresses that "every attempt should be made to have a 'neutral' demo, one that doesn't sound like it's for a particular artist, but best represents the *song* so that it could be recorded by *anybody*. Then you don't lock yourself into any artist's particular style, and your chances of generating wider interest in your song will be increased."

But what should you use to make a demo—cassette, reel-to-reel tape, or acetate dub (the actual preliminary disc)? There are some things you should know about each before deciding. Cassettes, rightly or wrongly, are considered the least professional, and many music companies even today simply do not have the equipment to play cassettes. However, they are acceptable if that's the only kind of equipment you have. The sound quality of an acetate dub lessens rapidly after repeated playing. If

write about the most universal topic, which is love. *Everyone's* in love—or missing love."

Robinson: "When it comes to demos, I think that pushiness and aggressiveness pay off. They get whatever you have out there to be heard."

Schuster: "And when you're sending in a demo, make sure you put someone's name on the envelope or make some kind of a phone contact. It helps. We listen to all the tapes we get, but I don't think that what we do is 'pick hits.' That's not totally accurate. We pick songs that *could* be hits. We start with the raw material. When someone comes in with a demonstration tape we have to decide if it's meaningful. We have to decide if it has the hook, if X, Y, or Z artist would record it. We might even have a *new* demo of the song made at our own expense if we like it enough."

Robinson: "The music business has changed. Before, writers were not singing their own songs. But today, we have two kinds of writers: the pure songwriters, whose only outlet is someone else recording their songs, and the singer-songwriter—Stevie Wonder, Carole King, Paul Simon. There are little old ladies who write ten songs a day, tape them, and send them in. And we listen to them. And of course, the girl who washes my hair at the barber shop told me that she's got a friend . . . We get all kinds. But a song is sent in and then gets put in a bundle of songs. When a producer knows that he's doing an album, he lets it be known. Even if a song isn't chosen for a particular album, it may not be a *bad* song. For example, if Streisand's producer calls up, you

send him four songs. How do we know which four songs to send out of a catalog of more than 200,000? We *know* our songs, and when someone asks, we send a lyric sheet or a demo that's appropriate for the artist."

Schuster: "I think a songwriter should send the best possible demo tape. Remember, a demo is a *demonstration* of a song within the limitations of a budget. Keep it simple if you can. If we sign you, we can help you get a record contract at no extra fee but we get the

publishing money, which is a standard fifty-fifty split. Some artists, of course, don't give away their publishing rights—they try to sell their songs themselves. It depends on what your interests are. One thing to remember: this business *has* no rules. Shaun Cassidy didn't exist as an entity in our business one year ago. And who was Debby Boone?"

Robinson: "Ninety per cent of what's done to sell a disc is done in the studio. You can't make a hit if it isn't in the grooves."



TOMMY MOTTOLA

"Listen to what's going on so you know what your competition is."

"Tommy Mottola Lives on the road; He lost his lady Two months ago."

So go the opening lyrics of one of the biggest hits of the last few years, *Cherchez la Femme*, written by Dr. Buzzard's Original Savannah Band for their manager, Tommy Mottola, who, at twenty-eight, is one of the biggest and hottest managers in the music business (he also manages Hall and Oates, Odyssey, and several others). You can find Mottola several nights a week auditioning demonstration tapes. On one of those nights he took time off to talk about how he thinks people can make it in the music business. He ought to know.

"I started in the business as a musician. I've been through it. I played with local rock bands, and I tried to make as many demos as possible, on home tape-recording machines or in recording studios, wherever. I think that if an act or an artist has something worthwhile going, the best way to get an executive interested is through a tape. It's easy to listen to. He can put it on at the end of the day. We do that here at Champion Entertainment Organization two or three nights a week. And we listen to each and every tape that's sent to us. We heard Dr. Buzzard through a demo tape, then we heard them in a live audition, and then we signed them.

"The number-one thing I listen for in a tape is the songs. They are

the essence and the heart of what's going to become of a career. If an artist has great songs and makes mediocre records—well, he can *still* make records. A great visual image and the ability to excite and turn on an audience—those are the other qualities I look for.

"This is the way I view the whole business: everyone has to expend energy, money and emotional output. So I want to help develop a career that will have credibility and longevity.

"I've been said to have 'famous ears.' I think that being attuned to music since I was six gave me an advantage. I worked for a music-publishing company for nearly six years and ran their contemporary music division. But you're born with it or you're not. Actually, I've really never been wrong!

"I invite people—anyone—to send me tapes. That's what it's all about. And I do have some advice for people starting out: listen to what's going on out there so you know what your competition is. Get involved in showcase situations as close to New York or Los Angeles as possible. Although my very *last* recommendation would be to move there, they *are* the two music capitals. But get something going before you take the big plunge.

"Demos? Reel-to-reel are the best. You can't get as good quality on a cassette, but a cassette is okay. Personally, I would rather hear the raw vocal and piano or guitar because I want to hear the *song*. One more thing: it's totally possible to break into the music business. It takes the desire to make it, the will and the drive and the persistence. And—oh, yeah—the talent."

MUSIC BIZ...

1. Make a demo tape.
2. Get a manager.
3. Perform whenever you can.
4. Keep pushing.

you do submit one, however, be sure to have the following typed clearly on the label: name of the song, speed of the record, your name, address, and phone number. Acetate dubs can be single-faced or double-faced (containing two selections, one on each side).

Reel-to-reel tapes are considered the most "professional" way to submit your songs. They usually have the best sound, and you can put several songs on the tape although it is not advisable to submit more than four songs when first presenting your material

(choose the best, of course). Other advantages of reel-to-reel tapes are that they can be leaded (songs separated by white tape, by yourself or by the individual examining them) for easy access to any selection, and the tape can be easily edited. Be sure to type the tape speed (7½ ips is the best), the selections contained, and your name, address, and phone number on a label securely attached to the tape box. After all that is done, have about five copies made (one to be placed in secure storage) and send out three or four tapes all at once. If you don't hear from the people, "wait about three or four weeks before you do any following up." Rachlin suggests.

● OTHER CHANNELS

You can enter the annual American Song Festival contest. Past winners have included such artists as Tim Moore and Galdston and Thom, who, in addition to their prize money, won recording contracts with Asylum and Warner Bros. Records, respectively. The Song Fest folks guarantee that each song submitted will be listened to at least twice, and the judges are producers, music

executives, artists, and publishers. There are several different categories for different kinds of music, and all entries should be submitted on tape. Before taking this route, however, write first for more information to the American Song Festival, 5900 Wilshire Blvd., West Pavilion, Los Angeles, Calif. 90036 or use the coupon with the ad on page 163 of last month's issue.

Thirsty Ear is a new syndicated series of college radio programs (sort of a younger, smaller version of the *King Biscuit Flower Hour*) which is carried on many stations throughout the country. New artists are featured in concert as well as interviewed. Usually the cost of the program is subsidized by the artist's record company, but since you don't yet have a record company, you'll have to subsidize it yourself if you'd like to get on. The fee is about \$10 per station, and there are a lot of stations. But that fee includes recording and duplication expenses. If you're interested in finding out more about this outlet, contact Peter Gordon, 43 Route 46, Pine Brook, N.J. 07058 (telephone 201-575-7820).

Many colleges and schools around the country are now offering courses and work-

“. . . AND THEN I WROTE”:

“. . . required listening for all aspiring lyricists. . . .”

THE 92nd Street "Y" on Lexington Avenue in New York City has played host over the years to every sort of cultural event—children's plays, concerts, operas, poetry readings, art exhibits, lectures, modern dance—in performances of a generally high order. Some of this material has found its way onto records—Caedmon's historic recording of the famous stage reading of Dylan Thomas' *Under Milk Wood*, for example, and, more recently, some outstanding evenings of poetry. Now a new label, Laureate Records, has released a three-record set edited down from archive tapes of the "Lyrics and Lyricists" series at the "Y" started by Arthur Cantor of the Billy Rose Foundation back in December 1970, when "An Evening with E. Y. (Yip) Harburg" of *Finian's Rainbow* fame packed the house. Harburg is not to be heard in this first volume, but he may be expected to turn up on one of the sequels to be prepared if the initial release succeeds. Meanwhile, this handsomely packaged set (produced by Maurice Levine, who has been artistic director and host for the series) should be required listening for all aspiring lyricists, and it is first-rate entertainment for anybody interested in the history and craft of American musical comedy.

The first—and most diverting—of these "evenings" with the people who wrote the words of America's songs is devoted to the late Johnny Mercer, an urbane and witty man if ever there was one, in an "and-then-I-wrote" routine you might not believe could be as appealing as it is. It is even more difficult to believe that this most "alive" of songwriters, who was born in Savannah, Georgia,

in 1909, is no longer with us, but died on June 25, 1976. (As John O'Hara said of George Gershwin's death, "I don't have to believe it if I don't want to.")

Mercer fell in love with music as a boy, sang in a chapel choir, wrote his first lyric (for *Sister Susie, Strut Your Stuff*) when he was fifteen, and went on to become an aspiring actor in Greenwich Village. But when he showed up hoping for a part in the 1930 edition of *Garrick Gaieties*, he was told that they needed songs more than performers. Mercer wrote the words to *Out of Breath and Scared to Death* for that show (he sings it here) and the lyrics—as well as



JOHNNY
MERCER

some of the tunes—for many others from *Lazybones* to *That Old Black Magic*, *Blues in the Night*, and *Moon River*. He also wrote *Pardon My Southern Accent*—but he himself had scarcely a trace of one by the time of his "Y" appearance on March 14, 1971. Recounting his adventures on Broadway, where he wrote the words (and the score) for *Top Banana* and the lyrics for *Li'l Abner*, *Texas Li'l Darlin'*, and the 1959 flop *Saratoga*, he improvises on the spot: "There's E. Y. Harburg sitting unobtrusively in the seventeenth row/And Mr.

Harold Arlen with whom I wrote a very unsuccessful show." But most of Mercer's shows were hits, to be sure, and anecdotes abound as he recalls his New York experiences and describes his years in Hollywood as a Paramount Pictures composer and lyricist and as a businessman (he was one of the founders of Capitol Records). And whatever Mercer leaves out, Edward Jablonski supplies in full in his generously informative liner notes. What can't be conveyed without hearing the record, however, is the ebullience and charm of Mercer himself, the verve with which he sings (on key) dozens of stanzas from his songs—including the old Pepsodent commercial about poor Miriam who neglected using irium—and the infectious enthusiasm of the "Y" audience. Mercer is ably assisted by Margaret Whiting and Robert Sands, who offer an exemplary duet on the ballad *Hit the Road to Dreamland*.

Alan Jay Lerner (his "Y" appearance, another sellout, dates back to December 12, 1971) is a graver master of ceremonies than Mercer, but he makes up for the solemnity of his approach to his craft and his career by discussing in an illuminating way how the lyrics of a song take shape—a process he modestly places "a little above photography and woodcarving." Tracing the evolution of several individual songs, especially those he collaborated on with "Fritz" Loewe for *Camelot*, *My Fair Lady*, and *Gigi*, Lerner recites passages from the lyrics he wrote at various stages of their development. It's a revelation. The New York-born, Harvard-educated Lerner also recalls how Loewe introduced himself to his young collaborator-to-be at

shops on precisely what this article is about—how to get into the music business. Contact the music departments of some of the schools in your area, and see what's available. In New York, two of the best known are at the New School for Social Research, 65 Fifth Avenue, New York, N.Y. 10003, and the Zadoe Institute for Practical Learning, Suite 1500, 2 Pennsylvania Plaza, New York, N.Y. 10001.

● PUBLISH YOURSELF

If nothing else works out, you can always become your own publisher. Even if things do work out, you can move on to publishing your own material. You should know, though, that there is great financial risk in starting your own publishing company. Expenses can be high, and there are no guarantees of success. And after all, do you really want to be a salesperson or an artist?

It's also possible to make and sell your own masters (finished tape recordings of songs from which records are made). A record company will sometimes purchase a finished master, go directly to disc with it, and—what do you know?—you've made a

record album, or a single. Making masters is a long and involved process, however, and it means selecting material, selecting the right artists (if it isn't you), choosing a producer and arranger, setting up rehearsals, hiring musicians, getting a studio and an engineer, and working with union regulations. And then, of course, you have to sell that master. There are several books that discuss this approach in much greater detail (see the bibliography on page 61).

One more thing: beware of song sharks. They are the vanity press of the music publishing business. You've probably seen their ads on the back pages of comic books: "Send Us Your Lyrics!" If you do send them your lyrics, for a fee they will have them set to music (probably by someone who answered their "Send Us Your Melody!" ad) and then send a copy (or several, if you wish) back to you. They will *not* make you rich and famous, but you will add considerably to their income. The moral here: know who and what a company is before you get involved with it. Even if you're about to sign an exclusive contract with a major record company, *always check everything out.*

There are no rules, no formulas, in the music business. There's no foolproof recipe for attaining stardom, no yellow brick road leading to gold records in emerald cities. But there are some touchstones that are more or less vital to you in your pursuit of a career in music. First, the demo tape, truly a demonstration of what you can (and can't) do. Handle it with care. Second, unless you're a very unusual bird, concentrate on your music and let someone else handle the business side of your career. A manager—the *right* manager—can cut the hungry years down to a minimum. Third, perform as much as you can; you need experience and exposure to get as good as you can be. Fourth, keep pushing. Hum songs of inspiration to yourself as the mailman brings back yet another rejected demo tape. Remember: it's still your *tape* they're rejecting, not you. Hang on and push. It can happen, but you have to make it happen.

So, thanks for writing, Scott. We'll be waiting for those ten autographed copies of your first gold record—and a marvelous home-cooked meal from your microwave oven. And we'll be listening for you on the radio. □

HOW THE PROS DO IT

the Lambs Club, reviews the ups and downs that led to the eventual success of *Brigadoon*, *Paint Your Wagon*, and other landmark musicals by Lerner and Loewe, and tells how it was to work with Burton Lane on the songs for *On a Clear Day*. He compares writing lyrics for Kurt Weill (words first) with his experi-

ALAN JAY
LERNER



Culver Pictures

ences in collaborating with Loewe (music first, usually) and reveals that Loewe hated *The Street Where You Live* so much (I rather hate it too) that it was almost dropped from the score during the New Haven tryouts. In the course of his lecture, Lerner also sings some of the best-loved numbers from *Camelot*, *Gigi*, and *My Fair Lady*, as well as an out-take from the last called *Oh Come to the Ball*, a pretty but pat little item. Lerner's voice is scarcely as musical as Mercer's, but professional singers J. T. Cromwell, Barbara Williams, and Bobbi Baird are on hand to come to his rescue. The excellent notes are by Stanley Green.

The final record in this first volume features Sheldon Harnick, who appeared at the "Y" on February 14, 1971. Harnick can't sing too well either, and he tends to discuss his craft more in the manner of a stand-up comic than of a singing lecturer. But he is such a winning fellow that it's impossible to resist his breezy way with his own autobiography

as he jokes about his stormy childhood in Chicago, tells how he was fired by Xavier Cugat after one day as a member of the orchestra, and performs the songs he wrote the words for in a manner that makes up in good humor what it lacks in musical accuracy. Harnick is most adept with his comic songs, such as *The Boston Beguine* from *New Faces of 1952*, as well as, from *Shoestring Revue*, the still funny novelty number *Garbage*, the story of a girl "who was cool—and collected" (Bea Arthur, TV's "Maude," sang it in the show). He also delivers a number of hits from *Fiorello*, *She Loves Me*, *The Rothschilds*, and *Fiddler on the Roof*, including two perfectly good songs that were dropped from the last score—*When Messiah Comes* and *How Much Richer Could One Man Be?* Zero Mostel he ain't, but Harnick puts over his own material by dint of sheer high spirits, and he is also ably helped out from time to time by singers Margery Gray and Mary



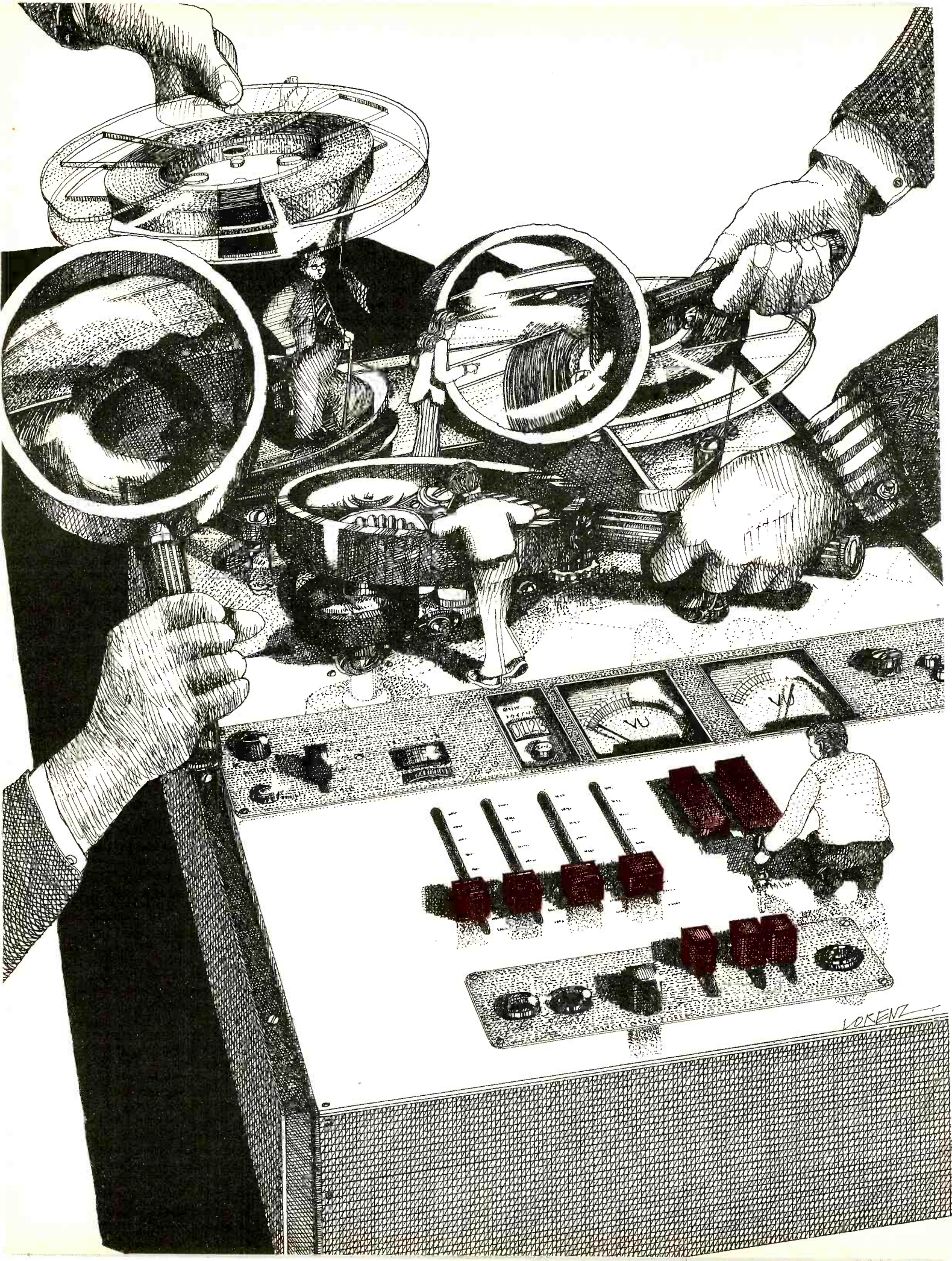
SHELDON
HARNICK

Louise. At the piano throughout the album is Richard Leonard, who manages to keep up with everybody.

Each of the three records comes complete with testimonials from such luminaries as Carol Burnett, Richard Rodgers, Julie Andrews, Gene Kelly, Bing Crosby, and Fred Astaire. I can only second them. —Paul Kresh

LYRICS AND LYRICISTS, VOLUME 1.

● *An Evening with Johnny Mercer*. Johnny Mercer, Margaret Whiting, Robert Sands (vocals); Richard Leonard (piano). *Out of Breath and Scared to Death*; *I'm Going Back to the Farm*; Medley—Paul Whiteman period (three songs); Blues Improvisation Medley (four songs); Medley—*Camel Caravan* (three songs); Unaccompanied Medley (three songs); Medley—Capitol Records period (three songs); *Glow Worm*; *Miriam* (Pep-sodent commercial); *Hit the Road to Dreamland*; *Bon Vivant*; Final Medley (twenty-nine songs). ● *An Evening with Alan Jay Lerner*. Alan Jay Lerner, Bobbi Baird, J.T. Cromwell, Barbara Williams (vocals); Richard Leonard (piano). *How to Handle a Woman*; *Why Can't a Woman?*; *I Talk to the Trees*; *Wouldn't It Be Lovely?*; *Oh Come to the Ball*; *On the Street Where You Live*; *Come Back to Me*; *What Did I Have That I Don't Have?*; *I'm Glad I'm Not Young Anymore*; *I Loved You Once in Silence*; *Gigi*; *Camelot*; *On a Clear Day*; *I've Grown Accustomed to Her Face*. ● *An Evening with Sheldon Harnick*. Sheldon Harnick, Margery Gray, Mary Louise (vocals); Richard Leonard (piano). *The Suave Young Man*; *How Could I?*; *The Merry Little Minuet*; *The Boston Beguine*; *At the Basilica of St. Anne*; *Garbage*; *Worlds Apart*; *Little Tin Box*; *'Til Tomorrow*; *The Picture of Happiness*; *She Loves Me*; *Dear Friend*; *Sunrise, Sunset*; *Do You Love Me?*; *When Messiah Comes*; *How Much Richer Could One Man Be?*; *If I Were a Rich Man*; *In My Own Lifetime*. LAUREATE LL-601/2/3 three discs \$24.95 (plus \$1.35 handling costs and sales tax where applicable from Laureate Records, Post Office Box 1275, Radio City Station, New York, N.Y. 10019).



THE CASE FOR OPEN REEL

What it most often comes down to is
signal-to-noise ratio and frequency response

It will hardly come as news even to the minimally informed audiophile that the recording and playback facilities offered by a reasonably good cassette deck these days meet the needs of most music listeners very well indeed. Therefore, if you are even *thinking* about buying an open-reel tape deck, chances are that at least some of your requirements are, in one way or another, rather special.

What this most often comes down to is a question of technical specifications, particularly *signal-to-noise ratio* and *frequency response*. These are discussed in some detail in the accompanying box, but they can also be summarized briefly by recalling a couple of simple facts. First, the wider track widths and higher tape speeds of open-reel pull more tape past the recorder's tape heads in a given period of time. All else being equal, that means a better signal-to-noise ratio for open-reel. Second, while frequency response at slow tape (cassette) speeds can be extended for *small* signal levels, the slower the tape speed the poorer the tape system's high-frequency response at *large* signal levels. Thus, while cassettes are undoubtedly satisfactory for *most* home music purposes, if you set your tape standards high enough, only open-reel will do. It's not just for editing convenience alone that professionals record at 15 or sometimes 30 inches per second (ips) on tracks approximately four times as wide as those of the 1 $\frac{7}{8}$ -ips cassette!

Why Open-reel?

Beyond the critical questions of frequency response and S/N, there is also that of recording *flexibility*, another key attraction of open-reel. Simplicity of operation is no doubt a virtue the cassette format can legitimately boast of, but this simplicity means that you must forgo a great many choices offered by open-reel, and some of them may be important to you. Take, for example, the following:

• **Speed and Running Time.** All cassettes operate at a fixed tape speed of 1 $\frac{7}{8}$ ips. There are home open-reel recorders available, on the other hand, that run at two, three, or even four or *five* different tape speeds: 15, 7 $\frac{1}{2}$, 3 $\frac{3}{4}$, 1 $\frac{7}{8}$, and 15/16 ips. And each of these speeds has its special virtues. For recording live music, 7 $\frac{1}{2}$ ips is the minimum speed I would recommend, and if you're looking to make a master tape for even quasi-professional purposes (a high-school glee-club concert that will be turned into a limited-edition LP, for example), I strongly recommend 15 ips. The 3 $\frac{3}{4}$ -ips speed will do a more than adequate job for most off-the-air or disc-copy dubbing (though I still stick to 7 $\frac{1}{2}$ if the material is musically demanding), and it is perfect for background music such as you might wish to play at a party.

The 3 $\frac{3}{4}$ -ips (and slower) open-reel speeds bring the factor of uninterrupted running time into the picture. The thinnest cassette usually recommended for high-quality, reliable operation is the C-90, which gives you a maximum of 45 minutes per side. At 3 $\frac{3}{4}$ ips, a 1-mil open-reel tape (again, the thinnest recommended) on a standard 7-inch reel gives you an uninterrupted running time of 96 minutes, and *double* that time if your recorder can accommodate the larger, 10 $\frac{1}{2}$ -inch reel size. Open-reel operation at 1 $\frac{7}{8}$ ips (or even 15/16 ips) can double or quadruple the 3 $\frac{3}{4}$ -ips running times. (It should be pointed out that cassettes generally provide better performance at 1 $\frac{7}{8}$ ips than open-reel machines, but for undemanding applications, such as speech, open-reel offers enormous storage capacity on a single reel).

• **Track Formats.** Any cassette, mono or stereo, can be played on any cassette deck. That's simplicity, but it's also restriction. If you have a regu-

lar home quarter-track stereo open-reel deck, for example, and want to record a lot of monophonic material (from old discs or a non-stereo FM station, for example), you can utilize *each* of the open-reel deck's four tracks separately. You can't do that with cassettes.

Further, if you buy an open-reel deck you can choose either a half-track or a quarter-track stereo format. The former, preferred by the pros, records two wide tracks over the entire width of the tape at a single pass (there is no "side 2," as with quarter-track). This greatly simplifies any subsequent editing, yields a slightly better signal-to-noise ratio, and minimizes some of the dropouts near the tape edge that sometimes afflict quarter-track (both open-reel and cassette). On the other hand, most home open-reel decks are in the quarter-track format, as are most pre-recorded open-reel tapes. To give you full freedom of choice, some open-reel decks are available in either half-track or quarter-track as the main format but with a fourth, playback-only, head in the *other* configuration, so you can play either type of tape.

• **Multitracking and Four-channel.** While quadraphonic sound did not exactly take the country by storm, it still has many adherents and, so far as tape is concerned, the discrete four-channel open-reel recorder is the way to go. The chief interest of many purchasers of four-channel open-reel decks today, however, is not quadraphony, but exploring the "multitrack" techniques used in making virtually all popular and many classical releases. (See the article "Semi-pro Recording" on page 54.) Multitracking is a technique in which almost every separate performer in a musical performance is recorded individually on his own "track," sometimes in isolation from the other performers, so that his part can be processed on its own and then balanced ("mixed") with the other performers' contributions at the recordist's leisure.

(Continued overleaf)

By Craig Stark

OPEN REEL...

"If there's a touch of the recording engineer in your makeup, you'll tend to regard the 'chore' of threading up tapes as an almost symbolic ritual. . . ."

The technique differs from the so-called "sound-on-sound" process (a standard capability of almost all three-head open-reel decks) in significant ways. Sound-on-sound involves constant recording of already-taped material as transfers are made from one track to another, and in the end any material "mixed" by the sound-on-sound process winds up on a single track. Multitrack techniques permit the same sort of sequential recording in assembling a performance part by part, but they also allow all the parts to be kept separate—at least up to the full track capacity of the recorder. Furthermore, the existence of the parts on totally separate tracks makes a stereo mix possible.

To create a multitrack recording in which different parts are added at different times, a way must be found to synchronize any new material with the tracks already recorded. With multitrack tape machines this is accomplished by switching the record-head gaps serving already recorded tracks into a temporary playback mode. The performer adding the new material can then listen to previous contributions and play or sing along while being recorded on any of the unused tracks. The fact that the record head is being used for both playback and recording maintains the synchronization.

Though the playback fidelity of the record head may not be ideal, it is of little concern, for the only need is to keep the parts in synchronization with each other, not separated by the time it takes the tape to travel between the record and playback heads. The names given to this synchronizing facility vary with the machine manufacturer; some call it "Sel-Sync," others "Quadra-Sync," others "Simul-Sync." But it is a feature found on *most* four-channel open-reel machines today. If you're an active recordist or a member of a musical group trying to "get the act together" before going into a professional studio, a four-channel deck with multitrack facilities will be of real interest.

The Price-tag Approach

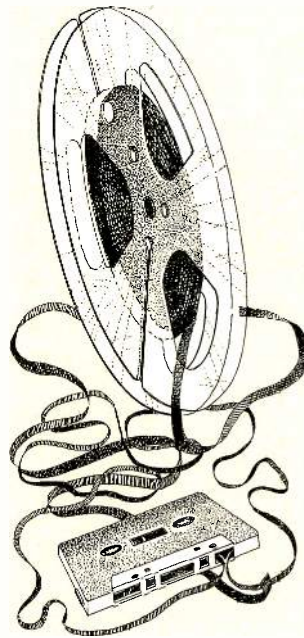
Whether you're interested in the higher quality of open-reel and its creative possibilities, or just a replacement deck that will enable you to play your library of open-reel tapes, sooner or later you'll have to try to narrow the field of available machines. Unlike the case with cassette machines, the *absolute* number of possibilities is reasonably limited, and many shoppers will find that the high cost of open-reel decks will limit even that number severely. In the low and low-to-middle price brackets (below about \$350) cassettes have taken over almost completely, and almost 40 per cent of the open-reel models listed in the 1978 edition of STEREO REVIEW's *Tape Recording & Buying Guide* are in the \$1,000-and-up range.

• **\$450 and under.** If you're a newcomer to tape, this is the price class in which it is most difficult to choose be-

tween the open-reel and cassette formats. On the other hand, if you have a library of older open-reel tapes and are on a tightish budget, you may find a perfectly suitable machine. Akai's 4000DS Mark II is probably the least expensive machine in the group (\$299.95), and it is available (for \$379.95) with built-in Dolby. Other offerings bear the mark of Sony, Toshiba, or Philips. Subject to some variation, machines in this class will offer three heads, a single-motor transport with mechanical controls, a wow-and-flutter percentage in the 0.1 to 0.15 per cent range, and a signal-to-noise ratio in the area of 50 to 55 dB. Frequency response may be somewhat limited on some models. Seven-inch reels will be the maximum size, and most decks will offer 7½- and 3¾-ips operation, with an additional 1¾-ips speed occasionally available.

• **\$500 to \$700.** A rather large number of decks, from most of the major

OPEN-REEL AND CASSETTE: A TECHNICAL COMPARISON



ONE question that puzzles many audiophiles (and annoys some others) is how a \$300 cassette deck can boast the same performance specifications as a professional open-reel mastering recorder that costs ten times as much. Part of the answer, of course, may lie in the optimism of some copywriter at the cassette machine's advertising agency or in the conservatism of the open-reel machine's engineering department. But another part of the answer all too often lies in the use of differing measurement techniques and standards. The average consumer, for example, can hardly be expected to know that a "wrms" wow-and-flutter specification (almost universally used for cassettes) is almost certain to produce a number that is 30 to 50 per cent "better" than a "DIN peak weighted" measurement made on the same deck. (Professionals use the DIN specification almost universally, but, confusingly, some consumer open-reel decks use the one, some the other, and neither is likely to specify which standard is being applied.)

Straightening out the whole tangled mess of specifications (even assuming the numbers given are always honest) describing open-reel and cassette tape decks in the space of a single article would be a task for Aquinas, who I am not. But I would like to address myself to two comparative specifications that often confuse audiophiles into thinking that there's no "real" difference between open-reel and cassette formats. These "specs" are *frequency response* and *signal-to-noise ratio*.

At one time or another, everyone

manufacturers, is available in this "bread-and-butter" class. Three heads (occasionally four) and three-motor transports are now the rule, some using directly driven capstans rather than belt-drive linkages. While 7-inch reels still predominate (together with a 7½-ips top speed), Pioneer and Teac offer models that accommodate the large 10½-inch reels. Wow-and-flutter figures are typically in the 0.05 to 0.07 per cent range, signal-to-noise ratios have improved (55 to 65 dB), and frequency response is generally well above 20,000 Hz at the highest machine speed. Pioneer and Akai offer auto-reversing models, and Sony has two four-channel decks (though without multitrack synchronizing) in this range. Here, too, are to be found Teac's popular A-2300SX (available for \$100 more with built-in Dolby), as well as the lowest-price model in the Tandberg line.

• **\$700 to \$1,000.** Decks in this price class are moving very close to profes-

sional caliber, and nearly every feature you could want (10½-inch reels with four-channel synchronizing, for example) can be found from several manufacturers. The renowned Revox A77 (and its updated version, the B77) are here, too, though you must go a little higher in price if you want them with built-in Dolby. Wow-and-flutter figures drop as low as 0.04 per cent, signal-to-noise ratios rise as high as 67 dB, and many of the machines have switching to permit the use of various types of recording tape. Decks in this class are, as their prices suggest, designed for the really *serious* tape enthusiast.

• **\$1,000 and up.** Shoppers looking for open-reel decks in this price range are really looking for lower-price versions of professional mastering recorders. All the "studio touches," such as servo-controlled reel tensions (and even, on the Technics RS-1500US, an iso-loop drive), are to be found here. The top-of-the-line models of almost

every manufacturer are represented, and most offer relative ease in accommodating not only top-quality consumer tapes, but the advanced studio mastering tapes as well. In essence, if you're ready to spend this much, you presumably expect to do a fair amount of live recording, and you no doubt already know more about the subtleties of tape-deck design than a general article such as this can cover!

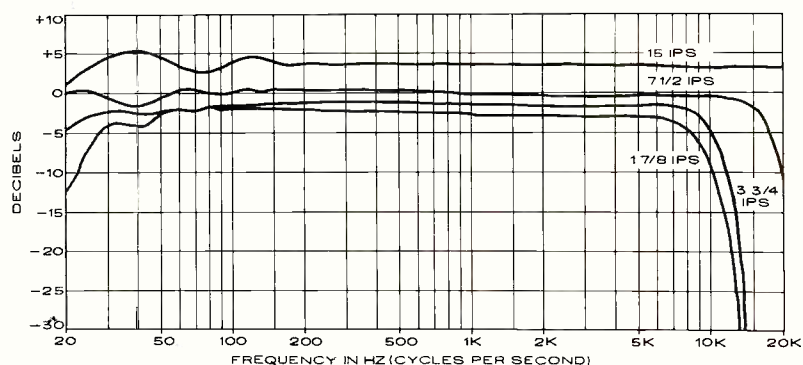
To return to the basic question: Is it to be open-reel rather than cassette for you? If there's a touch of the recording engineer as well as of the music lover in your make-up, it probably is, and you'll tend to regard the "chore" of threading up tapes not as an obstacle, but as an almost symbolic ritual dutifully observed to insure that you'll get the best sound your equipment is capable of. That might sound just a little like Walter Mitty's dreams of grandeur, but there are far worse dreams one might entertain. □

has heard a tape played back at half (or double) the speed at which it was recorded. The audible effect is to shift the frequency we hear down (or up) by an octave. What this proves technically, however, is that it is not the *frequencies* themselves that are recorded on the tape at all. What is recorded is a magnetic pattern that repeats itself at fixed intervals along the tape. The distance between repetitions of the magnetic pattern is called the "wavelength" of the signal. At a 15-ips tape speed, a 15,000-Hz tone has a wavelength of one thousandth of an inch, or one "mil." At 7½ ips the same tone must be compressed into half the distance along the tape, so the wavelength becomes 0.5 mil. At 3¾ ips, the wavelength of that tone is down to 0.25 mil, and, at the cassette speed of 1½ ips, the distance between each of the repeating magnetic patterns is only 0.125 mil (125 millionths of an inch).

Unfortunately, when magnetic wavelengths become very short, losses in the record-playback process increase substantially. To offset these losses at slow tape speeds, the high frequencies are considerably boosted before they are applied to the tape. (This process is called "record equalization.") There is, however, a limit to how much short-wavelength signal can be stored on the tape, and if we try to exceed this "saturation" point, the more we increase the input to the tape, the less we actually get back from it.

From this it can be seen that the "frequency response" of a tape system depends very much on the level of the signal fed into it. Customarily,

the frequency response of cassettes (and 3¾-ips open-reel) is measured at a level 20 dB below the nominal "0 VU" point—a level that would not cause most VU meters to show any input at all. Frequency response at 7½ ips is usually checked at -10 VU, and, at 15 ips, at 0 VU. Under these differing test conditions, some cassette decks can achieve flat frequency response out to 20,000 Hz, and at 7½ ips, open-reel response customarily extends far beyond the audible frequency range.

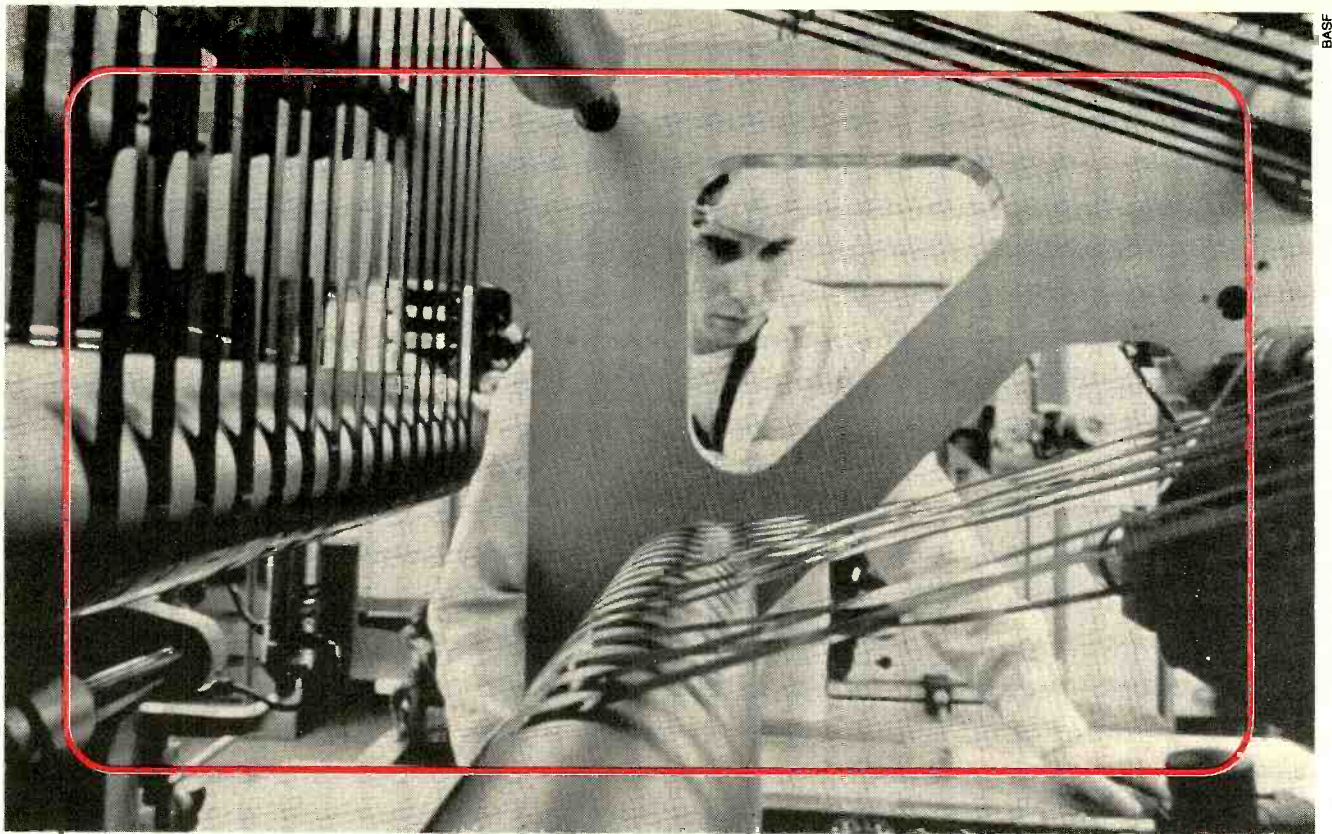


However, the accompanying figure shows what happens to frequency response when a "0 VU" input is used, even allowing for a higher "0" level at the faster speeds. The top three curves are taken from an excellent audiophile open-reel deck using best-quality tape. The fourth curve (1½ ips) is derived from one of the best cassette decks on the market using "state-of-the-art" tape. In each case,

bias and equalization were adjusted so that at low input levels the frequency response was ± 2 dB at 20,000 Hz. As you can see, the higher open-reel speeds buy both more high-frequency headroom and the ability to put more signal on the tape even at lower frequencies.

This brings up the vexed question of signal-to-noise ratios. Here again, a variety of measuring techniques is used in the equipment industry, making direct comparisons of the numbers reported impossible. To give

you some idea of the relative capability of the cassette versus the open-reel medium I measured weighted (CCIR/ARM) signal-to-noise ratios, all referred to the same 3 per cent distortion point, for the same tapes and speeds shown in the figure. They came out as follows: 15 ips, 68.7 dB; 7½ ips, 69.1 dB; 3¾ ips, 65.8 dB; 1½ ips, 55.7 dB. (This was without Dolby noise reduction.) —C.S.



BASF

Cassette Tape Progress

ONE EXPERT'S VIEW
OF PAST, PRESENT,
AND FUTURE
DEVELOPMENTS

By Robert Donadio

As recently as ten years ago, the making of recording tape was still something of a magical art, but the industry has made tremendous strides in the interim in response to consumer demand for ever-better tapes. This is nowhere more apparent than in cassette technology, in which, in three short years, we have seen the introduction of cobalt-enhanced ferric-oxide, ferrichrome, and now a second generation of chromium dioxide. Further, several companies have already made and successfully tested *all-metal* tapes, and their market introduction awaits only the development of suitable machines to play them on.

The race to find the "perfect" magnetic-tape particle is hotter now than ever before, and the manufacturers of tape software are once again challenging the manufacturers of machine hardware to catch up. Poised as we are on the brink of even greater things, it is perhaps a good time to ask a few leading questions: How far have we come? How far have we yet to go? And, particularly, in which direction does the future of the cassette lie?

Despite the considerable progress of the past ten years, the major deficiency of the cassette format in comparison to open-reel studio tape still lies in the area of high-frequency output. Up to about 5,000 Hz, most cassettes are pretty much equal to open-reel, quite

capable of reaching the required amplitude for even the most critical music recording. Beyond that, however, cassette performance begins to drop off.

Ferric Oxide

The history of the development of open-reel ferric-oxide tapes since the late 1940's has been one of increased signal-to-noise ratio (S/N). With the introduction of the Philips cassette, with its much slower tape speed, the emphasis has switched to high-frequency performance above 12,000 Hz, and progress over the past decade or so has been dramatic. At the low frequencies, the S/N of ferric-oxide cassette tapes has been improved (with successful cobalt treatment) from about 45 dB to more than 60 dB, and at the high frequencies the S/N has gone from less than 30 dB to over 40 dB.

• **Better Oxides.** The drive to improve ferric-oxide tape formulations was sparked in 1970 with the introduction of chromium dioxide (CrO₂) by Du Pont. In one dramatic step, CrO₂ enhanced the potential S/N of cassettes by as much as 5 dB at the high end. Ferrichrome was introduced several years later as an attempt to combine the virtues of ferric oxide with those of CrO₂. On machines properly set up to accept it, ferrichrome too provided cer-

tain advantages. But there was more to come. The breakthrough for ferric oxide came in 1975, when the Japanese were successful in perfecting the cobalt treatment process and introduced a number of "chrome-substitute" tapes. With coercivities high enough to use chromium-dioxide bias and well suited to the 70-microsecond (CrO_2) time-constant playback equalization, these tapes equaled and in some ways surpassed the performance of the best chrome then available.

Cobalt enhancement, or "doping," involves chemistry that is simple in theory but proved at first to be very difficult to apply. Each ferric-oxide particle has a certain specific crystal structure made up of atoms of iron and atoms of oxygen. Most of these fit together in predictable ways, but a small percentage of the "sites"—the hookup points—in each crystal are ambivalent in that they can be filled either with oxygen or iron atoms (or any "impurity"). This ambivalence is actually undesirable, but it is possible to take advantage of it nonetheless by filling the ambivalent sites with cobalt (rather than iron or oxygen) atoms.

Cobalt improves the properties of each crystal and therefore the overall magnetic performance of the tape coating. In doping a crystal, however, the chemists were forcing the atoms to do things they didn't want to do, so the early formulations were very unstable. Eventually, however, the scientists learned the proper stage at which to introduce the cobalt atoms and the proper conditions of temperature and pressure; the result was the so-called "ferricobalt" tapes.

- **Better Binders.** None of these tapes have yet achieved the theoretical ultimate performance we can expect from ferric oxide, however, for it can—in theory, at least—be improved about 7 dB at the high end by smoothing the tape surface and thus improving tape-to-head contact (2 dB) and by enhancing magnetic properties through better particle orientation and faster, more controlled processing of the coating materials (5 dB).

To improve tape-to-head contact, the average roughness of the tape has to be reduced about 30 per cent. Right now, the average tape-to-head separation is roughly twice the peak-to-peak variation in the surface roughness—about 20 microinches. This head-to-tape gap can be brought down to less than 8 microinches (it has already been done in video-tape formulations), making possible 2 to 2.5 dB more output at 15,000 Hz.

The 5-dB gain will come from im-

proving the magnetic properties of the particles through physical means. In the history of magnetic tape, we have usually depended on the oxide manufacturer to do the work of improvement—and, indeed, we can still expect some contributions from that source. Today, however, we're also exploring tape *binders* as a means of accomplishing at least part of this goal. Heretofore, a binder system was only something to hold the oxide needles together on the substrate (the base film). In theory, however, the binder can and should not only hold them there, but hold them in a certain orientation. Powerful magnets are used to orient the oxide particles physically while the binder is still wet (unfortunately, not every particle winds up being properly oriented). The oxide particles have two directions of movement within the wet coating: up-and-down and side-to-side. Because of the coating thickness, a particle has a great deal of difficulty moving in the vertical plane. Under the influence of the magnetic field it naturally wants to do that; just as naturally, we do not want it to. The best kind of binder system is therefore one that will restrict vertical motion of the oxide particles, yet allow them to move easily in

"The race to find the 'perfect' magnetic-tape particle is hotter now than ever before. . . ."

the horizontal plane. Using such a binder, if we move very quickly from the coating point to the orientation point the particles can be "frozen" more or less in the direction of tape travel. This *longitudinal* orientation directly affects the output signal because it increases low-frequency flux and reduces interference between the magnetized particles at high frequencies.

We could, theoretically, achieve total longitudinal orientation, but the best result achieved so far under laboratory conditions is 7 on a scale of 10. The *best* tapes now available have orientation factors of 3 on the same scale. By using new binder technology and better magnetic particles, the figure could be improved to 4.5.

- **Faster Milling.** Milling is another critical stage in the process of preparing the oxide dispersion, and the more time the magnetic particles spend in the

process the greater the chances are that they will be broken. Most of the effort in this part of the manufacturing process goes into developing milling methods that are faster and (consequently) less damaging to them.

This three-pronged approach—better oxides, better binders, and faster milling—will give us about 5 dB additional dynamic range for the ferric-oxide tapes at the high end, plus the 2 dB that comes from having a smoother surface. That, theoretically, is all we can expect from the ferric tapes—cobalt-doped, epitaxial, or whatever—until we get into pure-metal powders. Still, this is very respectable performance when considered in the light of the other advantages of ferric oxide, and if the problems of bias consistency can be solved worldwide, there is a bright future for the cobalt-enhanced ferrics, especially at the 120-microsecond playback equalization.

Chromium Dioxide

The other major category of cassette tapes, chromium dioxide, presents a far more encouraging picture even though it has had only a fraction of the developmental attention paid to it that the ferric tapes have enjoyed. The problem from the beginning has been that chrome was *too* good. At its introduction it was so far ahead of the other tapes then in use that its manufacturers were not motivated to invest in any research and development efforts to improve it. Though research on ferric oxide goes back more than twenty years, CrO_2 has seen only one improvement in its whole history.

The development direction for chrome from this point on is very likely similar to that for ferric tapes—creating a more uniform particle with a higher "crystal energy," which means more coercivity (high-frequency response) and more remanence (overall output). Fortunately for chromium dioxide, this is easy to accomplish—the particle is a lot more controllable than that of iron oxide. So far, it has been possible to increase chrome's coercivity without changing the bias from the "classic" chrome bias. This provides an increase in the short-wavelength response, thus adding 4 to 5 dB to the output at 15,000 Hz.

It is impossible to predict the ultimate practical performance of the chrome formulation, but the next *theoretical* goal is an additional 3 dB at low and middle frequencies and another 6 dB in the range between 14,000 and 20,000 Hz. And this is on top of the achievements of second-generation chrome, which has already demon-

Cassette Tape...

strated greater dynamic range and more high-frequency headroom than even the best chrome substitutes on the market today.

I do not mean to be critical of cobalt-doped iron-oxide tapes, but you cannot break the laws of nature. When we look at the theoretical limitations of ferric and chrome tapes, we find that the potential for chrome is way ahead. This is true partly because CrO_2 is the precisely controllable result of technology (CrO_2 does not occur in nature), while ferric oxide has to be grown or "cultured" in much the same way as yoghurt or bread dough.

Perhaps this idea of an "unnatural" oxide gave some credence to the "wear scare" that has hindered the sale of chrome cassettes over the past several years. The rumor that CrO_2 wears heads at a faster rate than iron oxide started shortly after the introduction of the chrome-substitute cassettes and was widely circulated among audiophiles, retailers, and even tape-deck manufacturers. According to all available current research, just the reverse is true: cobalt-treated ferric-oxide tapes actually wear heads faster than any current chrome formulation. Which is not to say that *either* type presents a serious wear problem. If you operate your machine an average of 150 hours a year for three years, you may notice a 2- to 3-dB deterioration of the signal at 8,000 Hz, depending on the composition of your tape head—and that's with the *most* abrasive ferric-oxide tape. And so it turns out that the "issue" of recorder head wear was never really an issue at all.

Coming Up

What performance levels can we expect in tomorrow's tapes? Certainly there will be improvements in chrome-substitute ferric-oxide formulations, though perhaps not to the point of reaching the theoretical limit of 7 dB more "head room" at high frequencies immediately. However, they should soon be capable of rivaling second-generation "super-chrome" formulations. Furthermore, ferrichrome, perhaps with some improvements, should continue to expand its popularity as more and more cassette decks add bias/equalization switching especially for it. And, of course, a steady—and rapid—improvement in chromium dioxide seems to be guaranteed now that the in-

dustry is finally committed to realizing its full potential.

But the biggest tape news of the near future will not be made by either ferric or chrome formulations but by pure-metal tapes or digital technology. A bit of a race is shaping up here, with the decision going to whoever is first to develop successful—best and cheapest, that is—hardware. *Which* one triumphs is not really all that important. Although the technologies are vastly different, the goal remains the same: an additional 10 dB of S/N more or less "across the board."

• **Pure Metal.** The figure of 10 dB is, at least, what many future manufacturers of pure-metal tapes are *aiming* for. It may prove to be a trifle optimistic, but it is necessary to identify some target so that equipment manufacturers can plan and design accordingly. Reports

"In tape development, we've come farther in the Seventies than in any comparable previous period."

of early work indicate that a 5-dB improvement from 20 to 20,000 Hz has already been achieved. Furthermore, 10 dB has evidently been squeezed out at high frequencies in the laboratories, though with a modest sacrifice of improvement at lower frequencies.

As far as we know, no one has yet managed to demonstrate the full 10-dB, all-frequencies increase with the consistency mass production requires, but the tape industry as a whole is probably 50 to 80 per cent of the way to the goal. Once it gets there it will be up to the machine manufacturers to produce affordable equipment capable of applying several times the present-day bias levels to the tape. This will entail development of entirely new head technologies and characteristics.

• **Digital.** It is safe to assume that the hardware manufacturers would prefer a system in which the tape is not so critical a factor—a digital system, in other words—whereas most tape companies would be willing to go either way. The demands made on the tape would be strikingly different for the two systems, however. Initially, at least, a tape for digital audio recording

would be an easier product to design and manufacture than even a cobalt-treated ferric-oxide tape—initially because the ultimate product will depend on what decisions the system designers make. In the matter of sampling rate, for example, it will make a major difference in tape requirements if the signal waveform is sampled and quantized 60,000 times a second rather than, say, 40,000 times a second [see this month's "Tape Talk"]. The packing density available from the tape and the permissible occurrence of signal dropouts will be critical.

Actually, the tape industry need expect no major problems in creating a workable digital audio tape. Historically, analog recording tapes have maintained—and had to maintain—a higher standard of performance than tapes intended for digital applications. Digital technique essentially involves working at a fixed frequency and either saturating the oxide particles or not recording on them at all. This is easier to cope with than the analog situation, in which the frequency bandwidth is fairly wide and the tape must meet higher criteria for noise and distortion.

Our considered opinion is that chromium dioxide is, once again, the best presently available magnetic material for digital applications. Far more bits of information per inch can be recorded onto and retrieved from chromium dioxide than can be handled by other materials. (When I joined BASF some years ago, computers worked with a packing density of 556 bits per inch of tape track. Today we're up to 6,250 bits per inch, and this figure is determined by the digital electronics rather than the tape, which is capable of more.) Chrome has all the characteristics of packing density, physical smoothness, and especially consistency that we'll require from a digital medium.

THIS year, magnetic recording tape will be forty-six years old; the cassette concept will barely have turned twenty. In tape development, we've come farther in the Seventies than in any comparable previous period. There's no doubt that the rate of improvement in this recording medium is accelerating. We have seen the design of tape change from near-alchemy to a science, and this is only the beginning. The future for the cassette—and for the ultimate satisfaction of the consumer—looks very bright indeed. □

Robert Donadio is Technical Development Manager at BASF Systems, where he has worked for the past twelve years, primarily on the development of new tape formulations.

WE WANT YOU TO BE AS DEMANDING OF OUR SOUND AS WE ARE.

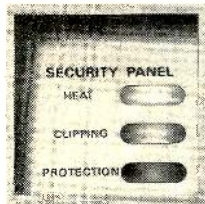
The most important feature in Setton equipment is the sound you hear. Every idea we've perfected over the years has that objective in mind. We think you'll be interested in reading about some of them.

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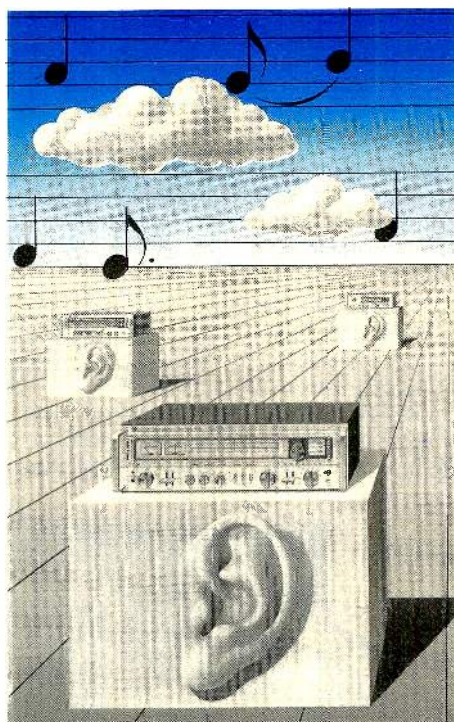


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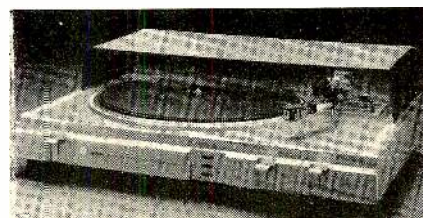
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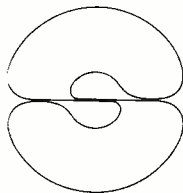
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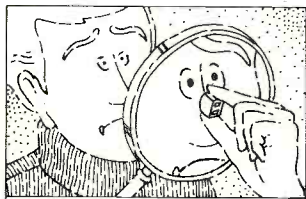
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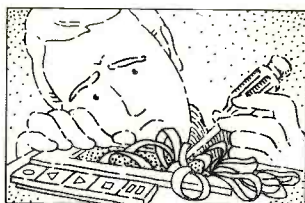
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STEREO REVIEW'S SELECTION OF RECORDINGS OF SPECIAL MERIT
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Christian Steiner/Angel/EMI



Riccardo Muti:
Irresistible Vitality in
Vivaldi's Gloria
And *Magnificat*

It is well known from his justly celebrated *Four Seasons* (twenty-eight versions in the current catalog) and other works that Antonio Vivaldi was an innovator in the field of instrumental writing and a tireless creator of concertos of every description. We have also learned, through their still-widening representation on records, that his large-scale choral works often incorporate concertante elements. And now the surging strength and irresistible vitality Riccardo Muti brings to a new Angel recording of the *Gloria* and *Magnificat* remind us that Vivaldi, once celebrated as a composer of operas, was also possibly the originator of the quasi-theatrical Italian religious masterpieces that flow in a steady line through the *Stabat Maters* of Pergolesi and Rossini to the Requiem Mass of Giuseppe Verdi.

Muti, principal guest conductor of the Philadelphia Orchestra (and, apparently, heir apparent to the Ormandy podium), has already established a reputation as an interpreter of Romantic symphonic and operatic music through a now considerable list of recordings, and his approach to Vivaldi is, perhaps not surprisingly, essentially Romantic too. The results are bold and vibrant, a dramatic kind of music making that is enriched by an ideal choral-orchestral fusion, first-rate contributions by solo trumpet and oboe, and, above all, two

Riccardo Muti: an established interpreter of the Romantic repertoire makes a bold and vibrant response to a Baroque challenge.

altogether exceptional solo vocalists.

Teresa Berganza's work in the *Magnificat*, the less familiar of these two works, is especially outstanding: her particular flair for florid music makes her solo "Et exultavit" exhilarating. The darker-hued tones of Lucia Valentini Terrani rise to the solos in the *Gloria* with uncommon warmth and nobility. Both artists sing with extraordinary expressiveness, clarity, and accuracy throughout. The continuo registration is noteworthy, though I would have welcomed an even stronger presence. But no matter: overall, I have only the highest praise for these performances.

A "churchy" quadraphonic ambience is distinctly, though subtly, in evidence, particularly when checked against the stereo. And there are moments of real brilliance in the heavier choral passages such as the double-fugue "Cum sancto spiritu" of the *Gloria*. Vivaldi borrowed this music from the finale of another *Gloria* by G. M. Ruggieri, who had scored it for two choirs and orchestras. Though Vivaldi reduced these to one in his version, your quad switch will rather ironically move the passage back in the direction of Ruggieri's original intention.

—George Jellinek

VIVALDI: *Gloria; Magnificat* (both ed. Malipiero). Teresa Berganza (mezzo-soprano); Lucia Valentini Terrani (contralto); New Philharmonia Chorus and Orchestra, Riccardo Muti cond. ANGEL □ S-37415 \$7.98.

Perlman and Giulini: A Brahms Violin Concerto to Rank With the Best

WHEN you get around to it (and you ought to make it soon), put Angel's new recording of the Brahms Violin Concerto with Itzhak Perlman, Carlo Maria Giulini, and the Chicago Symphony right up near the top of your list. In their quite different ways, the Oistrakh/Szell and Heifetz/Reiner collaborations will continue to be the major competition in this endlessly beguiling work, but for myself I would not want to be without *all three* for the brilliant illumination they together shed on every facet of the music.

The combination of Perlman's gutsiness and sentiment (but not sentimen-



Lucia Valentini Terrani and Teresa Berganza: altogether exceptional

Rec. Wilem/Angel/EMI

tal, mind you!) and Giulini's classic poise combined with Italianate warmth—not to mention the superb responsiveness of the Chicago players and Angel's fine recording job—adds up to a wonderfully invigorating listening experience. The enormous expansiveness of the opening movement is carried off with sweep and brilliance, yet all the elements are kept in perfect proportion as regards phrasing and dynamics. The slow movement comes through with particular eloquence, most especially in the closing pages, and the finale is played with terrific gypsy *brio*.

The sonics could hardly be bettered. Quadraphonic ambience is kept suitably muted, as befits a work whose focus is often on the solo instrument. The violin is therefore rather closely miked, but not at the expense of the orchestra, which contributes steadily and gloriously, under Giulini's baton, to these

riveting proceedings. —David Hall

BRAHMS: *Violin Concerto in D Major, Op. 77*. Itzhak Perlman (violin); Chicago Symphony Orchestra. Carlo Maria Giulini cond. ANGEL □ SQ-37286 \$7.98, © 4X5-37286 \$7.98.

Earth, Wind & Fire's Neo-progressive Soul Hasn't Disappointed A Fan Yet

THE pyramids, the all-seeing eyes, the Egyptian icons, and the space cities that adorn the surrealist cover

Itzhak Perlman and Carlo Maria Giulini: sentiment and poise



Clive Barcus/Angel/EMI

of "All 'n All," Earth, Wind & Fire's new album, might lead you to expect music on the weird side—computerized bumbles designed to accompany some kind of close encounter with extraterrestrial visitors. But don't be deceived by this Hollywoodish come-on. The music is delightfully earthy in its appeal, an aural collage of rich vocal and instrumental textures underscored by highly danceable rhythms that never surrender to triteness. Though the very name of this group partakes of astrological symbolism, and though the lyrics of their songs often hint of galactic mysteries, the nine men who compose Earth, Wind & Fire play a kind of mu-

joining that combo back in the mid-Sixties when Lewis began to adapt his jazzy piano style to r-&-b hits, starting with Dobie Gray's *The In Crowd*. Thus he was a forerunner of the jazz-soul-rock fusion common today. When White moved out on his own in the early Seventies, he drew on this experience, deftly incorporating jazz-flavored instrumentals and innovative singing into the popular format. As a percussionist, he used the kalimba (an amplified, Westernized version of the ancient African thumb piano) to introduce more intricate rhythms and colorings into the group sound.

All of these elements permeate this

appear from nowhere and fade away like ghosts. That adds just an intriguing touch of mystery, of course, as does the fact that this album has two pockets but only one record. There is supposed to be a poster in one of the pockets, but in my copy it was empty—unless there was some invisible mojo tucked inside. If so, it worked. —Phyl Garland

EARTH, WIND & FIRE: All 'n All. Earth, Wind & Fire (vocals and instrumentals). *Serpentine Fire; Fantasy; In the Marketplace/Jupiter; Love's Holiday/Brazilian Rhyme; I'll Write a Song for You; Magic Mind; Runnin'/Brazilian Rhyme; Be Ever Wonderful.* COLUMBIA JC 34905 \$7.98, © JCA 34905 \$7.98, © JCT 34905 \$7.98.



Bruce W. Talamon/Columbia Records

Earth, Wind & Fire, often celebrated but rarely identified, is (from left to right) Verdine White, Al McKay, Larry Dunn, Philip Bailey, Maurice White, Fred White, Johnny Graham (with the hat), Andrew Woolfolk (with the striped shirt), and Ralph Johnson.

sic that might be called neo-progressive soul, for it is a full light-year beyond what most groups are doing these days, soaring to celestial heights while sending out waves of mundane thrills.

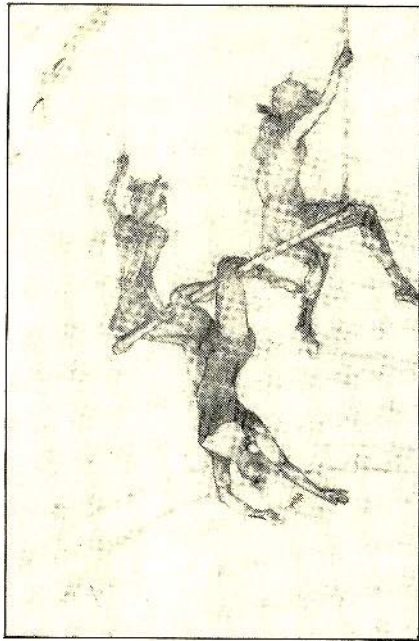
All the members of this company are instrumentalists as well as singers, which might account for the imaginative way they use their voices, punctuating long excursions into engaging melody with exciting bursts of high falsetto. An important factor in their development has been the leadership of Maurice White, whose background has given him a broad view of the musical spectrum. As a youth in Chicago, White served his apprenticeship as drummer with the Ramsey Lewis Trio,

splendid new album. While it can safely be said that Earth, Wind & Fire is one of the few groups never to disappoint a fan, this set clearly ranks among their finest efforts, approaching the excellence of "That's the Way of the World" (Columbia PC 33280). *Serpentine Fire*, the opener, is a high-stepper guaranteed to set even the most sluggish soul in motion, while *I'll Write a Song for You* projects a sweet folk flavor. The most interesting track here is *Runnin'*, a long instrumental complemented by group scat-singing and jazzy horn solos.

As is usual with EW&F albums, there are some strange moments when conversation and snatches of melody

Les Saltimbanques: You Simply Won't Believe the Dazzlingly Melodious Score

FRENCH operetta—the *opéra bouffe* or *opéra comique* that captivated Paris, amused the Western world, and was burnished to a high gloss by Offenbach in the second half of the nineteenth century—did not just fade away; it went out in a blaze of glory. Though one would have to be very lucky today to find the name Louis Ganne even in



the library card catalog, in 1899 *Les Saltimbanques*, his three-act operetta based on circus life, was the talk of Paris. After that, the fickle French lost interest in *opéra bouffe*, and it is a little hard from this distance to figure out just why. Certainly it could have had nothing to do with Ganne's *chef d'oeuvre* and biggest success, for a Pathé-Marconi recording just released in the United States by Connoisseur Society shows it to have been a pearl, however cavalierly it may have been tossed away through the caprice of fashion.

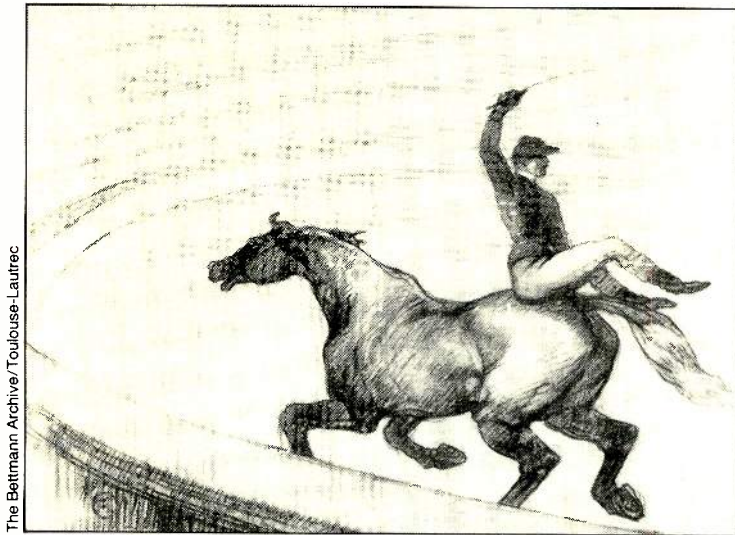
Les Saltimbanques (literally, *The Tumblers*, but better translated as *The Circus Troupe*) has a plot that would put one of those old-time, early-technicolor Hollywood circus movies to shame. But what music! What marches, waltzes, gypsy ballets, love duets, and circus processions! Ganne was no hack, but a composer of genuine talent who studied under César

strongman Grand-Pingouin, and Claude Calès as the soldier André whom *she* loves never sound a false note in either their singing or their characterizations. The role of the circus owner Malicorne is taken by that superb interpreter of French song, the baritone Jean-Christophe Benoit. All of them manage to make Maurice Ordonneau's at times fatuous lyrics sound as inspired as Ganne's music.

The recorded sound is open and spacious—in fact, just about flawless. This latest in a series of half-forgotten French operettas that deserve our renewed attention is supplied by Connoisseur Society with a cover containing a full-color reproduction of a circus scene by Seurat; the cost of this might better have been invested in a text, either in French or English, an almost indispensable adjunct to the enjoyment of this brilliantly performed recording. Eric Salzman's well-researched notes fill in every twist and turn of the action, but it is far more fun when you can follow it (in my case with a Xerox copy of the hard-to-find libretto) with the words.

—Paul Kresh

GANNE: *Les Saltimbanques*. Mady Mesplé (soprano), Suzanne; Eliane Lublin (soprano), Marion; Raymond Amade (tenor), Paillasse; Claude Calès (baritone), André; Dominique Tirmont (baritone), Grand-Pingouin; Jean-Christophe Benoit (baritone), Malicorne; Jacques Pruvost (baritone), Innkeeper; André Batisse (tenor), Comte des Etiquettes. René Duclous Chorus; Orchestra de l'Association des Concerts Lamoureux, Jean-Pierre Marty cond. CONNOISSEUR SOCIETY/PATHÉ MARCONI CS2-2139 two discs \$15.96.



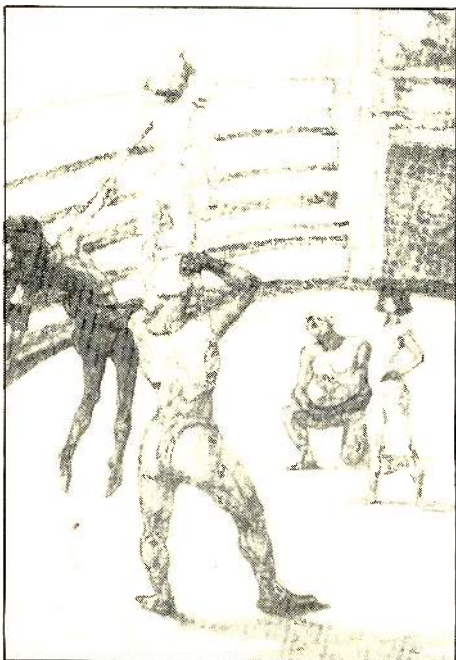
The Beitmann Archive/Toulouse-Lautrec

Franck and Massenet and learned his craft to perfection. The whole scintillating score, stinting on nothing and abounding in voluptuous melody, is a seamless, bright-colored tapestry that bemuses, surprises, and ingratiates at every turn. Moreover, the performance on these discs is positively dazzling. Presented complete (except for some sensible cuts in disposable dialogue) with a superb cast, Ganne's sumptuous, richly orchestrated circus score is done full justice.

Eliane Lublin makes a lusty character out of Marion the chambermaid, and Mady Mesplé, despite the curious fragility of her voice, is utterly winning as the wistful heroine Suzanne. Tenor Raymond Amade as the clown Paillasse who loves her, baritone Dominique Tirmont as the likewise-smitten

Hank Williams Jr.: Stepping Out at Last From Behind His Father's Legend

How do you think it would feel to have someone else's legend pop into everyone's mind every time your name is mentioned? Hank Williams Jr. must know. He's been graceful about it, of course, and has continued to write, cryptically but fondly, about his father in his songs. He started out, at his mother's behest, imitating Hank Sr. to a tee for the soundtrack of a biographical movie when he was in his middle teens. But he's been writing his own songs and cultivating his own sing-



ing style ever since, and I've had a feeling for some time now that it was about to dawn on us how good he really is.

His new Warner Bros. album "The New South" brings that day measurably closer. What he's got that's most reminiscent of Hank Sr. is a sense of power behind the voice. His father was maybe the most raw and direct singer I ever heard; if there was any ornamentation at all it was purely accidental—his only trademark was putting everything he had behind his vocal cords. Hank Jr. gives you the same feeling about his ability to concentrate energy like that, but to a lesser degree than his father did; there are more shadings, a broader kind of vulnerability about him. But he's good, and this may be the most nearly balanced version of him any of his albums has yet presented.

The production has the marks of Waylon Jennings on it, and he of course understands about singers who won't fit into just one category. The backing is clean, sprightly, idea-prone, and yet it doesn't argue with the fact that it's the singer's show. The songs include a few that Williams wrote—he doesn't write in the economical, ultra-distilled way his father did, but is more of a suggester, a meanderer—and a good variety of tempos and a good mix of the new and the familiar, of country and rock, of romance and realism. It's only a matter of time before Hank Jr. will be widely recognized as one of the really good ones, and it'll be a lot less time after this one. —Noel Coppage

HANK WILLIAMS JR.: *The New South*. Hank Williams Jr. (vocals, guitar, dobro); Waylon Jennings, Leon Sherrill (guitars); Chris Plunkett (bass); other musicians. *Feel-in' Better*; *Montgomery in the Rain*; *Looking at the Rain*; *You're Gonna Change (or I'm Gonna Leave)*; *How's My Ex Treating You*; *Uncle Pen*; *Once and For All*; *Storms Never Last*; *New South*; *Tennessee*; *Long Way to Hollywood*. WARNER BROS. BS 3127 \$6.98, © M8 3127 \$7.97, © M5 3127 \$7.97.

Lou Rawls: One of The Most Meltingly Seductive Vocal Styles Since Nat "King" Cole

IF you really want to see your Average Rock Critic turn stone blue with contempt and get his granny glasses all steamed up, just mention the name Lou Rawls. And then, if you

Hank Williams Jr.: a meanderer ▶

want to see his eyes pop and his funny cigarette drop, hit him with the fact that Lou has a slick and very sophisticated new album out on Philadelphia International titled "When You Hear Lou, You've Heard It All." What, he will cry, happened to the sensitive young black singer from Chicago who first gained attention in the Sixties, whose intensity in singing soul music should have made him a star, whose records never sold all that much but who won a thoroughly respectable critical following with such things as *Tobacco Road* and *Natural Man*? A sellout, nothing but a sellout, he'll mutter as he retires to his floor pillows to dream up a really perceptive piece on the sociopolitical import of the Sex Pistols.

Hmmm. Well, that may all be true enough, but it misses one important point: Lou Rawls had something to sell out *with*: a voice of sheer gossamer and one of the most meltingly seductive vocal styles since the days of the great Nat "King" Cole. And it's all displayed here in an album that's as classily assured as the lobby of the St. Regis and as sleekly crafted as a Gucci wallet. When Rawls takes off on an old standard such as *Unforgettable*, accompanied by a Gamble-Huff instrumentation that sounds as if it drifted over from the string section of the Philadelphia Orchestra at the Academy of Music, you know that he made the right decision. If you have the basic goods to be a Charm Singer, why shouldn't you be? And why shouldn't you do it with the unstrained ease and silkiness that come naturally to you? How many Sixties singers could do the same? How many could handle the slippery likes of *If I Coulda, Woulda, Shoulda* without sounding like Popeye singing *She Didn't Say Yes*?

For once let your pleasure meter be your guide. Forget what Lou Rawls was doing in the Sixties (*he* obviously has) and see if he isn't one of the best singer-singers we've got around in the Seventies. And would someone please pick up our Rock Critic? I think he's fainted. —Peter Reilly

LOU RAWLS: *When You Hear Lou, You've Heard It All*. Lou Rawls (vocals); orchestra. *Lady Love*; *I Wish It Were Yesterday*; *One Life to Live*; *Dollar Green*; *Trade Winds*; *There Will Be Love*; *Unforgettable*; *That Would Do It for Me*; *If I Coulda, Woulda, Shoulda*; *Not the Staying Kind*. PHILADELPHIA INTERNATIONAL JZ 35036 \$7.98, © JZA 35036 \$7.98, © JZT 35036 \$7.98.

Lou Rawls: unstrained ease ▶



Warner Bros. Records

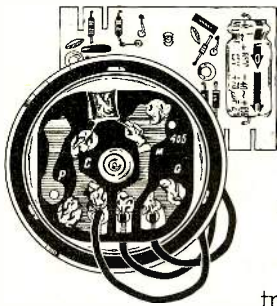


Bobby Bank

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The new Garrard GT35 incorporates a servo-controlled, DC motor.

Servo control provides absolutely steady speed. The motor, (and thus the rotation of the platter), is immune to fluctuations in household voltage or frequency. Len Feldman, writing in *Radio Electronics*, reviewed it as a "significant breakthrough" superior to the "synchronous motor however many poles it might have." The GT35 is the only, belt-driven, single/multiple play turntable in the world with a servo-controlled, DC motor.

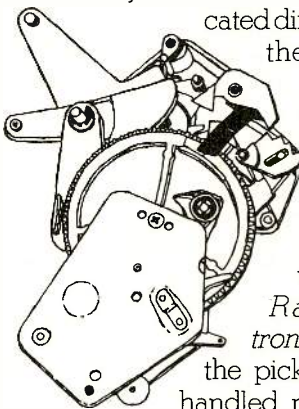
Chalk one up for the new Garrard GT35.

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tonearm (measured with a Shure M95ED cartridge, tracking at 1¼ grams) is a mere 20.4 grams. That's lighter than the tonearm of the Dual 1245 at 27.5 grams or the B.I.C. 981 at 25.6 grams. In fact, the new Garrard GT35 has the lightest tonearm of any single/multiple play turntable.

Chalk up one more for the new Garrard GT35.

The Dual, B.I.C. and Garrard all protect your records as only fully automatic turntables can. And all provide the convenience of multiple play. But only the new GT35 boasts the patented Delglide® system. Unlike the Dual and B.I.C. automatic mechanisms, Delglide is driven by its own belt and is located directly under the tonearm.



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There's more. The Dual 1245 and the B.I.C. 981 are warranted for 2 years. The new Garrard GT35 carries an unprecedented 3 year warranty.

That's our way of underscoring its exceptional reliability.

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CLASSICAL DISCS AND TAPES

Reviewed by RICHARD FREED • DAVID HALL • GEORGE JELLINEK • PAUL KRESH
STODDARD LINCOLN • ERIC SALZMAN

RECORDING OF SPECIAL MERIT

ARNE: Symphonies Nos. 1-4. WESLEY: Symphony in D Major. Bournemouth Sinfonietta, Kenneth Montgomery cond. HNH 4041 \$7.98 (from HNH Distributors, Ltd., P. O. Box 222, Evanston, Ill. 60204).

Performance: **Excellent**
Recording: **Excellent**

This is a recording of special merit not only because of the wonderful performance by the Bournemouth Sinfonietta under the sure direction of Kenneth Montgomery, but also because of the fabulous symphonies of Thomas Arne. When thinking of Handel's English contemporaries we are too apt to classify all of them as lesser imitators of the master. But there was also an important post-Handelian Classical school ushered in by the arrival in England of Johann Christian Bach in 1762. The four Arne symphonies on this disc belong to that school and dramatically demonstrate that this talented composer was well aware of what was going on in Mannheim and what *Sturm und Drang* was all about. The music is full of drama and contrast and is detailed in its orchestration, which is filled with passages for the woodwinds and horns. The various effects are well structured; above all, one hears Arne's ingratiating sense of melody—English to the core but with one ear tuned to Italy. Arne's extraordinary talent is emphasized by comparing his music with the youth-

ful symphony of Samuel Wesley. Though fine in its workmanship, it lacks the sweep and dimension of the Arne works.

Kenneth Montgomery treats these works with the same respect one would pay to Haydn or Mozart, thus avoiding the usual "musical curiosity"-type reading so often given to lesser-known composers. I strongly recommend that every collector make a point of acquiring this album for a thrilling surprise.

S.L.

J. S. BACH: Sonata in B Minor for Flute and Harpsichord (BWV 1030); Sonata in E Major for Flute and Basso Continuo (BWV 1035); Sonata in A Major for Flute and Harpsichord (BWV 1032); Sonata in E Minor for Flute and Basso Continuo (BWV 1034); Partita in A Minor for Solo Flute (BWV 1013), plus alternative instrumentations; Concerto in D Minor (fragment after the first movement of the Sonata in B Minor, BWV 1030). Frans Brüngen (flute); Gustav Leonhardt (harpsichord); other musicians. ABC/SEON AB-67015 two discs \$13.96.

Performance: **Authentic**
Recording: **Crisp**

The producers of this disc, which is billed as containing the complete sonatas and partitas for transverse flute of J. S. Bach, take a hard line on what is really by Johann Sebastian and what is spurious. They have rigorously eliminated the Sonata in E-flat Major and the Sonata in G Minor (BWV 1031 and 1020, respectively) and the C Major Sonata for Flute and Continuo (BWV 1033), maintaining that the first two are probably the work of C. P. E. Bach and the third the closely supervised work of one of J. S. Bach's students. On stylistic grounds there is certainly no quarreling with this stance, but I hope these three beautiful works will not be eliminated from the repertoire simply because they lack a proper pedigree. The alternative instrumentations provided for the Partita in A Minor are based on the speculation that because of the difficulty of the work it might have been written originally for some instrument other than the flute. Thus, the movements have been variously assigned to the viola, harpsichord, violoncello

piccino, recorder, and violin. The result merely proves what we already know: that Bach is indestructible regardless of what instrument his music is performed on. The construction of a concerto from a fragment of the B Minor Sonata is even more speculative; what it really amounts to is a pleasant arrangement for strings, which leaves the listener frustrated because it stops halfway through.

The technically perfect performances here are in an "authentic" style derived from research in various and sundry old documents that suggest a maximum of articulation was normal Baroque performance practice. While this may be historically correct, I feel that the complete lack of projection and a long line and the suppression of any individual interpretation by the performers render the product lifeless and inhuman.

S.L.

BEETHOVEN: Fugues in A Minor, B-flat Major, and C Major; Choral Fugues in G Major and F Major; Fugues alla Duodecima in D Minor and C Major; Double Fugues in F Major and D Minor; Preludes and Fugues in F Major, C Major, and E Minor. Canadian Broadcasting Corporation Festival Orchestra, Alex Brott cond. EVEREST 3419 \$5.98.

Performance: **Devoted**
Recording: **Fine**

This album is entitled "The Young Prometheus." Once one gets through the name-dropping liner notes and the notion that the music has anything to do with Beethoven's ballet score *The Creatures of Prometheus*, it turns out to be a delightfully dignified experience. The music is an arrangement of selections from contrapuntal studies written by Beethoven during his student years in Vienna (1791 to 1795). That he learned fugal techniques well is immediately obvious from the masterly handling of inversions, strettos, and the like. That these are only studies is immediately obvious from the absence of the characteristic Beethoven sound. Alex Brott has selected the studies and orchestrated them in the finest Stokowski tradition; the result makes good listening. The performances are excellent, and the disc is well worth acquiring at least as a curiosity.

S.L.

Explanation of symbols:

- Ⓡ = reel-to-reel stereo tape
- Ⓢ = eight-track stereo cartridge
- Ⓒ = stereo cassette
- = quadraphonic disc
- Ⓡ = reel-to-reel quadraphonic tape
- Ⓢ = eight-track quadraphonic tape

Monophonic recordings are indicated by the symbol Ⓜ

The first listing is the one reviewed; other formats, if available, follow it.

BRAHMS: *Ein Deutsches Requiem, Op. 45.* Ileana Cotrubas (soprano); Hermann Prey (baritone); New Philharmonia Chorus and Orchestra, Lorin Maazel cond. **Alto Rhapsody, Op. 53.** Yvonne Minton (mezzo-soprano); Ambrosian Singers; New Philharmonia Orchestra, Lorin Maazel cond. COLUMBIA M2 34583 two discs \$15.98.

Performance: **Lyrical**
Recording: **Good**

Lorin Maazel's view of the German Requiem is decidedly different in spirit from Otto Klemperer's darkly apocalyptic and supremely eloquent 1962 reading on Angel. Maazel stresses the lyrical and consolatory aspects of the score throughout, with most effective results in the "*Wie lieblich sind deine Wohnungen*" and the two final movements. The New Philharmonia Chorus tenors give an especially fine account of themselves in the "*Herr, du bist würdig*" fugue, and after a tremulous start Ileana Cotrubas is sweetly affecting in the famous "*Ihr habt nun Traurigkeit*" solo. Hermann Prey's musicianship and dramatic sense are beyond reproach in "*Herr, lehre doch mich*," but his voice is a bit light in weight for my taste. And I can't say that I cared much for Maazel's *rallentando* treatment of endings and transitional half-cadences.

The real prize in this album turns out to be Yvonne Minton with the Ambrosian Singers (male contingent) in the Alto Rhapsody. This is as gripping and dramatic a realization of Brahms' Goethe setting on misanthropy and redeeming grace as I ever hope to hear, a performance that is right up there with the very best of its several distinguished predecessors on disc. And if Columbia's recording of the Requiem is good, that of the Rhapsody—notably the excellent balance of the male choir—is definitely superior. I can only hope that this Alto Rhapsody will become available as part of a single-disc issue. *D.H.*

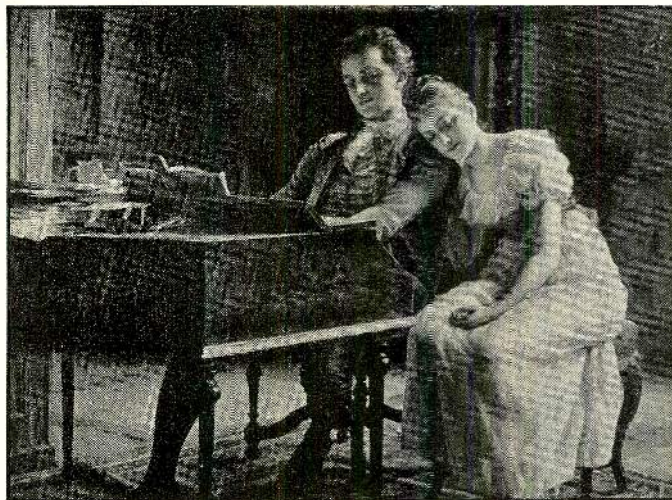
BRAHMS: *Violin Concerto in D Major, Op. 77* (see Best of the Month, page 76)

RECORDING OF SPECIAL MERIT

CHOPIN: *Twenty-four Preludes, Op. 28; Prelude in C-sharp Minor, Op. 45; Prelude in A-flat, Op. Posth.* Martha Argerich (piano). DEUTSCHE GRAMMOPHON 2530 721 \$8.98, © 3300 721 \$8.98.

Performance: **Superb**
Recording: **Excellent**

It is not for me to say that Martha Argerich's reading of the Chopin preludes is manifestly superior or inferior to those of such formidable rivals as De Larrocha, Moravec, Orozco, Perahia, or Pollini. There are too many elements of personal taste involved here. So I will say only that I found Argerich's reading of the preludes very much to my taste. Hers is an almost perfect compromise between a stern classicist approach and a heady romantic one. The classicist is in control in No. 1, while the romantic is in full sway throughout the fiercely turbulent No. 22. I was most relieved *not* to hear the famous "Raindrop" become falling boulders, yet it retains a full measure of its inherent drama here. The artless simplicity Argerich brings to the all-too-frequently sentimentalized A Major Prelude matches for me the achievement of the wonderful Horowitz record of the Men-



Mendelssohn with his sister Fanny
Culver/R. Pöitzelberger

Mendelssohn's Octet

LIKE a full-size egg laid by a baby ostrich, Mendelssohn's Octet in E-flat Major was an unexpected marvel of nature whose production was anxiously watched over and whose completion was duly reported. Not that the sixteen-year-old composer's Opus 20 should have been a complete surprise, of course, for during travels in Italy and France his prodigious musical talents had evoked praise from, among others, Rossini, Meyerbeer, and Cherubini.

At the end of November 1825, Mendelssohn's teacher Carl Friedrich Zelter proudly announced to a privileged mutual friend, Johann Wolfgang von Goethe, that "Felix is working hard and is making progress. He has just completed an octet that is very cleverly written." The work "*hat Hand und Fuss*," Zelter told Goethe, meaning that it was fittingly accomplished top to bottom. We may well ask whether such distinctly restrained enthusiasm—expressed in terms more appropriate to a series of finger exercises for euphonium or a two-part invention for tuba and trombone—was the best that Zelter could summon up for a masterpiece that still remains unique one hundred and fifty-two years later.

BUT let us not be too hard on old Zelter. Could even the most doting foster parent tell from a barely dry manuscript that the work he held in his hand had a first movement with a momentum and dash worthy of Beethoven, an *andante* that could have been signed "F. Schubert" without arousing any suspicion of fraud? Not to mention that he might have found it difficult even to *name* a predecessor who had ever achieved anything comparable to the fleet-footed scherzo. It took the composer's sister Fanny to disclose the secret of that movement's origin—"He told what he had in mind only to me," she said—in a reference to the marriage of Titania and Oberon in the *Walpurgisnacht* section of Goethe's *Faust*. When the scherzo's theme whizzes back into hearing in the contrapuntal whirlwind of the finale, an earlier Wolfgang—namely Mozart, who originated this sort of

movement—might well have joined Goethe in applause.

Mendelssohn's marvelous "egg," full of potential nourishment and enjoyment, is a great challenge to the skill of those who would serve it up. To help insure that it would be appropriately prepared, Mendelssohn included in the score such instructions as these: "to be played in symphonic style by all the instruments," and "*pianos* and *fortes* must be strictly observed." Among the excellent versions currently available, the choices have ranged from the Western omelette proffered by Jascha Heifetz and His Corral Seven (RCA LSC-2738) to the *oeufs-à-la-Russe* treatment by the Smetana and Janáček Quartets (Vanguard SU-4).

Now, however, musical gourmets may savor an extraordinary presentation of the octet by the combined forces of the Cleveland and Tokyo Quartets, respectively led by Donald Weilerstein and Koichini Harada. Thoroughly blended and cooked to perfection, their intercontinental omelette has an exceptionally pleasing texture (just firm enough) and a flavor that is simply not to be found in European servings of Mendelssohn's prodigious creation (even by I Musici). The teamwork is so selfless, the ensemble playing so effortless, that one viola is indistinguishable from the other, nor can one determine which cellist is playing when. This one unquestionably gets my *coron bleu*.

As a bonus, the recording includes the Variations and Scherzo, Op. 81, that Mendelssohn wrote in the aftermath of his sister's death—and only weeks before his own—in 1847. The work is a sober summation of Mendelssohn's life in music, and the performance is a manifold exhibition of the artistic excellence of the Cleveland players. The sound quality is fine both in this and in the octet. —*Irving Kolodin*

MENDELSSOHN: *Octet in E-flat Major, Op. 20.* Cleveland Quartet; Tokyo String Quartet. ***Variations and Scherzo, Op. 81.*** Cleveland Quartet. RCA ARL1-2532 \$7.98, © ARK1-2532 \$7.98.

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Angel

CIRCLE NO. 5 ON READER SERVICE CARD

delssonh *Spring Song*. Still another plus in this recording is the use of an instrument that gives the final note of No. 24 its full tonal effect, a far cry from the dull thud that occurs on too many other recordings. D.H.

DONIZETTI: Lucia di Lammermoor. Montserrat Caballé (soprano), Lucia; José Carreras (tenor), Edgardo; Claes H. Ahnsjö (tenor), Arturo; Vicente Sardinero (baritone), Enrico; Samuel Ramey (bass), Raimondo; Ann Murray (mezzo-soprano), Alisa; Vincenzo Bello (tenor), Normanno. Ambrosian Opera Chorus; New Philharmonia Orchestra, Jesús López Cobos cond. PHILIPS 6703 080 three discs \$26.94, © 7699 056 \$17.96.

Performance: **Good**
Recording: **Excellent**

This appears to be an "authentic" Lucia, and, since its approach to the title role is so different from traditional interpretations, it is bound to raise controversy. According to conductor Jesús López Cobos, Donizetti's autograph clearly indicates the composer's preference for a lirico-spinto soprano as Lucia. The tradition of using lighter, "coloratura" voices (Patti, Melba, Tetrazzini, and their musical heirs down to Sutherland and Sills) was established only after the composer's death and presumably against his wishes. To make the part a coloratura "vehicle," Lucia's music was transposed *downward* (a full tone or a semitone) so that the added embellishments could be better accommodated. The performance captured in this Philips set returns to the Donizetti original, with Lucia's range rising no higher than a single C-sharp and a few high C's and with relatively modest cadential resolutions in the two long arias. To quote Maestro López-Cobos: "Only a soprano with coloratura and at the same time a central range sufficiently consistent and dramatic can interpret the part of Lucia... the role should be restored to the lirico-spinto soprano for whom it was intended."

The fact that Montserrat Caballé happens to fit the above description may be more than a coincidence, but that need not diminish the validity of the conductor's assertion. It is the *performance* that gives rise to doubts. Quite apart from the cadenzas, the soprano part abounds in coloratura passages that call for extraordinary agility. I cannot say that Montserrat Caballé can toss off "*Quando rapito in estasi*" or the Mad Scene with the sovereign ease Joan Sutherland exhibits in her two recordings. And while she supplies a wealth of finely sculptured phrases and meltingly lovely tones, in flights above the staff she often turns strident. So, at best, we have here an interesting challenge that is not fully met.

José Carreras, in fine form, imbues his music with an appropriately melancholy coloration. He manages the high E-flat Donizetti asks for in the first-act duet. It is no doubt a falsetto, but it is so skillfully blended with the soprano that we hear only the note without having to worry about its quality. Samuel Ramey is a bass-baritone rather than the true bass one would prefer for Raimondo, but his singing is smooth, stylish, and altogether admirable. Raising the Enrico-Lucia duet up a tone moves the baritone's music into a fairly uncomfortable tessitura. Vicente Sardinero handles it well, but not without effort, and the unusually fast tempo allows for little dramatic characterization.

I have mixed feelings about the conductor's

work. It shows a great deal of thoughtfulness and dedication, but there is less than total precision between pit and stage, and there are several not-too-convincing tempo choices; too fast for the choral allegros, too slow for the Mad Scene and the final scene.

After years of highly decorated *Lucias* I really do not mind the reverse swing of the pendulum, and I intend to enjoy witnessing what is sure to be a lively controversy between upholders of the "Urtext" and sanctifiers of the "performance traditions." The truth, as always, is somewhere in between. G.J.

RECORDING OF SPECIAL MERIT

DVOŘÁK: Slavonic Dances, Opp. 46 and 72. Michel Béroff, Jean-Philippe Collard (piano, four hands). CONNOISSEUR SOCIETY CSQ 2146 \$7.98.

Performance: **Joyous**
Recording: **First-rate**

The overriding point of virtually all piano duets (music played by two pianists on a single keyboard) is that the performers enjoy themselves. Alfred Brendel and Walter Klien seemed to be having a marvelous time in their classic recording of the complete Slavonic Dances in their original form. That version (Turnabout TVS 134060) has seen nearly two full decades of service now and must yield pride of place at last to this scintillating new one. The young Frenchmen's response to the dances is no less joyous than that of their Austrian predecessors, and they benefit from up-to-date recording that offers really first-rate reproduction of the piano. The record benefits further from Irving Kolodin's affectionate notes on the music. (His suggestion that some of the tunes were created by an "anonymous folk fiddler" is at odds with most sources, which identify all the melodies as Dvořák's own, but since one or two of them are more or less identical with themes used earlier by Smetana, perhaps the question is worth re-exploring.) Highly recommended as a companion disc to the popular orchestral versions of the Slavonic Dances conducted by Neumann, Szell, or Kubelik. R.F.

DVOŘÁK: Stabat Mater. Edith Mathis (soprano); Anna Reynolds (contralto); Wieslaw Ochman (tenor); John Shirley-Quirk (bass); Chorus and Orchestra of the Bavarian Radio, Rafael Kubelik cond. DEUTSCHE GRAMMOPHON 2707 099 two discs \$17.96.

Performance: **Draggy**
Recording: **Soloists prominent**

Dvořák's *Stabat Mater*, one of the most remarkable and original productions of late Romanticism, is a mystical, deeply felt work of great intensity. And, contrary to what is said in the liner notes for this new recording, it is not all that obscure. It seems to have had a tremendously successful premiere in England, and it has always had something of a place in the Anglo-American choral-orchestral repertoire.

The notes also say that the alto aria is "one of the few examples of archaic tendencies in Dvořák's music," but extraordinary evocations of antiquity pervade the rest of the work as well. It is, in fact, a remarkable synthesis of traditions stemming from Renaissance and Baroque polyphony. Even the ultra-chromaticism—extreme melodic and harmonic thrusts

(Continued on page 89)

WHICH TAPE DECK SHOULD YOU BUY?

Specifications	Pioneer CT-F9191	TEAC A 650	AKAI GXC-710D	Fisher CR5120
Tape Heads	2	2	2	3
Motors	2 (1DC Servo) 2 (1DC Torque)	2 (1DC Servo) 1 (1DC Reel)	1 (4 Pole Hysteresis Synchronous)	2 (1DC Servo) 1 (1DC Governor)
Drive System	Single Capstan	Single Capstan	Single Capstan	Dual Capstan
Wow & Flutter	0.07% WRMS	0.06% WRMS	0.08% WRMS	0.04% WRMS
Total Harmonic Distortion	1.5%	(Not Available)	1.5%	1.4%
Frequency Response (CrO ₂ /FeCr)	30Hz-15kHz ±3dB	30Hz-16kHz (Incomplete Spec)	30Hz-16kHz ±3dB	30Hz-18kHz ±3dB
Signal/Noise Ratio (with Dolby on @ 1kHz)	63dB over 5kHz	62dB	60dB over 5kHz	64dB
Dolby Noise Reduction	Yes	Yes	Yes	Yes
Dolby FM Circuitry	No	Yes	No	Yes
Pre-amps	2	2	2	4
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All product specifications from published company sales literature. Price information from High Fidelity, August, 1977 issue.

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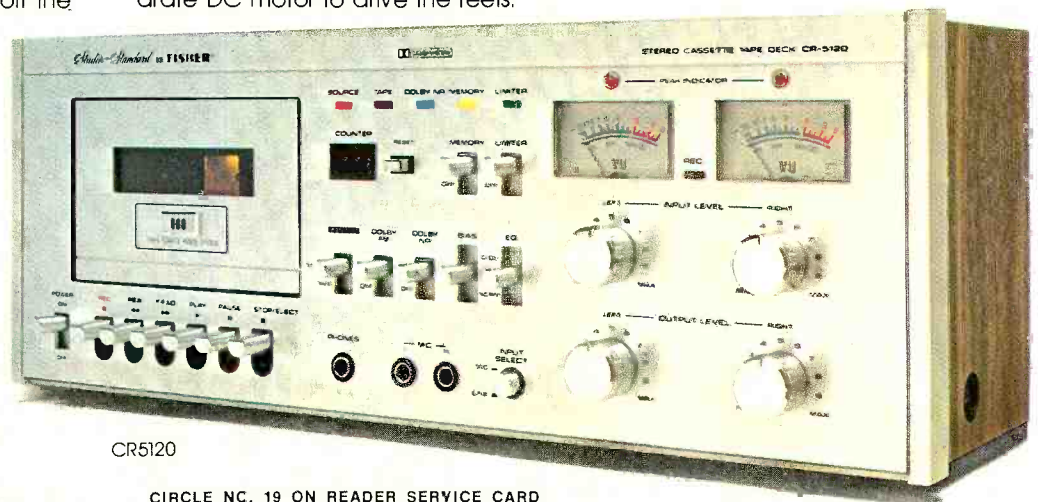
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and changes—harks back to the old masters' use of chromatics and key changes to express feelings, religious and secular, of great depth and intensity. Other elements from the past include such things as the relatively rare 3/2 meter, the modal writing, the tight motivic construction, and the use of a chorus for this text at all. Central Europe in the late nineteenth century was the birthplace of musicology, and the study of the musical past influenced many composers, including Max Reger and Dvořák's idol, Brahms. But Dvořák's *Stabat Mater* still stands out for its uniquely powerful fusion of antique and modern elements. His own later symphonies seem almost Classical in comparison.

I have talked mostly about the work itself because I think it is a very great composition that is not given its due in this recording. The music is bold, intense, full of incident—but it takes a lot of listening through an introspective, slow-paced performance to realize it. Kubelik's reading is too draggy, too murky, and, except for the solo singing, too featureless. The solo quartet is outstanding—even literally, for the engineering throws their parts into high relief—but that only serves to emphasize that the chorus, the orchestra, and most of the work's strong feeling have been left behind. E.S.

ELGAR: *The Music Makers, Op. 69.* PARRY: *Blest Pair of Sirens.* Janet Baker (mezzo-soprano); London Philharmonic Choir and Orchestra, Sir Adrian Boult cond. VANGUARD VSD-71225 \$7.98.

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

The Music Makers, which had never been recorded in its entirety before this EMI production of 1967, is one of Elgar's last major works. Composed in 1912, much later than his other big choral pieces (by that time, only *Falstaff* and the Cello Concerto, among his major offerings, remained in the future), it is not only shorter, but generally more tightly organized and less given to mawkish sentimentality than such a work as *The Dream of Gerontius*. Musically, it is intriguing for the masterly handling of the big orchestra and the several quotations from Elgar's earlier works (also citations of *La Marseillaise* and *Rule Britannia*). But what does one say about a poem that includes such lines as "With wonderful deathless ditties/We build up the world's great cities"? Arthur O'Shaughnessy's fanciful verses about dreamers of dreams, "World losers and world forsakers," etc., the sort of thing only a Walt Whitman could really bring off, are hard to take seriously, and Elgar's grand setting only seems to emphasize the poverty of the text. That said, it must be acknowledged that Boult here gives a powerful performance, drawing the best from his various vocal and instrumental associates, including most especially Janet Baker, who gave of her formidable best in this curious enterprise. Sir Hubert Parry's concise setting of Milton's *At a Solemn Musick* (retitled after its first line) strikes me as an altogether more creditable endeavor and an interesting introduction to a composer whose music is unknown to most Americans. There may be an echo or two from Brahms' *Schicksalslied*, but in general this is one of the happier products of England's nineteenth-century choral activity, a setting appropriate to its text in both texture and proportions. Again, the



RCA Records

Robert White: Return of the Irish Tenor

ROBERT WHITE, who started his singing career at the age of five, made something of a sensation among record collectors last year with "When You and I Were Young, Maggie," his first album of aged-in-the-wood Americana. The success of that album led to many a concert appearance, a second White House invitation (the first was from the Kennedys), and a sequel—"I Hear You Calling Me"—issued by RCA. Unlike most sequels, this one surely measures up to its predecessor in terms of performance. In fact, this time

performance rings with conviction, and the sound is very good indeed in terms of richness and balance, if not brightness. R.F.

GANNE: *Les Saltimbanques* (see *Best of the Month*, page 77)

RECORDING OF SPECIAL MERIT

GERSHWIN: *An American in Paris.* RUSSO: *Street Music, Op. 65.* Corky Siegel (harmonica); William Russo (piano); San Francisco Symphony Orchestra, Seiji Ozawa cond. DEUTSCHE GRAMMOPHON 2530 788 \$8.98, © 3300 788 \$8.98.

Performance: **Sturdy**
Recording: **Superb**

In the notes for an earlier Deutsche Grammophon recording, of William Russo's Three Pieces for Blues Band and Symphony Orchestra, David Noble tells how Seiji Ozawa discovered Corky Siegel and Jim Schwall and their band in a San Francisco bar, and how this meeting led to a commission for William Russo to write the pieces Ozawa recorded with the Siegel-Schwall Band and the San Francisco Symphony. That was interesting

White seems openly out to claim the mantle of the great John McCormack. The title song was McCormack's trademark, and the rest of the program is made up largely of those hardy Irish perennials he recorded so breathtakingly in the 78-rpm era. Here are *Danny Boy*, *Kathleen Mavourneen*, *Roses of Picardy*, *Molly Brannigan*, and 'Tis the Last Rose of Summer sung in a voice of purest gold and with an artistry that nearly makes one forget how dog-eared and dusty these sentimental favorites have become.

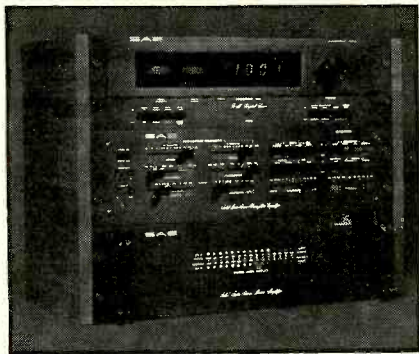
BEFORE the concert is over, though, one begins to wish that White had been a bit more adventurous in choosing his repertoire. True, he does give us a passage from the *Rubáiyát* as set by Liza Lehmann (whom I thought Beatrice Lillie had taken care of for all time with her version of Lehmann's *There Are Fairies at the Bottom of My Garden*), but this can scarcely be considered breaking new ground; old Omar's hedonistic verses never sounded so much like stanzas from a Presbyterian hymnal. Ah well, i' faith, there will always be an audience for *Molly Malone*, and there isn't anybody else around at the moment who can hawk those cockles and mussels more persuasively than Robert White. His regular accompanist, Samuel Sanders (they met as students at New York's Hunter College), acquits himself on the new release as skillfully as on the earlier one. —Paul Kresh

ROBERT WHITE: *I Hear You Calling Me.* *Danny Boy; Kathleen Mavourneen; Come to the Fair; Ah, Moon of My Delight; A Ballynure Ballad; 'Tis the Last Rose of Summer; The Bells of St. Mary's; Roses of Picardy; The Lord Is My Light; Tommy, Lad; Molly Brannigan; Molly Malone; Mavis; I Hear You Calling Me.* Robert White (tenor); Samuel Sanders (piano). RCA ARL1-2450 \$7.98, © ARS1-2450 \$7.98, © ARK1-2450 \$7.98.

music, and the association has led to still another work by Russo, this time in a blues idiom, with Corky Siegel as harmonica soloist for the occasion and with the composer himself at the piano. The new work, called *Street Music* and subtitled "A Blues Concerto," is an intriguing piece, living up to its title with passages that exult in broad vulgarity in the best and lustiest sense, together with free-flowing flights of adventuresome writing that attest at once to Russo's fresh musical imagination and fluency. There are four movements—the first featuring a bluesy harmonica solo against a rather exalted Germanic symphonic background, the second a "shuffle" for piano in dialogue with the brasses and woodwinds, the third a "blues canon," and a finale that leads from a hoedown to a waltz to a dizzily rhapsodic orchestral wind-up. The piece is just chock full of bright ideas. Indeed, if *Street Music* suffers at all, it is from that very fluency which leads this composer down certain curious improvisational byways which at times tend to blur the formal structure. It certainly is played brilliantly under Ozawa's exuberant direction, and the solo work on both harmonica and piano is splendid.

Backing the rather long concerto (over

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thirty minutes) is a spectacularly elegant, energetic, and crystal-clear recording of the 1928 symphonic-jazz classic *An American in Paris*. Flinching at neither the impressionistic nor the cacophonous elements in this entertaining score, and making especially contagious the dance-band blues beat of the famous "homesick American" episode, Ozawa and his wide-awake forces bring off one of the best recordings of this piece yet committed to discs. In all, an inspiring concert. P.K.

RECORDING OF SPECIAL MERIT

HANDEL: Music for the Royal Fireworks; Concerto a Due Cori in F Major; Concerto in F Major; Concerto in D Major. London Symphony Orchestra, Charles Mackerras cond. ANGEL □ S-37404 \$7.98, © 4XS-37404 \$7.98.

Performance: **Vigorous**
Recording: **Resonant**

Perhaps the most sublime French overture in English is Handel's *Music for the Royal Fireworks*. Choosing here the original version for wind band, Charles Mackerras gives it a spacious reading filled with vigor and drive. One factor (among many) that makes this performance remarkable is the clear differentiation between the usual barking, fanfare style and Handel's wind adaptation of the smooth string style he wanted but was unable to use in an outdoor piece. The oboes snarl and snap in the *Bourrée* and play a melting legato in the *Largo alla Siciliana* titled "La Paix," and the horns and trumpets are similarly adapted. Such differentiation, of course, heightens the existing contrasts of timbres and brings a new dimension to this music. Those who still yearn for Mackerras' earlier recording of the work (released here on Vanguard and now out of print) should be more than satisfied with this new one.

The F Major Concerto "a due cori" (for two choirs) is fairly well known, being a set of arrangements of familiar items. The other two concertos on the disc, however, are more surprising, for both contain early versions of the *Royal Fireworks* overture movement. But they are not mere sketches of greater glories to come; rather, they are full-blooded works in their own right, again demonstrating that Handel could recycle his material into many widely varying but all first-rate products. Exhilarating performances make this a particularly fine release. S.L.

D'INDY: Trio in B-flat Major, Op. 29. RAMEAU: Cinquième Concert de Pièces. Montagnana Trio. DELOS DEL 25431 \$7.98.

Performance: **Smooth**
Recording: **Likewise**

Eager as I have been for more recordings of Vincent D'Indy's music, a half-dozen sessions with his sprawling, forty-five-minute trio for piano, clarinet, and cello left me with the feeling that nothing much happens in the work until the finale, where it comes to life agreeably but hardly compellingly. I'm sure this impression is not the fault of the performers in this recording, whose proficiency and commitment are never in question; it is simply a dullish work. The charming little set of pieces by Rameau—usually played on flute, cello, and harpsichord when offered in its trio form (this cycle of suites arranged by Rameau from his harpsichord works exists in versions for larger ensembles as well)—is easy to take

in the instrumentation offered here, and both smooth performances are smoothly recorded. But if someone wants to do a service to D'Indy and his public, it is surely time for a new recording of the magnificent Second Symphony, which has not been available since RCA deleted its poor microgroove transfer of Pierre Monteux's glorious 1942 performance, and even *Istar* has not been available for several years, to say nothing of the *Sinfonia Brevis* and other still less familiar works. R.F.

MOZART: Mass in C Major (K. 317, "Coronation"); Vesperae Solennes de Confessore in C Major (K. 339). Edda Moser (soprano); Julia Hamari (alto); Nicolai Gedda (tenor); Dietrich Fischer-Dieskau (baritone); Bavarian Radio Chorus and Symphony Orchestra, Eugen Jochum cond. ANGEL □ S-37283 \$7.98.

Performance: **Solid**
Recording: **Fair**

Although the Bavarian Radio Chorus is a large one with a basically gluey sound that is difficult to move around, Eugen Jochum has managed to imbue these two festive works with a great deal of vitality and excitement. The tempos are brisk, and not a touch of sentimentality mars the slow movements. The balance is excellent, allowing Mozart's joyous string writing to be heard dancing above the massed choral sound. The soloists are confident, and Edda Moser in particular offers some lovely lines in both works. The result of all this is a thoroughly professional and enjoyable performance. S.L.

MOZART: Piano Concerto No. 5, in D Major (K. 175); Rondo in D Major (K. 382); Piano Concerto No. 27, in B-flat Major (K. 595). Karl Engel (piano); Salzburg Mozarteum Orchestra, Leopold Hager cond. TELEFUNKEN 6.41962 \$7.98.

Performance: **Out of the running**
Recording: **Very good**

MOZART: Piano Concerto No. 25, in C Major (K. 503); Piano Concerto No. 27, in B-flat Major (K. 595). Friedrich Gulda (piano); Vienna Philharmonic Orchestra, Claudio Abbado cond. DEUTSCHE GRAMMOPHON 2530 642 \$8.98, © 3300 642 \$8.98.

Performance: **Fluid/rigid**
Recording: **Very good**

Karl Engel, widely admired for his Schubert and Schumann, and Leopold Hager, a fine young Mozart conductor, are together recording all the Mozart piano concertos under the auspices of the International Mozart Foundation. The performances are based on the latest Mozart scholarship, which, in the case of the disc listed above, restores seven bars to the first movement of the B-flat Concerto. The programming also is attractive: Mozart's first original concerto for the piano and his very last, along with the Rondo composed in 1782 as an alternative finale for K. 175. Both the orchestra and Engel's Bösendorfer instrument are captured with realistic sound. After this list of virtues, it is dismaying to have to report that the performances themselves are simply out of the running. The K. 382 Rondo may not be a masterpiece, but it can sound a good deal more alive than it does here—and it usually does. The big B-flat Concerto suffers from an apparent attempt to invest it with even more weight, more profundity—as if

Mozart's point would otherwise be missed. The slow movement in particular, *very* slow here, is stripped of its nobility and sags uncomfortably, and the effect lingers in the finale. The D Major Concerto goes well enough, but it hardly justifies purchase of the record on its own.

Gulda and Abbado give us a far more winning account of K. 595, one that is, in fact, competitive with the best previous versions. The performance has integrity, a not unattractive dash of individuality, and a polish that is more than patina-deep. The drawback in this case is the overside performance of K. 503, which is as distressing in its own way as Engel's B-flat. Where Gulda is knowing and fluid in K. 595, he is here rigid and self-conscious; instead of the fresh light of day, this side

EUGEN JOCHUM:
vital performances
of Mozart's festive music



seems illumined only by a dim lamp in a musty scholar's cell. The orchestra plays beautifully, the sound is even better than Telefunken's, but neither element helps vivify the performance of K. 503, which is so much better served by Ivan Moravec on Vanguard, Barenboim in his self-conducted remake on Angel, and Stephen Bishop on Philips, among others. R.F.

MOZART: *Thamos, King of Egypt: Entr'actes and Choruses* (K. 345). Charlotte Lehmann (soprano); Rose Scheible (alto); Oly Pfaff (tenor); Bruce Abel (bass); Heilbronn Vocal Ensemble; Württemberg Chamber Orchestra, Heilbronn, Jörg Faerber cond. **TURNABOUT QTV-S 34679 \$3.98.**

Performance: **Effective**
Recording: **Good**

Mozart's incidental music for *Thamos, King of Egypt* had its beginnings in two choruses written in 1773 for Tobias Gebler's now obscure drama. The newly composed Symphony No. 26, in E-flat, evidently served as overture. Then a well-known company elicited from Mozart five entr'actes and a final chorus for a 1779 performance in Salzburg. Perhaps because of its Eastern aspect, some commentators have seen in the *Thamos* music anticipations of *The Magic Flute*, but I find the music more akin to the grander moments of *Idomeneo*, which was composed only a year after the later version of the *Thamos* score. In any event, *Thamos* is far from negligible Mozart. The dramatic Act IV entr'acte and the final chorus with its imposing bass solo, excellently rendered here by Bruce Abel, are particularly fine, and at \$3.98 this recording repre-

sents good value. For those who want a somewhat more polished version that includes the symphony-overture, I recommend the full-price Philips disc with Berlin vocalists and orchestra under Bernhard Klee. D.H.

RECORDING OF SPECIAL MERIT

OFFENBACH: *La Périochole*. Régine Crespin (soprano), La Périochole; Alain Vanzo (tenor), Piquillo; Jules Bastin (bass), Viceroy of Peru; Gérard Friedmann (tenor), Count Panatellas; Jacques Trigeau (baritone), Don Fedro; Rebecca Roberts (soprano), Guadalupe; Eva Saurova (soprano), Berginella; Geneviève Baudoz (mezzo-soprano), Mastrilla; others. **Strasbourg Philharmonic Orchestra; Chorus of the Opéra du Rhin, Alain Lombard cond.**

RCA FRL2-5994 two discs \$15.98, © FRK2-5994 \$15.98.

Performance: **Good**
Recording: **Very good**

Thanks mainly to Maggie Teyte and Jennie Tourel, the vocal highlights from Offenbach's *La Périochole* have long been around in model interpretations. Now, at last, we have the entire delectable score on records. This RCA release (licensed from the French Erato firm), which substitutes a spoken narrative for the dialogues, is not an ideal production, but it is smoothly professional and works up to a point.

Musically, I have no real complaints. Régine Crespin is a wise, saucy, sexy Périochole, and her mastery of the classic operetta style is absolute. Vocally, too, she is in good form, though not as free, relaxed, and tonally malleable as she would have been had this laudable project been undertaken ten years ago. Alain Vanzo is a near ideal Piquillo, and Jules Bastin, who interprets the Viceroy straight, without any buffo monkeyshines, is satisfactory. Supporting singers, chorus, and orchestra are shaped into a lively, zesty ensemble by conductor Lombard—the whole thing moves with spirit and charm.

I recommend the set, which comes with a good libretto and excellent annotations by Richard Traubner. But those fortunate enough to own a Pathé import of some twenty years ago, conducted by Igor Markevich, are urged not to surrender it, for it has strengths of its own and, in retaining some of the dialogue, offers more authentic continuity. G.J.

(Continued overleaf)

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Carnegie Hall

Charles Munch at Carnegie Hall
October 26, 1968

Munch's Bizet Symphony

CHARLES MUNCH, who died a little less than ten years ago while touring this country with the Orchestre de Paris that was created for him, made as many as four recordings each of the Berlioz and Ravel works with which his name is most closely associated. Some of his best work for the phonograph, however, is still unknown to many collectors, for it was neither Berlioz nor Ravel but the Bizet Symphony in C and the Tchaikovsky *Francesca da Rimini* that he did in London with the Royal Philharmonic Orchestra for the *Reader's Digest* mail-order series taped by

RCA. These performances—most enthusiastically reviewed in these pages by Martin Bookspan in November 1965—have just been put into general circulation on a low-price Quintessence disc. It is high time, too, for they are simply stunning—outstanding in every respect.

This was the second of Munch's three recordings of the Bizet symphony (not his first, as stated in the review quoted on the liner), and it is by all odds the brightest, most effervescent, and most elegant account of the work yet committed to disc. The performance goes with a winged spontaneity that makes it downright irresistible—altogether more infectious than Munch's by no means unattractive subsequent version on Nonesuch H-71183. The Royal Philharmonic here sounds more stylish than the Orchestre National on that disc, and the sound itself, for all its fifteen years, is at least as good as that of any other recording of the symphony.

THE delicious, youthful Bizet and *Francesca da Rimini* may seem to be an odd couple, but the Tchaikovsky performance is a similarly exceptional one measured not only against Munch's own earlier Boston version (Victrola VICS-1187), but against the finest offered at any price. It is informed with breadth, grandeur, and even dignity, as well as the most compelling tension and excitement. Here again the orchestra is with Munch all the way, and not a single detail of the fine playing is lost in the crisp, full-bodied recording—said to have been made, by the way, in a single take without any splicing. Forget about duplication problems: this disc will spend as much time on the turntable as on the shelf.

—Richard Freed

BIZET: Symphony in C Major. TCHAIKOVSKY: Francesca da Rimini, Op. 32. Royal Philharmonic Orchestra, Charles Munch cond. QUINTESSENCE PMC 7048 \$3.98.

Horenstein cond. QUINTESSENCE PMC 7051 \$3.98.

Performance: **Ebullient**
Recording: **Excellent**

Strauss waltzes are harder to bring off in performance than their airy melodies and straightforward style might lead one to think. A band in a park might get away with a rigid, pounding run-through of the *Blue Danube* on a sunlit spring day, and a ballroom orchestra need only keep to the beat. But a symphony orchestra demanding an audience's full attention in a concert hall—or on records—cannot get by so easily. It takes a special combination of elegance, flexibility, and respect for the effervescent quality of this music to bring it off.

This recording by the late Jascha Horenstein is brisk and at times too brassy, but for the most part it displays a splendid lilt, and such things as the lovely pastoral introduction (complete with zither solo) to *Tales from the Vienna Woods* have their full effect. The introduction to *Wine, Women, and Song* is for a change played complete, for which I am grateful, but it would have been still more re-

warding had that section been sung by a male choir—as it was originally intended to be and almost never is. The surfaces on my copy of the bargain Quintessence pressing, by the way, are absolutely flawless. P.K.

VIVALDI: Gloria; Magnificat (see *Best of the Month*, page 75)

WESLEY: Symphony in D Major (see ARNE)

COLLECTIONS

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Human Kind. Tom Buckner (voice); Joseph Bacon (lute). 1750 ARCH 1757 \$6.98 (plus 75¢ handling charge from 1750 Arch Records, 1750 Arch Street, Berkeley, Calif. 94709).

Performance: **Pleasant**
Recording: **Fine**

The Elizabethan lute song is an art form that was intended mainly for the enjoyment of the performer and those few people who happened to be around to hear him. It suffers in the concert hall and other formal presentations, but it thrives in such intimate surroundings as private rooms, taverns, and shady lawns. Messrs. Buckner and Bacon have somehow managed to capture this atmosphere on their disc of songs and solo lute pieces. Buckner's voice (he refuses to call it by its range) is light and has limitations, but his simplicity of style and poetic sensibility more than make up for whatever is lacking. The approach is perfect for this repertoire, which he projects far better than most highly trained operatic or lieder singers could. We need this type of "amateur performance" (in the highest sense of that term) because it presents such music on its own terms, thereby solving problems of performance practice that to this day baffle musicologists and highly professional musicians alike. S.L.

RECORDING OF SPECIAL MERIT

MARIA CHIARA: Verismo Arias. Cilèa: *Adriana Lecouvreur: Io sono l'umile ancella; Poveri fiori.* **Giordano: Andrea Chénier: La mamma morta.** **Mascagni: L'Amico Fritz: Son pochi fiori; Non mi resta. *Iris: Ho fatto un triste sogno; Un di ero piccina.* **Leoncavallo: Pagliacci: Qual fiamma avea nel guardo.** **Catalani: La Wally: Ebben? ne andrò lontana; Nè mai dunque avrò pace. *Loreley: Amor, ce- leste ebbrezza.* Maria Chiara (soprano); National Philharmonic Orchestra, Kurt Herbert Adler cond. LONDON OS 26557 \$7.98.****

Performance: **Warm and polished**
Recording: **Very good**

"Verismo Arias" must be taken as a convenient catchall phrase in this instance. All seven operas represented here do date from the years (1891-1902) when *verismo* flourished, but neither Catalani nor Cilèa were "veristic" composers, and *L'Amico Fritz* was, if anything, a Romantic antidote to Mascagni's trail-blazing *Cavalleria Rusticana*.

This bit of history aside, compliments are in order for the interesting sequence as well as for its winning execution. Maria Chiara's first record recital (London OS 26262), though auspicious, went largely unnoticed; now that the soprano has appeared successfully with both the Chicago Lyric and the Metropolitan, this one should attract more attention, and deservedly so. Chiara is obviously a finished artist with a solid technique that enables her to use an intrinsically warm and appealing voice artistically and expressively. Hers is a lyric sound: the *Andrea Chénier* aria, though exquisitely vocalized, lacks the required despair and intensity. Also, on a recital of this kind, involving a sequence of arias cast in a similar mold, a certain sameness becomes unavoidable. Still, she is a major vocalist, and she is undoubtedly capable of revealing more individuality in a theatrical context.

The orchestral backgrounds are discreet but well executed. The sound is plush, with some intruding pre-echoes. G.J.

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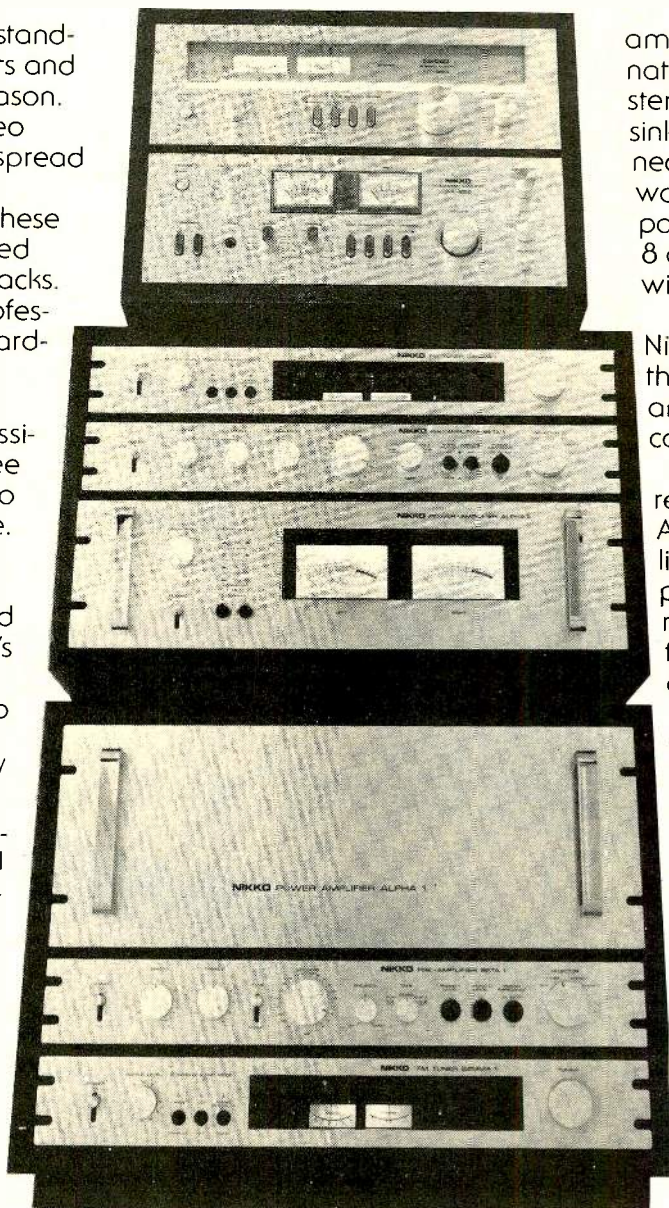
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Disc and tape compared

RCA's Opera Cassettes

WE keep reading that Philips' mono baby, the cassette, "is coming of stereo age," but I think the time has already come when everyone must agree that the cassette is unmistakably a hi-fi medium. The last holdout of the major manufacturers, RCA Red Seal (they finally "went Dolby" only last year), also says so with the release of eight (more to come) complete operatic works in splendidly packaged, Dolby-processed cassette sets that include full librettos. Some are from the latest release sheets and at least one goes back almost two decades.

That one, Puccini's *Turandot* with Nilsson, Tebaldi, Bjoerling, and Tozzi, would have to be on my list of the greatest recordings of all time. It is a performance that's difficult to equal. The sound was always ahead of its time, and it still holds up as a great achievement. In fact, I have for years used the RCA open-reel version of this recording to demonstrate my sound system. For the cassette/disc comparison I had only an *original* pressing, which was not, even after twenty years of loving care, in the best condition. But I cannot see how even a brand-new pressing could better the excellent sound that comes from this cassette set.

Another oldie-but-goodie is the *Madama Butterfly* with Price, Elias, Tucker, Maero, and Leinsdorf, recorded, like the *Turandot*, with the RCA Italiana Orchestra. The review cassettes are a great improvement over the original Dynagroove pressing despite the (very) slight flutter on the first cassette. And, of course, the singing of the Leontyne Price of the early Sixties is ravishing.

The recording of *La Traviata* with Moffo, Tucker, Merrill, and Previtali conducting the Rome Opera House Orchestra was for years my favorite stereo version. I came to it years ago as a reel-to-reel recording and was troubled by some overloading in the tape. RCA informed me that the master tape was thus marred, and there was nothing to do about it. Well, it's still true—but it still doesn't matter, and it's still my favorite stereo *Traviata*. The cassette version is bright, but it seems to have a slight low-frequency-noise content. *Tosca* with Price, Domingo, Milnes, and Mehta conducting the New Philharmonia Orchestra is a toss-up. Both disc and cassette have a slight hiss, which makes me think that perhaps the

trouble is in the master tape. The voices on the cassette seem more forward, but the brasses on the disc had better bite. *La Bohème* is an excellently engineered cassette set, clean and very quiet (thank heaven for Dolby).

The last three cassette sets are among RCA's latest releases, and all are simply extraordinary. Perhaps the fact that the *original* tapes were Dolby-processed had something to do with it. *Andrea Chénier* (Domingo, Scotto, Milnes, and Levine conducting the National Philharmonic Orchestra) is a wonderful opera full of big moments. The cassette version seemed cleaner to me than the records, and it handled all the climaxes well. And *what* climaxes! (Try the final ten minutes of this opera for an Italian *Liebestod*.)

Recorded climaxes are not wanting in Verdi's *Requiem* either. Here Solti leads his Chicago Symphony Orchestra, Price, Baker, Luchetti, and Van Dam in the muscular reading of the music we have learned to expect from him. RCA has captured the sound with a realistic, thrilling ambiance. The cassette format with its Dolby processing was happily without hiss in the ever-so-quiet soft parts, and it held up extremely well in a direct comparison to the disc version during the cataclysm of the *Dies Irae*. The bass drum is especially well recorded. Let me put it baldly: this set represents the current state of the art of the commercial cassette.

I did not have the disc version of *La Périchole* (Crespin, Vanzo, Bastin, and Lombard conducting the Strasbourg Philharmonic Orchestra) at hand to compare, but I can say that the cassette set sounded very clean, very bright, very French, and very right.

—Edward Buxbaum

PUCCHINI: *Turandot*. Nilsson, Tebaldi, Bjoerling, Tozzi; Rome Opera House Orchestra, Leinsdorf cond. RCA © ARK3-2537 three cassettes \$23.94.

PUCCHINI: *Madama Butterfly*. Price, Elias, Tucker, Maero; RCA Italiana Orchestra, Leinsdorf cond. RCA © ARK3-2540 three cassettes \$23.94.

VERDI: *La Traviata*. Moffo, Tucker, Merrill; Rome Opera Orchestra, Previtali cond. RCA © ARK3-2538 three cassettes \$23.94.

PUCCHINI: *Tosca*. Price, Domingo, Milnes; New Philharmonia Orchestra, Mehta cond. RCA © ARK2-0105 two cassettes \$15.96.

PUCCHINI: *La Bohème*. Caballé, Blegen, Domingo, Milnes; London Philharmonic Orchestra, Solti cond. RCA © ARK2-0371 two cassettes \$15.96.

GIORDANO: *Andrea Chénier*. Domingo, Scotto, Milnes; National Philharmonic Orchestra, Levine cond. RCA © ARK3-2046 three cassettes \$23.94.

VERDI: *Requiem*. Price, Baker, Luchetti, Van Dam; Chicago Symphony Orchestra, Solti cond. RCA © ARK2-2476 two cassettes \$15.96.

OFFENBACH: *La Périchole*. Crespin, Vanzo, Bastin; Strasbourg Philharmonic Orchestra, Lombard cond. RCA © FRK2-5994 two cassettes \$15.96 (reviewed on page 91).

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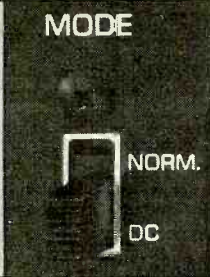
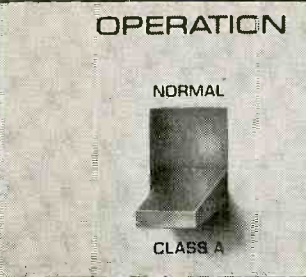
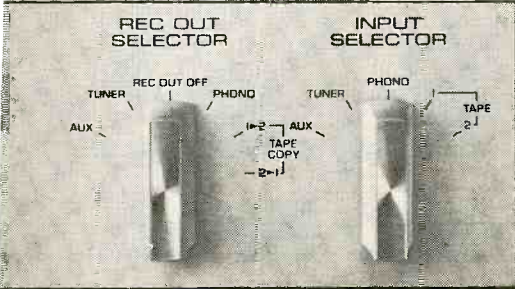
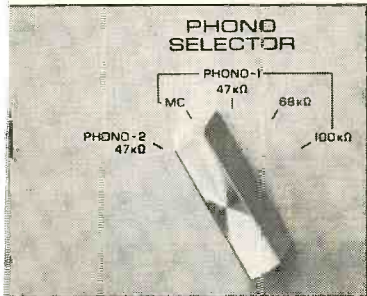
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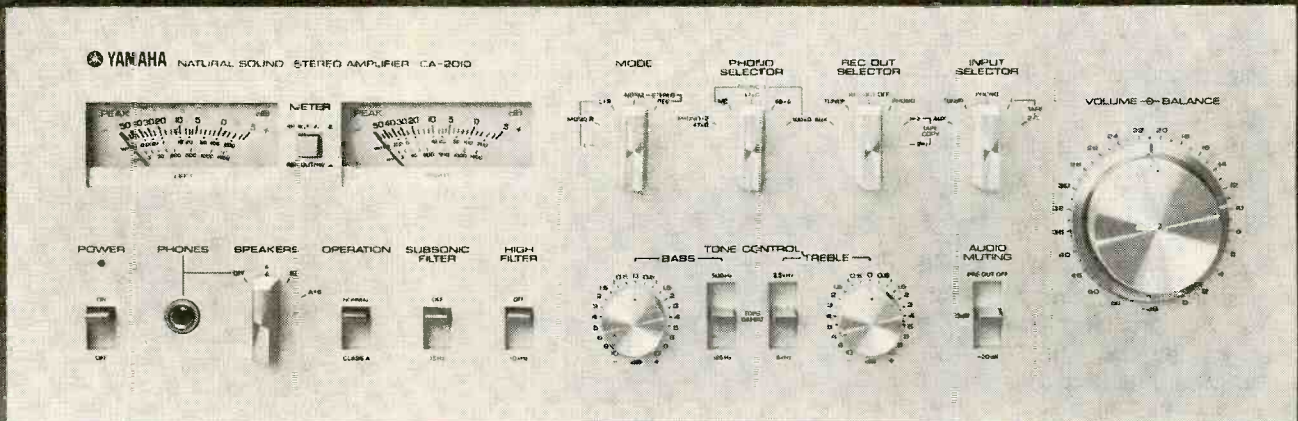
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□ Many recording artists have said that making records is like giving birth. Well, **LINDA MCCARTNEY**, a member of husband Paul's band Wings, recently gave birth and made a record of it—a visual record, that is. A profes-

sional photographer (her 1976 book, *Linda's Pictures*, is now out as a Ballantine paperback), she is shown here setting up for a family portrait. Linda's latest release, the short gentleman in the middle, is James Louis McCartney.

□ Tammy Wynette and George Jones? Loretta Lynn and Conway Twitty? Shucks, naw. It's only the most unusual country singing duo since Gene Autry sang to his horse. This unique pairing took place February 25 when ABC-TV aired *For the Love of Benji*, featuring **CHARLIE RICH** and canine superstar **BENJI**. Charlie barks solo on his latest album, "Roll-in' with the Flow" (Epic PE 34891).



Epic Records

POP PHOTOGRAPHY

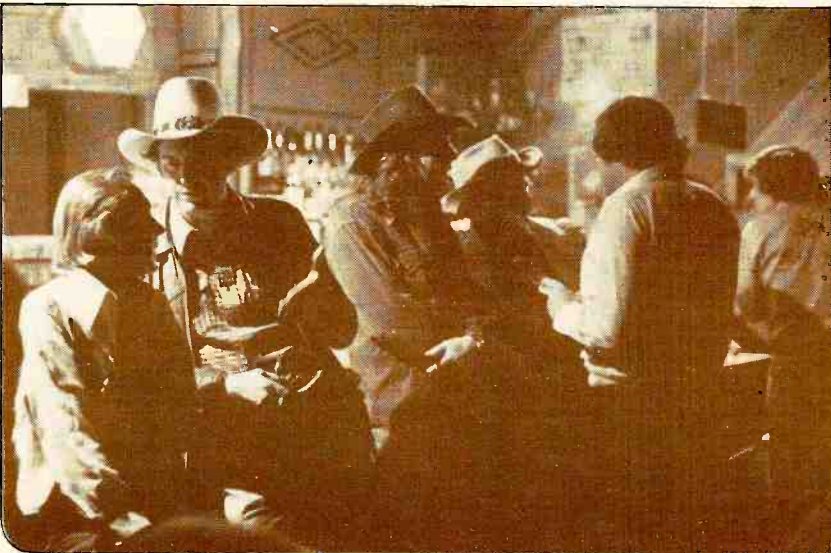
By Rick Mitz



Rogers & Cowan

□ *Oh no.* Not *another* picture of *another* rock star getting *another* gold record from *another* group of men in business suits! No. Take a closer look. This group of CBS record company officials is presenting **DAVE MASON** with—a silver hubcap. In Central Park. Guess that means that Mason's last (yes, gold) album, "Let It Flow" (Columbia PC 34680), has sold more than 500,000 . . . Toyotas?

Hub Crowther



□ "There's some nut on the phone who says that the President wants to have lunch with you while you're in D.C." That's what they told **JERRY JEFF WALKER**, who at first thought it was "just another crank phone call." But Jimmy Carter, just another Walker fan, *did* want to have lunch—at His Place. Unfortunately, when Jerry Jeff showed up at the White House as scheduled, there was no food and, even worse, no President. He waited a few minutes, found out that Carter had been called away on urgent affairs of state, and then split.

"I knew the President wouldn't get off on joining me at one of the local bars," Walker said, "so I went myself." So here is a picture of Jerry Jeff Walker (in the white hat) *not* having lunch with the President. However, Jimmy and the rest of us can share something tasty with Walker on his latest album, "A Man Must Carry On" (MCA 2-6003).

□ This is how rumors get started. Someone will see this picture of **DONNIE OSMOND** (sans Marie) and **ELIZABETH TAYLOR** (sans John Warner) and wonder aloud when Liz is going to leave her husband to run off with young Donnie. Actually, Liz and Donnie simply met last October at the Image Awards presentation, where Donnie won the title of Best Contempo-

rary Male Dresser. One thing Donnie and Liz do have in common is the release of a record each. Donnie's latest is "Donald Clark Osmond" (Polydor PD-1-6109), and Liz will soon be heard sending in the clowns on the movie-soundtrack recording of *A Little Night Music*. As the gossip columnists say, his sixth, her first. (And yes, that is Arlene Dahl on the left.)



Robin Pletzer



Rogers and Cowen

□ Some people have pen pals. English singer **CLEO LAINE** has a fist pal. Recently, a fan of Cleo's couldn't make it to his ringside seat but sent her a set of boxing gloves and a short telegram: "Congratulations on your knock-out performances in the United States. Your greatest fan, Muhammad Ali." Fortunately, Ali can stay home and listen to Cleo's latest record, "Return to Carnegie" (RCA APL1-2407). Unless, of course, he breaks that record too.

Robin Pletzer



□ **FOGHAT**'s lead singer Dave Peverett put it this way: "The entire rock scene owes an enormous debt to the blues." To begin paying back that debt, Foghat gave a concert in New York last October to benefit the blues collection at Lincoln Center. After the concert, **JOHNNY WINTER**, whose latest LP is "Nothin' but the Blues" (Blue Sky PZ 34813), came backstage to congratulate Foghatters Craig MacGregor and Rod Price. Foghat, incidentally, have themselves been benefiting from sales of their latest, "Foghat Live" (Bearsville BRK 6971).

□ **DENNY GREENE** does it all. First, he's a leader of Sha Na Na, who, besides making records, have a weekly TV show. Second, Greene is an actor and has made a number of films, including *Greased Lightning* and the upcoming film version of the Broadway musical *Grease*. Third, he's a solo recording artist (his latest LP is "Denny Greene," Midsong International BKL1-2591). And, as if that weren't enough, he's writing a book: *Fighting for a Piece of Babylon*, which will be published later this year by Grosset and Dunlap. "The book," Greene says, "is an expose of the way blacks and women are treated in the music business." Greene is shown here at a party talking to **JOHNNY MATHIS**, who has won a secure place in Babylon with numerous hit records, his latest being "Hold Me, Thrill Me, Kiss Me" (Columbia PC 34872).

CBS Records



□ An old Beatle—**RINGO STARR**—welcomes a new Rolling Stone—**RON WOOD**—into the superstar fold. By planting a wet kiss on Wood's mouth, Ringo officially gave his blessings to the new regime in London recently at the CBS Records convention. When they aren't sitting

around smooching, the two make albums of course. Ringo's latest is "Ringo the Fourth" (Atlantic SD 19108). Wood (at least in this photo) proves that the "Rolling Stones Love You Live" (Rolling Stones COC2-9001). Wood's solo LP will be out on Columbia later this year.



Howard Bloom



POPULAR DISCS AND TAPES

Reviewed by CHRIS ALBERTSON • NOEL COPPAGE • PAUL KRESH • PETER REILLY
STEVE SIMELS • JOEL VANCE

WILLIE ALEXANDER: *Willie Alexander and the Boom Boom Band* (see Pop Beat, page 53)

RECORDING OF SPECIAL MERIT

ASHFORD AND SIMPSON: *Send It*. Nicholas Ashford (vocals); Valerie Simpson (vocals, piano); Eric Gale (guitar); Ralph MacDonald (percussion); other musicians. *By Way of Love's Express; Let Love Use Me; Send It; Top of the Stairs; Waited Too Long*; and three others. WARNER BROS. BS 3088 \$6.98, © M8 3088 \$7.97, © M5 3088 \$7.97.

Performance: **Together**
Recording: **Very good**

Nicholas Ashford and Valerie Simpson spent years of opening nights backstage before emerging, in 1973, to show the public that they could perform their songs as well as anybody else, if not better. Before then, their greatest triumph had been to write and produce the Motown album that launched the spectacular solo career of former Supremes lead singer Diana Ross. That was back in 1970. While Ross became closely identified with some of the best songs on that album, most notably *Ain't No Mountain High Enough* and *Reach Out and Touch Somebody's Hand*, more than a flicker of recognition surrounded the youthful duo responsible for those memorable tunes. But even that was

not the beginning of one of pop music's most stable and productive collaborations. Back in the mid-Sixties, these *Wunderkinder* made up two-thirds of the team that wrote *Let's Go Get Stoned*, an offbeat hit for Ray Charles.

Although Simpson sallied forth with an album of her own, called simply "Exposed," on Motown's Tamla label in 1971 and soon followed it with another solo venture, it was not until the two began performing and recording together that the full force of their talents was manifested. Evidently, all those years of waiting in the wings only served to mellow them. On "Send It," their fifth album for Warner Bros., Ashford and Simpson demonstrate that they have sharpened their art to a keen precision. By working and living together for so long, they have come to function musically almost as one. Their voices mesh so neatly that a solo taken by one flows naturally into the musical comment of the other. Simpson's piano serves throughout to underscore the gospel flavor of their offerings. They have a knack for taking a simple phrase, repeating it, embellishing it, and building it up to a peak of compelling intensity, something most apparent here on the title track and *By Way of Love's Express*.

The album rolls along with admirable consistency, though a long instrumental called *Bougie Bougie* seems a little out of place. But Ashford and Simpson must have intended it to be there, for this set is utterly their own, from the conception through the writing, performance, and production. P.G.

THE BEATLES: *Love Songs*. The Beatles (vocals and instrumentals). *Yesterday; I'll Follow the Sun; I Need You; Girl; In My Life; Words of Love; Here, There and Everywhere; Something; And I Love Her; If I Fell; I'll Be Back; Yes It Is; Michelle*; and twelve others. CAPITOL SKBL-11711 two discs \$11.98, © 8X2B-11711 \$11.98, © 4X2B-11711 \$11.98.

Performance: **Classic**
Recording: **Very good**

There are two Beatles audiences: one is the generation that grew up with them, of which I

am a member; the other is the generation immediately following, which has grown up on the Beatles legend. This retrospective album of their ballads, like "Rock and Roll Music," which was a package of their aggressive screamers, is meant for the second audience.

To first-generation Beatles nuts, the value of the retrospectives is mainly to replace the original albums, all still in print, which have suffered vinyl fatigue from constant playing. What neither "Love Songs" nor "Rock and Roll Music" conveys is the wonderful variety of the Beatles' songs and performances on any of their original albums. Part of the excitement and charm of Beatles albums was how a screamer would be followed by a delicate love song and then move on to one of John's vicious and berserk character portraits or one of Ringo's occasional music-hall vocals. Compartmentalizing the various aspects of the Beatles' immense talent does something of a disservice to it.

It is best to hear the Beatles on their original albums, where all their baffling magic is most powerful and persuasive. Not that they didn't write fine love songs—they wrote some of the best in the annals of pop music, many of which are present here—but to take these songs out of context of the body of the Beatles' work is to approach and recall their legend on a scientific, mathematical, bookies'-odds basis—and that, first- and second-generation fans, just ain't right. J.V.

DAVID BOWIE: *Heroes*. David Bowie (vocals, keyboards, guitar); Robert Fripp (guitar); Brian Eno (synthesizer, keyboards); other musicians. *Beauty and the Beast; Joe the Lion; Heroes; Sons of the Silent Age; Black-out*; and five others. RCA AFL1-2522 \$7.98, © AFS1-2522 \$7.98, © AFK1-2522 \$7.98.

Performance: **Compelling**
Recording: **Deliberately murky**

Bowie's new album is a more commercial extension of his previous effort with Brian Eno. Which means that if you can penetrate the Roxy Music-like atonal drones glopped onto every song, not to mention Robert Fripp's

Explanation of symbols:

- Ⓡ = reel-to-reel stereo tape
- ⓑ = eight-track stereo cartridge
- ⓒ = stereo cassette
- = quadrasonic disc
- Ⓡ = reel-to-reel quadrasonic tape
- ⓑ = eight-track quadrasonic tape

Monophonic recordings are indicated by the symbol Ⓜ

The first listing is the one reviewed; other formats, if available, follow it.

characteristically dense guitar work and Bowie's latest trick of filtering his vocals to sound as computerish as possible, you're going to hear what are basically well-constructed, attractive little pop tunes. Is it worth the effort? Probably. The title track, in fact, is undoubtedly the finest thing Bowie has ever done, a truly tender love song with a long melodic line, an arrangement that recalls Brian Wilson's most eloquent studio achievements, and a vocal from Darling Dave that is remarkably unaffected and believable. The rest of the stuff is nowhere near as good, but there is a strangely compelling beauty to the murkiness of it all. Definitely worth a listen. S.S.

LEONARD COHEN: *Death of a Ladies' Man*. Leonard Cohen (vocals); Jesse Ed Davis, Phil Spector (guitars); other musicians. *True Love Leaves No Tracks; Iodine; Paper-thin Hotel; Memories*; and three others. WARNER BROS. BS 3125 \$6.98, © M8 3125 \$7.97, © M5 3125 \$7.97.

Performance: **Schmaltz-lover's delight**
Recording: **Likewise**

Ah, the texture of Phil Spector's production: somewhere between pea soup left out on a cold day and Jello (imitation grape, I should say, not to put too fine an edge on it) left out on a hot day. Leonard Cohen's songs (or, as the credits call them, Cohen-Spector's songs) are like the Leonard Cohen songs of old—flat-out transfixed by the subject of sex and vaguely dark and threatening in tone.

Cohen aspires to be a poet and to get song lyrics as poetic as possible and still let them be song lyrics. If you can take a Byronesque style in these streamlined times, Cohen does get in a provocative couplet now and then. He needs production, too, as his simple kind of melody and his sharply defined (stylized) vocals are a little thin by themselves. But Spector has outdone the Phil Spector of old here with dense and often opaque orchestration. Some parts of the album sound more like a circus act than Leonard Cohen trying to communicate something subtle, if not arcane, about sex. (Spector's antics are also a far cry, come to think of it, from Cohen being *blunt* about sex—which is another way Cohen is about it.) A couple of places here, of course, Spector's treatment works pretty well, particularly in the title song. But more often it pushes Cohen toward self-parody. N.C.

NATALIE COLE: *Thankful*. Natalie Cole (vocals); instrumental accompaniment. *Lovers; Our Love; Nothing Stronger Than Love; Annie Mae*; and three others. CAPITOL SW-11708 \$6.98, © 8XW-11708 \$7.98, © 4XW-11708 \$7.98.

Performance: **Good**
Recording: **Good**

This one's a step back for Natalie Cole. She sounds strident, harsh, and overly self-assured, with a rambunctious vocal grin that kills such ballads as *Lovers* and even her own *Keeping a Light*. One of the worst influences around is that of Liza Minnelli, who always has seemed plugged into her very own energy source and whose leap into all-media superstardom seems to have given other young performers of her generation the idea that super-energy is a prerequisite to being an entertainer. It's an idea that has apparently taken hold of Ms. Cole, and for her it is a large mistake. Up until now she's been outlining a



Columbia Records

Elvis Costello: The Twerp for Our Time

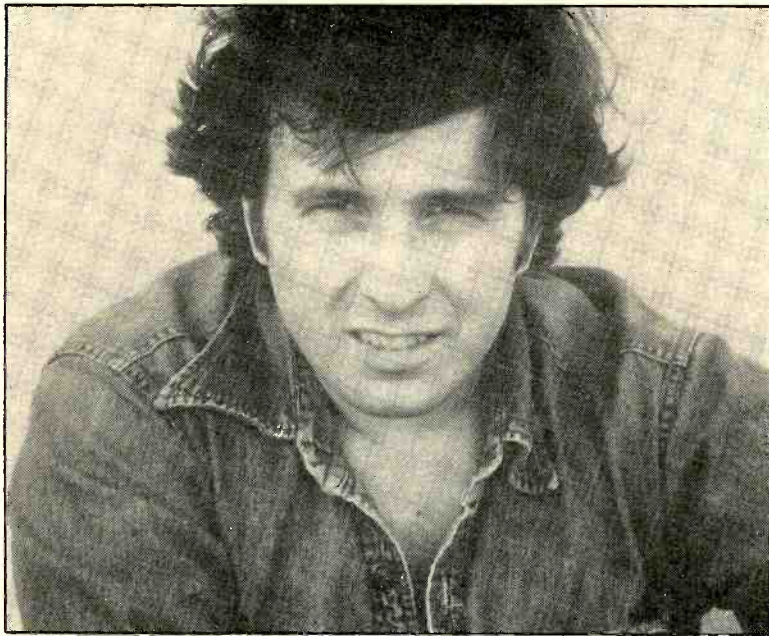
CONSIDERING that the pop idols of the Seventies have, by and large, presented themselves as preening narcissists, transvestite exhibitionists, and (lately) self-mutilating nihilists, it's somehow heartening to find that the writer and performer of the toughest, freshest, most intriguing rock-and-roll album of an unusually lively season steps onto the world's stage as the definitive Twerp for Our Time. That Elvis Costello, whose debut album on Columbia is "*My Aim Is True*," can affect a look that is closer to Woody Allen than to the departed King of Rock whose name he has had the effrontery to appropriate is, of course, merely what's going to get you to notice him. Fortunately, though, it's his music that's going to keep you hooked, and for once the music counts for more than the image, charming though it is.

Describing Costello's music in terms of influences is fun because they're such canny ones. But ultimately it does him an injustice, for (and this is something he shares with his namesake) the influences are so thoroughly digested, even at this early stage in his career (he's a wet-behind-the-ears twenty-two). One could say that at times he sounds eerily like Bruce Springsteen as well as like Nick Lowe, who produced Elvis' albums; that his songs range from basic, blues-flavored rock to early Sixties pop-rock to country-flavored ballads gorgeous enough to have been written by the Eagles; that he gets exceptionally rich-sounding backing from a basically stark instrumental lineup (there are next to no overdubs); and

that his lyrics, which he claims are motivated solely by "revenge and guilt," are the most cruelly, tellingly misanthropic broadsides since middle-period Dylan. And yet, though all that is true, it doesn't come close to catching the *feeling* of the music, of conveying to you just how distinctive and intelligent the songs on "*My Aim Is True*" actually are.

You'll simply have to listen, I suppose. So check out the remarkable *misterioso* mood summoned up by *Mystery Dance* and *Waiting for the End of the World*, the insinuating sexiness of a ballad titled *Alison*, the straight-ahead rock-and-roll panache of *Less Than Zero*, or the sheer craftsmanship of an exhilarating Merseybeat Cowboy number called (*The Angels Wanna Wear My*) *Red Shoes*. What you'll hear is the work of someone who comes as close to being the Compleat Rock Star as anyone within recent memory—driven, funny, and totally original. As one of Columbia's flacks has so uniquely put it, if he didn't already exist, someone would have had to invent him. —Steve Simels

ELVIS COSTELLO: *My Aim Is True*. Elvis Costello (vocals and guitar); other musicians. *Welcome to the Working Week; Miracle Man; No Dancing; Blame It on Cain; Alison; Sneaky Feelings; Watching the Detectives; (The Angels Wanna Wear My) Red Shoes; Less Than Zero; Mystery Dance; Pay It Back; I'm Not Angry; Waiting for the End of the World*. COLUMBIA JC 35037 \$7.98, © JCA 35037 \$7.98, © JCT 35037 \$7.98.



Arista Records

Puzzling Don McLean

HE'S still a puzzlement, this Don McLean. His work over the past several years—including such really fine things as *American Pie* and *Wonderful Baby* (two songs that show him at his dichotomous peak: the mordant satirist and the arch romantic)—entitles him to a place in the front rank of the younger creative generation in pop music, right up there with Janis Ian, Jimmy Webb, and Randy Newman. The others, however, are all solidly established with defined and loyal audiences. McLean unfortunately still seems to be most identified as “that guy who wrote *American Pie*,” and he appears content to let it rest at that. He avoids the hurly-burly of the pop world with all the disdain of a Robert Frost at a convention of greeting-card versifiers. Nothing wrong with that, really, and the distancing probably does lend extra enchantment to his love songs, but he has also become woefully out of touch with what's happening today.

It's 1978 now, and would you believe that on “Prime Time,” his new album, McLean is still railing about General Motors, the Pope, and the CIA (*Color TV Blues*)? Or that his picture of suburban life is still that faded Sixties cartoon of little old ladies dropping like flies from muggings while everyone else wanders around in a schizophrenic daze? He ends *Color TV Blues* with the spoken line, “You know, just because you're paranoid doesn't mean that they're not trying to get you,” which is another old cliché that tries to excuse a lot but explains absolutely nothing, McLean's barbs are now as dated as denunciations of Nihilists, Free Love, and the Purple Gang.

If the satire has melted down to tapioca, it is, thankfully, the only part of McLean's

work that is no longer of interest. On “Prime Time” there are two beautiful love songs, *When Love Begins* and *The Pattern Is Broken*, that are both filled with the wistful gentleness that is uniquely his. Lovely, lovely. There is his quite wonderful virtuoso banjo playing on *Down the Road/Sally Ann* and *Redwing*. Excellent, excellent. There is his dramatic, deeply felt *The Statue*, about the Statue of Liberty—what it promised and what actually happened. Interesting, interesting. There is the wit and fun of *Building My Body* (“One look says I'm a stone disgrace . . .”), in which a macho male chorus lends a belching accompaniment. Hilarious, hilarious. You see, it's still a Don McLean album, which immediately puts it into a special category. He is unique, and he is vastly talented, and, rare among his contemporary performers, he *does* have a genuinely attractive voice—light, easy, and somehow very elegant. He also did all the arrangements here, and they too have that special quality of nonchalant grace that is so much a part of everything he does.

GET this album, because for all its flaws and occasional dead ends it's the work of a real pop creator. And there aren't too many of them around in any era. —Peter Reilly

DON McLEAN: *Prime Time*. Don McLean (vocals, banjo, guitar); vocal and instrumental accompaniment. *Prime Time; The Statue; Jump; Redwing; The Wrong Thing to Do; The Pattern Is Broken; When Love Begins; Color TV Blues; Building My Body; Down the Road/Sally Ann; When a Good Thing Goes Bad; South of the Border.* ARISTA AB 4149 \$6.98.

style that nicely mixed vitality and sensibility. By giving up most of the latter and putting in its place only empty fireworks, she's doing herself damage. C'mon, Natalie, simmer down. P.R.

RECORDING OF SPECIAL MERIT

JOHN DENVER: *I Want to Live*. John Denver (vocals, guitar); Hal Blaine (drums); James Burton (guitar, dobro); other musicians. *Singing Skies and Dancing Waters; To the Wild Country; Bet on the Blues; Thirsty Boots; It Amazes Me*; and five others. RCA AFL1-2521 \$7.98, © AFS1-2521 \$7.98, © AFK1-2521 \$7.98.

Performance: **Very good**
Recording: **Very good**

This is a quietly spectacular rendering of one still not very public aspect of John Denver, which is to say that the album is laid back and very melodious. It isn't exactly *free* of Rocky Mountain homilies and images—he sings of *Dancing Waters*, *Wild Country*, and so forth—but it is much less “political” (in a cultural sort of way) than most recent Denver albums. In fact, it reminds me of his first two, made when he really was a simple kid from Texas with a head for tunes and a frank, wide-eyed admiration for people like Tom Paxton. He does all right by Paxton's *Bet on the Blues* and Eric Andersen's *Thirsty Boots*, a deft choice, and, whatever you think of his lyrics, Denver can write a melody. Melody and sources like Paxton and Andersen were the main things about his first couple of Innocent Period albums, and “I Want to Live” has the same kind of charm about priorities. Although they're a little vague in spots, Denver's lyrics sound a lot less than usual like the Rocky Mountain Chamber of Commerce in their language, if not always in their subject matter. Denver also profits from the backing of some fine studio cats (including Elvis' and Emmylou's James Burton) instead of the rhythm-guitar-heavy road band on the last several albums. A couple of these arrangements are a bit cute, but a fair amount of compelling stuff happens too. Mostly what the album's about, though, is John Denver's attitude toward life, and people who thought they already had him nailed on that might listen to this and be pleasantly surprised. N.C.

RECORDING OF SPECIAL MERIT

ELECTRIC LIGHT ORCHESTRA: *Out of the Blue*. Electric Light Orchestra (vocals and instrumentals). *Turn to Stone; It's Over; Sweet Talkin' Woman; Across the Border; Night in the City; Starlight; Jungle; Believe Me Now*; and nine others. JET JTLA-823-L2 two discs \$11.98, © JT-EA823-L2 \$11.98, © JT-CA823-L2 \$11.98.

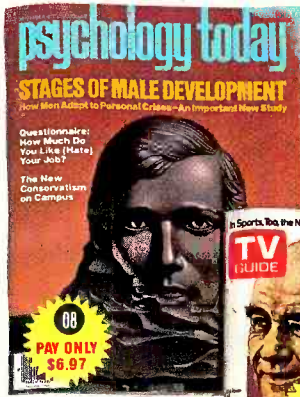
Performance: **Excellent**
Recording: **Excellent**

The Electric Light Orchestra was responsible for *Telephone Line*, one of the best-made and most pleasing singles of 1977, and in this two-record set they offer some dandy follow-ups. “Out of the Blue” is not an “album” so much as it is a collection of potential singles. There are seventeen selections, each performed with the craftsmanship and sass that distinguish ELO under the direction of Jeff Lynne, who is responsible for the music, lyrics, lead vocals, and production. Among the standouts

(Continued on page 110)

“an attractive voice, light, easy, and elegant . . .”

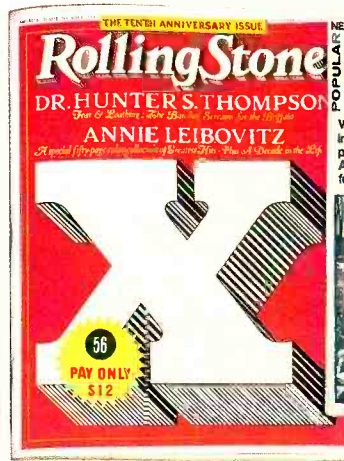
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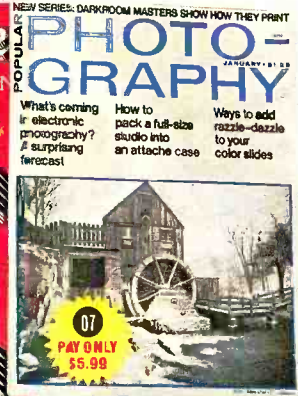
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in this delightful package of bonbons are *Turn to Stone*, *Birmingham Blues*, *Night in the City*, and the hilarious, dopey *Jungle*, which features an insert by the student bodies of Spratley's Dancing Academy tapping their collective toes off. First-rate pop. J.V.

FOUR TOPS: *The Show Must Go On*. Four Tops (vocals); instrumental accompaniment. *The Show Must Go On*; *I Can't Live Without You*; *Save It for a Rainy Day*; *Love Is a Joy*; and four others. ABC AB-1014 \$6.98, Ⓟ 8020-1014H \$7.95, © 5020-1014H \$7.95.

Performance: **Cohesive**
Recording: **Good**

These four r-&-b stalwarts from Detroit are entitled to some sort of recognition, if only for their endurance in the swiftly moving soulstream. Stylish modes have come and gone since 1963, when they signed with the fledgling Motown firm and charted their most notable hits, among them *Baby I Need Your Loving*, *I Can't Help Myself*, and *Reach Out, I'll Be There*. But the Four Tops are veterans in the better sense of the word. The musical cohesiveness that has set them apart from the very beginning is as apparent here as on anything else they've done to date. There are no surprises, for they sound much as they did years ago, though all the rough edges have been smoothed away. The Tops' arrangements are more sophisticated, but they retain the charm of one of those old street-corner groups—twenty-some years later and all dressed up in custom-made tuxedos. They are at their best here on up-tempo rockers such as *The Show Must Go On* and *You'll Never Find a Better Man*. A satisfying performance. P.G.

NONA HENDRYX. Nona Hendryx (vocals); instrumental accompaniment. *Winning*; *Everybody Wants to Be Somebody*; *Once Again*; *Too Late to Run*; *Leaving Here Today*; and four others. EPIC PE 34863 \$6.98, Ⓟ PEA 34863 \$7.98, © PET 34863 \$7.98.

Performance: **Cunning**
Recording: **Good**

One of the most interesting things about Labelle's break-up is the divergency of musical courses being pursued by the three former members of that campy group. While lead singer Patti Labelle's solo album dipped into traditional funk with unexpected shakiness, Nona Hendryx's debut album is confounding in a different way. Having written such staples of the old group's fare as *Can I Speak to You Before You Go to Hollywood*, Hendryx comes on here as a proponent of straight-ahead rock, playing up the characteristics that separate it from its cousin, black soul music.

The shape of the songs Hendryx presents defers just a bit to fundamental r-&-b, but primarily as it has been transformed by British rock and its American derivatives. The harshly exciting, ragged edge to the guitar voicings, complemented by her vocals, is rockish rather than soulful in texture. This might well stir up some dissatisfaction among former Labelle fans, but it might also open the door to acceptance by those whose ears are selectively tuned to rock nuances. During its better days, Labelle was a crossover group. Perhaps Hendryx has merely cast her lot with the less familiar side of their old musical equation. P.G.

(Continued on page 112)

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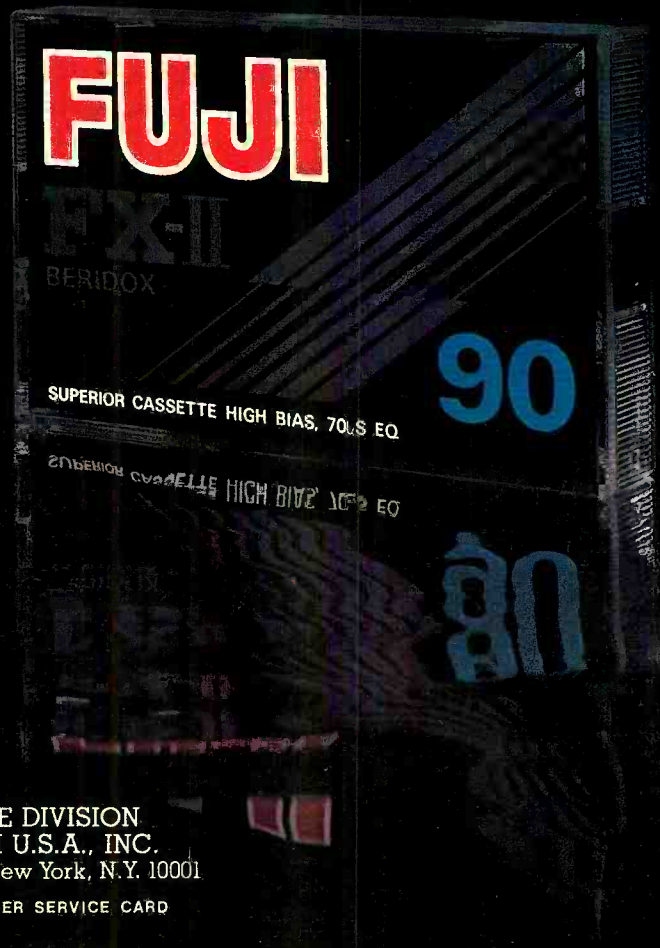
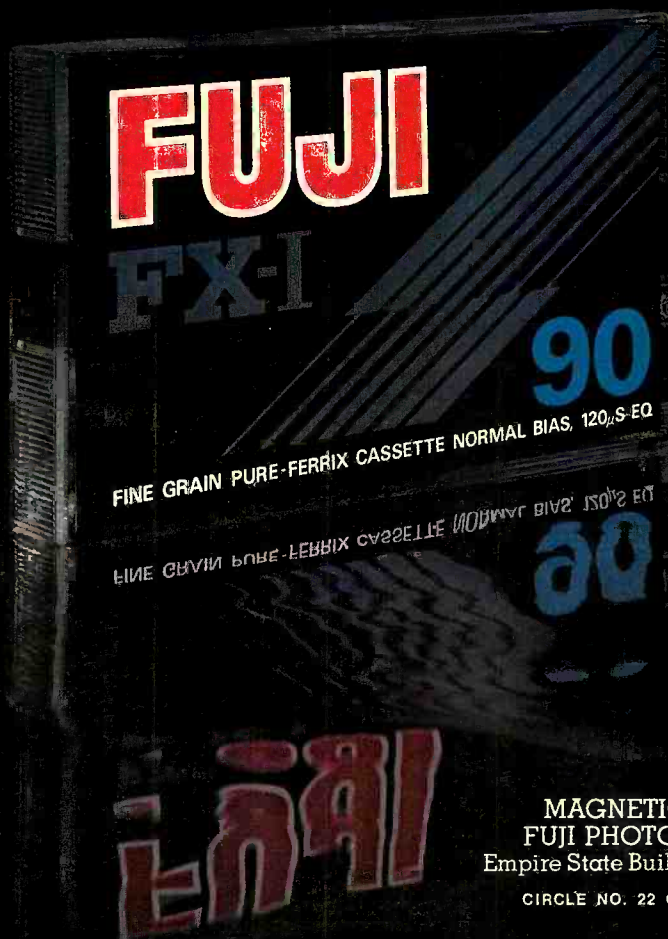
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RECORDING OF SPECIAL MERIT

TOMMY JAMES: *Midnight Rider*. Tommy James (vocals, guitar); vocal and instrumental accompaniment. *Midnight Rider*; *Still Got a Thing for You*; *Double or Nothin'*; *What Happened to the Girl*; *Keep It in the Groove*; and three others. FANTASY F-9532 \$6.98.

Performance: **Excellent**

Recording: **Excellent**

Despite his many pop hits with the Shondells in the Sixties and as a solo performer in the early Seventies, Tommy James has been consistently underrated as a craftsman in both songwriting and singing, unfairly dismissed as a "bubblegum" entertainer by rock-media nabobs, and ignored when wails of sympathy are raised for rock musicians battered by the music industry. He began his career singing mostly the usual teen love complaints assigned to him by his label, but in only a few years he was deeply involved in writing, arranging, and producing his own material. The 1969 album "Crimson and Clover" showed him to be a mature artist, and it was commercially successful as well. Nevertheless, personal and professional difficulties in the past several years seemed to have put his career and reputation in limbo.

"Midnight Rider," his second album for the Fantasy label, is a welcome sign of recovery. James still has the same light but husky tenor, excellent phrasing, and total absorption with a song that he always had. Of the eight selections on the album, he wrote four (some of these in collaboration with members of his former band, the Shondells), and they are all sturdy, well-crafted examples of straight-ahead pop. The other four are by veteran Jeff Barry, who is older than James but writes in the same style. Most of the tracks on "Midnight Rider" are about love, a subject James approaches these days with a cool passion that only now and then breaks into a vibrato cry. The production, by Barry, is solid and polished. While the album sometimes recalls the halcyon days when James was first establishing his artistic independence, there's nothing on it that isn't contemporary—especially *Keep It in the Groove*, with its exciting polyrhythms, James' own *Double or Nothin'*, which sounds like a comeback single, and *Bobby, Don't Leave Me Alone*, an eight-minute pop mini-concerto.

If a music career is a kind of contract between an artist obliged to give his best and an audience that recognizes and responds to it, "Midnight Rider" proves that Tommy James is keeping his part of the bargain. J.V.

JONI MITCHELL: *Don Juan's Reckless Daughter*. Joni Mitchell (vocals, piano, guitar); instrumental accompaniment. *Overture/Cotton Avenue*; *Talk to Me*; *Jericho*; *Paprika Plains*; *Otis and Marlena*; *The Tenth World*; *Dreamland*; and four others. ASYLUM BB-101 two discs \$7.98, ® ET8-101 \$7.97, © TC5-101 \$7.97.

Performance: **A little too abstract**

Recording: **Very good**

At first this may seem another of those difficult Joni Mitchell albums of the "Hissing of Summer Lawns" ilk, fraught as it is with zonky and unexpected, if not alien, sounds and dotted with those chords that exist only in Joni Mitchell music. The words of a given
(Continued on page 116)

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Larry Klein

The Arrival of Peter Allen

FEELIN' good. Feelin' *real* good. Just heard the new "It Is Time for Peter Allen," and the news is that it is time for a celebration. The Australia-born Allen has *arrived* (the double meaning of the album title is happily accurate) not only on his own, but also as the closest parallel English-language pop now has to the great French *chansonniers*. Like them (the two best-known currently are probably Jacques Brel and Charles Aznavour), he assembles his art from his own subjective world, from his own touchable, recognizable feelings in their full range, leaving cosmic opinions and weighty judgments to other, more lugubrious talents. His words and the music (much of it here by Carol Bayer Sager) are filled with wit and loving, impertinence and awe, but most of all with a joyous wonder at the stubborn perdurability of humankind. The *chansonnier* he most reminds me of—and this is a very personal pleasure—is the great Charles Trénet, who is probably most famous in this country as the composer of *La Mer* but whose total work is an ecstatic compendium of the small, universal moments of life. His work is all illuminated by a compassionate sentiment, a wry humor, a delirious rapture in *being*, and always, always a rakish finger flick at the pompous, the uptight, and the killers of dreams. Allen has the same ability to stay lightly, but often movingly, in a two-way communication with his feelings and with his audiences.

The album is live, most of it apparently recorded at Avery Fisher Hall in New York but with some tracks added from appearances at the Bottom Line there and the Roxy in Los Angeles. It opens with *Love Crazy*, a captivatingly hokey song with an irresistible beat that sent me, for one, box-stepping around

the room snapping my fingers. When the applause dies down Allen tells the audience that he's glad to be in New York and that he's just returned from playing L.A., where his favorite review called him "a deft performer, with his cute little songs." "I thought that summed up my career pretty well," he comments dryly. (His speaking voice, incidentally, has a weird resemblance to that of Jackie Vernon, the dead-pan comic.) He then launches into *She Loves to Hear the Music*, his bittersweet ode to a music-biz groupie who is watching her real life sail by as she gets deeper and deeper "into" music and musicians. He does it better here than on his previous recording of it, and it sets up the mood for the nostalgic

... I still can't
seem to hear enough
of 'I Go to Rio' ...

Everything Old Is New Again and the ambivalent, worldly wise *Interesting Changes*. Side one closes with Allen's greatest commercial hit to date, *I Honestly Love You*. After apologizing—"Sorry, Olivia couldn't make it tonight"—he goes on to give it a superbly eloquent performance.

Sides two and three have all sorts of goodies on them, including run-throughs of two standards Allen sang in his old Australian pi-

ano-bar days, *As Time Goes By* and *The More I See You*, and a song he wrote about his grandfather, *Tenterfield Saddler* (Tenterfield is the place, saddler the profession), that beautifully evokes a time, a place, and a mood that are obviously very special to him. It is on side four, however, that he crests, deluging his delighted audience with three gigantic showstoppers.

THE first is *I Go to Rio*, which has a quasi-Latin disco beat, frantic lyrics, an exuberant, rhapsodic vocal performance, a lot of Allen's barrelhouse, ragtime, what-have-you piano playing (nowhere on the album does he play at all elegantly, but man, can he pound out a beat!), and the kind of disciplined abandon that made the great moments in the Astaire-Rogers films so unforgettable. I've played it again and again and I still can't seem to hear enough of it. Along with Trénet's *La Route de Joie*, or perhaps *Je Chante*, it is one of the most altogether *happy* things I've ever heard on records.

Next is *Quiet Please, There's a Lady on Stage*, a song he says he wrote at a time when he didn't even know that he was a songwriter. It is about, and for, Judy Garland. In particular it is about those last grim days when she was on the final snap of the roller coaster that was her life, the time when she was appearing before audiences that were either indifferent to her suffering or waiting like ghouls to see her fall apart in front of them. But Allen's song is much more than a plea for the audience to "clap your hands together/And help her along/All that's left of the singer/Is all that's left of the song . . ."—a reminder that she was a great star "long before your consciousness was raised." It is a tribute to a great entertainer who understood very little about herself except that she loved her audiences and they loved her back. As her life wound down, her fans seemed to be all that was left, and she found the courage to go out and try to reach them—because she really *needed* them. It is a heartbreaking song about a heartbreaking subject, but Allen performs it with a jaunty gusto, and, through a series of tension-building repeats and, finally, audience participation, duplicates the kind of everything-breaking-loose pandemonium that Garland herself was capable of at her peak. It is a sensational track in every way.

His final song, his bow-out here, is *Audience*. It is a song that gently philosophizes about the performer and his listeners and their effect on each other. It has wisdom and style and heart, and it sums up Peter Allen's work better than any review ever could. Listen to it and you'll see what I mean. —Peter Reilly

PETER ALLEN: *It Is Time for Peter Allen*. Peter Allen (vocals, piano); orchestra. *Love Crazy*; *She Loves to Hear the Music*; *Everything Old Is New Again*; *Interesting Changes*; *I Honestly Love You*; *Continental American*; *The Natural Thing to Do*; *The More I See You*; *As Time Goes By*; *Don't Wish Too Hard*; *Don't Cry Out Loud*; *Tenterfield Saddler*; *Puttin' Out Roots/The Sideshow's Leaving Town*; *I Go to Rio*; *Quiet Please, There's a Lady on Stage*; *Audience*. A&M SP-3706 two discs \$12.98.

piece are fairly easy to track, but even then it takes a lot of work on your part to hear the thing as a whole.

The album starts with what Joni calls an overture (actually a moody little montage of chords, awfully short and awfully quiet as overtures go), which suggests more of a narrative quality than I can find in it. It sounds like a parade of her latest ambitions for "the popular song," but a parade constructed more for herself than for the rest of us. There is narration—from her own viewpoint, in the third person, and back in the first person in character after the manner of Randy Newman—and there is exploration, especially in the nonverbal parts. In *Paprika Plains*, there is composition: it runs 16 minutes and 19 sec-

onds—one whole side—making it by far her longest "song" to date, and it is an ambitious now-symphonic, now-jazz piece, intelligent but also rambling and arcane. It makes a slick, quick change from Tom Scott's jazz band to classical orchestra and back again, leaving me—again—unable to hold onto the feeling that the piece is a whole and not just a clever grafting job.

The title song has the most interesting lyrics (you have to allow for the fact that I'm still, unfashionably, political), although its melody doesn't amount to much. But there are ideas scattered throughout the two-disc program, and it is not entirely a humorless abstraction Joni Mitchell devised just to please herself. Her way of satirizing herself is related to her

way of describing life in general; she's trying to strike, savagely if necessary, into the sub-surface of decisions and behavior. "You spend your sentences like they were currency," one of her characters tells a close-mouthed friend. Then she says, "Talk to me. I'm always talking." Then she goes "pikwark pikwark" like a chicken squawking. She's trying to move the popular song beyond prettiness—or at least conventional ideas about prettiness—and the album is rich, like a complicated painting. I'll play it a lot more times and keep finding new stuff in it—but I still think that too much of it is pitched at the head and not enough at the solar plexus. N.C.

RECORDING OF SPECIAL MERIT

RICK NELSON: *Intakes*. Rick Nelson (vocals, guitar); Stone Canyon Band (instrumentals); other musicians. *You Can't Dance*; *One X One*; *I Wanna Move with You*; *Wings*; and six others. Epic PE 34420 \$6.98, © PEA 34420 \$6.98. © PET 34420 \$6.98.

Performance: **Believable**
Recording: **Excellent**

If someone had told me in 1958 that I'd ever be praising a Ricky Nelson record, I'd have flattened that unlucky but accurate prognosticator, for I was convinced then that I couldn't stand Ricky Nelson—or any other teenager, except, on rare occasions, myself. But we've both changed. His voice and taste have matured, and the important thing about him that *hasn't* changed is his knack for finding a tune that's catchy. Now, even in 1958 I was fair enough about it to admit that I admired Nelson's ear for a catchy tune. The lyrics he sings nowadays are more mature, but a good percentage of the tunes are still catchy. And his back-up, the Stone Canyon Band, reflects the same combination you can hear in Nelson: signs of independent thinking along with clear tracings of roots in the middle of commercial pap-rock. For me, Nelson's career seems a triumph of where one has gotten to over where one came from, and I like to see that in a peer. There's good, clean music here, with my favorite parts coming in *One X One*, which has a fine, slow, catchy melody that shows some very nice stuff you probably didn't suspect Nelson could do with his voice. Nelson wrote only two of the songs, so he's still mainly following his ears. Long may they endure. N.C.

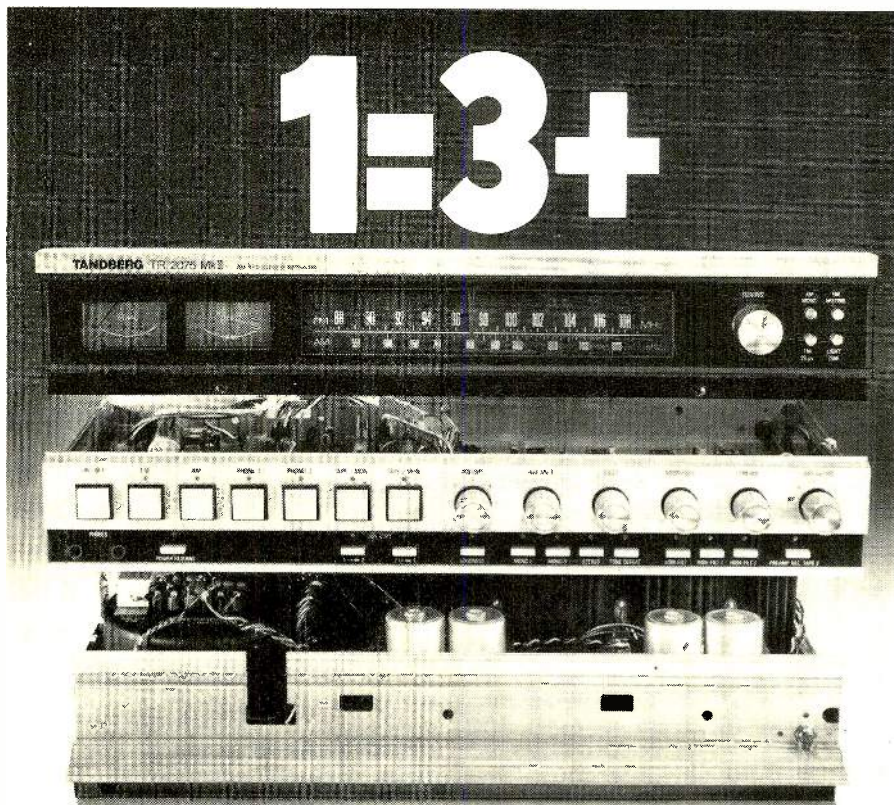
RECORDING OF SPECIAL MERIT

ESTHER PHILLIPS: *You've Come a Long Way, Baby*. Esther Phillips (vocals); Joe Beck (guitar); Randy Brecker (trumpet); Ron Carter (bass); other musicians. *Love Addict*; *You've Been a Good Ole Wagon*; *Somewhere Along the Line*; *In a Soft and Subtle Way*; and four others. Mercury SRM-1-1187 \$6.98, © MC8-1-1187 \$7.95, © MCR4-1-1187 \$7.95.

Performance: **Gutsy**
Recording: **Good**

The title of this album and the exceptionally attractive cover photo announce that Esther Phillips, one of the most individualistic artists around (although she has been unevenly represented on disc), has made some changes for the better. She has shifted record companies, moving from Kudu, a CTI subsidiary, to Mercury, and, more important, she is re-

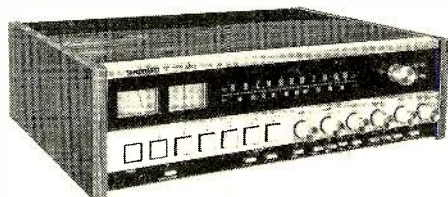
(Continued on page 118)



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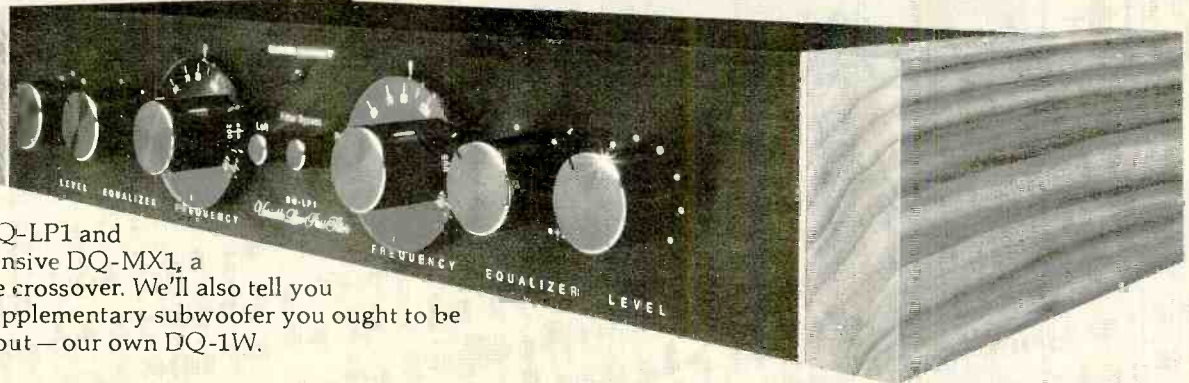
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exploring the powerful roots that nurtured her way back when she was known as Little Esther, an r-&-b child prodigy on the old Johnny Otis road show.

She has, indeed, come a long way from that incubation period. She is quite likely the most natural exponent of the blues among us today. Blessed with an immediately recognizable vinegary voice, she can whine and wail her way through gutbucket blues and old-fashioned r-&-b more fluently than any of her modern colleagues. Yet she has always too frequently miscast, dabbling with material that constricts her innate sense of style. Furthermore, she has been hampered by arrangements that clash with her basic sound.

On this album, Phillips is still restricted by some of these old obstacles, but she manages to sail above them with more freedom than has been apparent of late. She is always at her best doing material associated with her idol, the late Dinah Washington. That rule holds here as she revives Queen Dinah's memorable ballad *Somewhere Along the Line*. Her reading of *You've Been a Good Ole Wagon*, one of Bessie Smith's staples, is lustily delightful.

There are, certainly, low points here. *If I Loved You* is a disco disaster, and the up-beat rendition of *My Prayer*, an old, oldie, gets off to a limp start but picks up steam mid-course. This whole set might have been improved by the inclusion of more blues and less pop. Gifted as Phillips is, it's a shame she ever has to sing anything *but* the blues. P.G.

ALAN PRICE. Alan Price (vocals, keyboards); instrumental accompaniment. *Rainbow's End; I've Been Hurt; I Wanna Dance; Let Yourself Go; I'm a Gambler; Is It Right;* and five others. JET JT-LA809-H \$6.98, © EA809-H \$7.98, © CA809-H \$7.98.

Performance: **Civilized**
Recording: **Good**

Alan Price is sort of a cross between Randy Newman and Bobby Short, which is to say that while he shares Newman's ironic perspective on things, his outlook is tempered by a genial, night-clubbish urbanity. Comparing Price's soundtrack for the film *O Lucky Man!* with his more recent work, including this album (the first to be released in America in quite some time), it appears that he writes better when he has some large central concept to work around. There is nothing like that here, but some of the individual insights are pretty strong. *The Thrill* is probably the best cut, and the most representative of Price's gifts: it is a wry cabaret song about the intoxicating joys of the seamier sides of the rock scene. The other songs are never less than intelligent and well crafted, but I'm hoping for more from the sequel to *O Lucky Man!* that is scheduled to arrive sometime this year. S.S.

RECORDING OF SPECIAL MERIT

QUEEN: *News of the World.* Queen (vocals and instrumentals). *We Will Rock You; We Are the Champions; Sheer Heart Attack; All Dead. All Dead; Spread Your Wings;* and six others. ELEKTRA 6E-112 \$6.98, © ET8-112 \$7.98, © TC5-112 \$7.98.

Performance: **Very good**
Recording: **Very good**

I've admired Queen's precision of execution and their technique, and if their albums have
(Continued on page 120)

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Other LRS components.

Of course, only you know if you're considering a new tuner at this time, or an entirely new system. If the latter, we'll simply advise you that the LRS system has carried the separates concept to "an extreme." That is, the preamplifiers have no tone controls—these are provided by the LRS graphic equalizer or separate tone control unit. The power amplifiers are available with or without meters—supplemented by a separate LED peak indicator. And if low distortion is important to you, the total harmonic and IM distortion of the LRS power amplifiers at rated power is no more than 0.008 per cent. That's double-0 eight.

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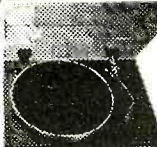
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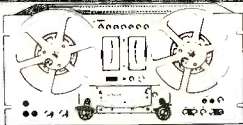
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tended to sound the same, well, that's the way of hard rock. This time out, though, Queen seems to have gone to some lengths to ensure variety in each cut. There certainly is a diversity of arrangements and attitudes on the album. *We Will Rock You* has an amplified drum effect that sounds like the entire population of New Delhi chewing on betel nuts, and *Sheer Heart Attack* is as powerful a straight-ahead, hard-rocking performance as you're likely to hear. *All Dead, All Dead* is a cool ballad, and *My Melancholy Blues* is done as a spoof of torch singing. Quite impressive. J.V.

LOU RAWLS: *When You Hear Lou, You've Heard It All* (see Best of the Month, page 79)

RECORDING OF SPECIAL MERIT

PAUL SIMON: *Greatest Hits, Etc.* Paul Simon (vocals, guitar); vocal and instrumental accompaniment. *Slip Slidin' Away*; *Stranded in a Limousine*; *Still Crazy After All These Years*; *Have a Good Time*; *Duncan*; *Me and Julio Down by the Schoolyard*; and eight others. COLUMBIA JC 35032 \$7.98.

Performance: **Excellent**
Recording: **Very good**

Once in a very great while, a "greatest hits" package actually does represent a performer's artistic peaks as a performer, and that is the case here. I suspect that Paul Simon would rather be thought of as a writer than a singer, and he consciously adopted a literary attitude toward his music back in his early neo-folk days with Art Garfunkel. Now, in his maturity, he has honed his writing to come up with highly interesting although often unresolved vignettes and character portraits of losers, Candides, and ambivalent heroes.

In person, Simon seems both cautious and fatalistic, which would account for the prevalent attitude of his songs toward the world and human relations. Most of the ones in this collection—including his current single, *Slip Slidin' Away*, about the futility of effort—deal with people who try too hard, have stopped trying, or are rewarded without trying at all. These ways of the world apparently fascinate and vex him at the same time, producing the artistic tension that can result in works of superior craftsmanship. But the lyrics' specific meanings are not always clear, and the actions of the characters are not always fully explained. Perhaps this harks back to the intellectual poets of Simon's youth (he is thirty-six), who were deliberately vague. Like them, I suspect, Simon is a frustrated romantic who feels out of place in a world that has long ceased to appreciate or support poets in general and romantics in particular. And, as poets have grown increasingly unsure of their audience, Simon—and others like him who would have been published poets had they not turned to pop music as a vehicle—find themselves in the baffling position of being enormous artistic and commercial successes without ever being sure that their large audiences understand them at all. This tends to make closet romantics bolt the closet door from the inside. Paul Simon doesn't bolt the closet door—he swings it open to peep out once in awhile—but, Lord, it must be lonely in there. J.V.

RECORDING OF SPECIAL MERIT

ROD STEWART: *Foot Loose and Fancy Free.*

(Continued on page 122)

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Rod Stewart (vocals); Phil Chen (bass); Gary Grainger (guitar); John Jarvis (keyboards); Carmine Appice (drums); other musicians. *Hot Legs; You're Insane; You're in My Heart; Born Loose; You Got a Nerve;* and three others. WARNER BROS. BSK 3092 \$6.98, © M8 3092 \$7.97, © M5 3092 \$7.97.

Performance: **Very good**
Recording: **Good**

Rod Stewart's getting pretty, ah, veteran among your surviving hard-rock stars from the Golden Era. He still hangs in there pretty well, though. A knack for delivering catchy singles has served him well, and lately he's been balancing his albums a lot better. This one, in fact, is set up something like a vintage Rolling Stones record: something a little gross, like *Fat Legs*, to get your attention; some no-nonsense rock; a slow, pretty one; a "re-definition" of an oldie; a sexual innuendo here and there; and so on. And it works. The singles-and-filler feel is gone, even though there are three or four strong singles bids here. "Foot Loose and Fancy Free" does suggest that Stewart may be fixed on a type of song that might tend to keep his audience the same age while he grows older—but then that's not nearly as low an aim as a lot of other performers are taking. In any case, Stewart has standards about doing rock right; that's why he's got so much seniority. N.C.

TALKING HEADS: 77. Talking Heads (vocals and instrumentals). *Uh-Oh, Love Comes to Town; New Feeling; Tentative Decisions; Happy Day; Who Is It?; No Compassion;* and five others. SIRE SR 6036 \$6.98.

Performance: **Fair**
Recording: **Good**

There's been a lot of babble lately about punk rock, more euphemistically known (at least in some circles) as "New Wave" music. It has been extensively (and expensively) promoted by the major media as the Next Big Thing in rock. Yet, despite all the coverage (which tends to focus on the zany costumes and weird life styles of the bands and their audiences), it has still to be demonstrated that punk/New Wave is either musically or commercially important.

Artistically, the point of punk/New Wave music seems to be intensity rather than content. It tends to be blitheringly simple technically, played by bands where musicianship is not at a premium but is, rather, suspect; the more amateurish the band, the closer it seems to be to what punk rock is supposed to be about.

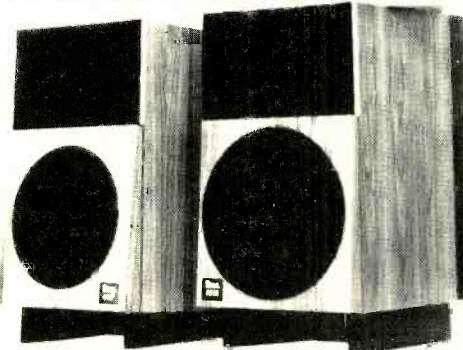
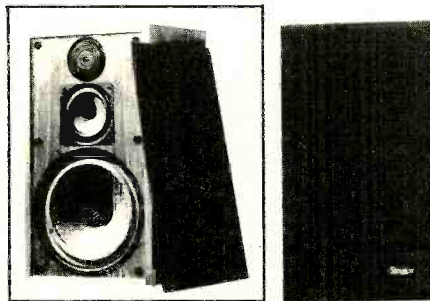
Still, the media push has convinced a few commercial labels that a vast audience is waiting to be tapped. Sire Records, a medium-size independent in New York that has a distribution agreement with Warner Bros., is heavily into punk/New Wave, and one of their most highly touted bands is Talking Heads. To some extent, Talking Heads is atypical, since the quartet—composed of three former art students and a recently added keyboardist—is not *deliberately* sloppy or offensive and prefers to eschew the "punk" label. Nevertheless, they sound as amateurish as the rest and their material is just as vapid and clumpy; the songs are in the Bob Dylan tradition of all words and no tune. Worse, the lead singer has at best a mediocre voice and keeps trying to hit notes that he can't. Talking Heads is ap-
(Continued on page 126)

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JUST when it looked as if Dolly Parton was going to be conceded the title "Queen of Country Music" (thanks in part to the lobbying of some pop music critics), Dolly kicked over the traces, as the fellow says, and—before you could say Porter Wagoner—established herself as the undisputed Queen of Limbo.

I'm not here to say "tsk tsk" about that, or to put anyone down for venturing into the state I've spent a good percentage of my own life in. But the trouble with limbo as something to talk about is that it's apparently a unique state for each person. It's even a different state for Dolly in her latest album, a thing with a disco (!) cover called "Here You Come Again," from what it was in the preceding one, "New Harvest, First Gathering," with which she plunged *into* the Big L. Com-

ton's next album will profit from her having the worst of the trauma, and the energy drain it involves, behind her.)

To say that hanging out with Linda Ronstadt and Emmylou Harris and other celebrated pop singers has turned her head, and as a result she's gone pop in a blind, awkward rush like a naïve country girl going to the big city, is to suggest that Dolly is more gullible than the evidence indicates—the best evidence being the music she has produced. I think the essential thing in her so-called crossover attempts is that she is trying to accommodate personal growth, that she *does* feel her talent hemmed in by some of the conventions of country ("Porter" demonstrates, among other things, how another kind of country performer's love of these conventions can sustain him), and that tracking her own identity

and *Little Andy*, which has Dolly going into her little kid voice (and I *do* wish she wouldn't do that). But the production isn't quite as hyped in "Here You Come Again" as it was in "New Harvest," and I like to think it's because Parton's starting to get life in limbo sorted out enough to listen more to herself and less to her advisers.

In "Porter," Wagoner shows, as he has before, that making records is a separate enterprise from being a musician or an entertainer. Knowing how to *hire* musicians is important here, and he hired some good ones, some of the sharpest Nashville studio sidemen. He also picked out a smattering of old and new songs that go together well (only one of which he wrote, although he does write a lot better than he sings or than his road band plays), and he demonstrates once again that he knows how to make albums. Behind that, though, lies the fact that he knows exactly what folks he's making albums for.

The nature of Parton's new adventure means she can't be so sure about that. Her system, given necessarily vague instructions about what kind of melody to write, still manages to turn up a real one and more often than not a substantial one (especially in *Cowgirl and the Dandy* and *As Soon As I Touched Him*, which you might call her "liberated" songs since they make the semi-bold assertion that a country girl has a sex drive). Lyrically she's continuing to explore this new adventure, in veiled and not-so-veiled ways, and she's simply more articulate about it in "Here You Come Again" than she was in "New Harvest." Her talent seems to know what it's about even while her arrangers and those tampering with the visible part of her career ask her to try on first one image and then another.

All Dolly has to do now is ignore limbo (a state that, ignored, goes away, however difficult it is to ignore), along with most of the advice people give her, and make an album for an audience of one named Dolly Parton. Porter seems able to do that in his own case without having to go anywhere, but it is the nature of some of us that we have to go somewhere. I think Dolly's about ready to follow her own head.

—Noel Coppage



Dolly & Porter

paring the two, you can get a sense of her direction inside the state of limbo but not in the old ground-transportation imagery in which you can invoke the classic American music metaphor of traveling down the road. What you get in this case is the relative positioning of two spots, Dolly appearing and disappearing in one and appearing in the other as if she'd been beamed (up or down) *Star Trek* style.

And a country boy trying to deal with *that* metaphor in the case of a woman who is still many people's country singer, new harvests be hanged—well, a country boy in that situation hankers for some solid ground to rest on for a minute. Fortunately (especially if you like your fortune embossed with a little irony), the same month that yielded "Here You Come Again" also let out an album called "Porter" from Dolly's old mentor, pal, duet partner, and number one fan, Porter Wagoner. Put this album—the ambiance of it as much as the music—into the equation and you may conclude, among other things, that the two latest Dolly Parton albums are successive whacks at a single, painful project: cutting the cord. (Kindly take it that I'm stopping just short of predicting that whatever thread remains won't need a third whack, and that Par-

for her own information is essentially more important to her than the money, or even the acclaim, from a new or additional market.

Of course, she did put people with Cher and Olivia Newton-John connections into business-handling roles around her, and she did do certain things on these last albums I wish she hadn't. In "First Harvest," she went cryptic on us lyrically, and on some songs she went the production-number route more reminiscent of the TV variety show than anything else. She wrote songs building up to variations on the *Hallelujah* chorus, letting the arrangers pull out all the stops. And then, in what seemed almost an act of penance, she included a clearly country up-tempo story song, *Applejack* (I *don't* wish she hadn't done that simply because the song is so charming itself). *Applejack* had back-up vocals from every old country stalwart she could find—Roy Acuff, Kitty Wells, Minnie Pearl, Wilma Lee and (the late) Stoney Cooper—and in the credits Dolly said, "These people are the best. They are my greatest inspiration." The new album has what appears to be a market-researched plasticized-look dancing Dolly on the cover, and its title song could be called disco-influenced. It also makes a rush, at one point, back to the old country conventions with *Me*

DOLLY PARTON: *Here You Come Again*. Dolly Parton (vocals, guitar); Dean Parks (guitar, banjo); Al Perkins (steel guitar); David Hungate (bass); Jim Keltner (drums); other musicians. *Here You Come Again*; *Baby Come Out Tonight*; *It's All Wrong but It's All Right*; *Me and Little Andy*; *Lovin' You*; *Cowgirl and the Dandy*; *Two Doors Down*; *God's Coloring Book*; *As Soon As I Touched Him*; *Sweet Music Man*. RCA APL1-2544 \$7.98, © APS1-2544 \$7.95, © APK1-2544 \$7.95.

PORTER WAGONER: *Porter*. Porter Wagoner (vocals, guitar); Jim Colvard (guitar); Pig Robbins (piano); Bobby Thompson (banjo); other musicians. *Don't This Road Look Rough and Rocky*; *Hand Me Down My Walking Cane*; *Childhood Playground*; *The Funky Grass Band*; *Walking in That California Sunshine*; *I Haven't Learned a Thing*; *The Arizona Whiz*; *Ruby Jones*; *Crumbs from Another Man's Table*; *Old Log Cabin for Sale*. RCA APL1-2432 \$7.98, © APS1-2432 \$7.95, © APK1-2432.

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parently sincere, but though they try hard it is doubtful that this album would ever have been released without the punk hype. J.V.

DIONNE WARWICK: *Love at First Sight*. Dionne Warwick (vocals); orchestra, Michael Omartian arr. and cond. *Early Morning Strangers; Since You Stayed Here; Love in the Afternoon; A Long Way to Go;* and six others. WARNER BROS. BS 3119 \$6.98.

Performance: **Classic "modern"**
Recording: **Good**

Dionne Warwick sounds and looks wonderfully well here in this determined rehash of her past successes. The songs have changed but the arrangements, performances, and ca-

sually sexy style have not. If you'd never heard her before, hearing her even in such slight things as *Livin' It Up Is Startin' to Get Me Down* would convince you she was sensational. Which she most assuredly was in the mid-Sixties. Unfortunately, it's been a long time since then, and nowadays she resembles some lovely stationary "modern" object, such as the Seagram Building or the Lexicon 80, that is much admired and a comfort in its mere presence. Lurking beneath this conscious appreciation, however, is the itch to murmur, "C'mon, Dionne—let's get on with it. . . ."

P.R.

BOB WELCH: *French Kiss*. Bob Welch (vocals, guitars, bass); instrumental accompani-

ment. *Sentimental Lady; Easy to Fall; Hot Love, Cold World; Mystery Train;* and eight others. CAPITOL ST-11663 \$6.98, © 8XT-11663 \$7.98, © 4XT-11663 \$7.98.

Performance: **Piffle**
Recording: **Okay**

Bob Welch ran the Fleetwood Mac show for a couple of albums before the arrival of fellow California cuties Lindsey Buckingham and Stevie Nicks. His departure from the band was not mourned, at least around my house, because his contribution had been to write some of the most insipid, cliché ditties imaginable. Unsurprisingly, for his first solo album he's still writing them. There's lots of lyrical pining for ethereal girls with "ebony eyes" and lots of meandering melodies. A notable exception is the remake of *Sentimental Lady*, the only tolerable tune Welch ever concocted; the arrangement is slightly lush than it was when Fleetwood Mac did it, quite pop in fact, and Welch's undistinguished, watery singing is admirably propped up by Buckingham, Christine McVie, and Mick Fleetwood—who I suppose stopped by to show that there are no hard feelings. So far as I'm concerned, they needn't have bothered. S.S.

HANK WILLIAMS, JR.: *The New South* (see Best of the Month, page 78)

WISHBONE ASH: *Front Page News*. Wishbone Ash (vocals and instrumentals). *Midnight Dancer; Right or Wrong; Heart Beat; 714; Come In from the Rain; Diamond Jack;* and four others. MCA MCA-2311 \$6.98, © MCAT-2311 \$7.98, © MCAC-2311 \$7.98.

Performance: **Very good**
Recording: **Excellent**

Wishbone Ash performs their own material here, once again giving graduate lessons—admittedly a bit dry and intellectualized—in impeccable rock technique. The best track on this album is *Right or Wrong*, with its thunderous opening chords and smoldering guitar work by Martin Turner, Laurie Wisefield, and Andy Powell. Turner, who composed much of the stuff here, is the lead vocalist, and his grating, hard-edged readings provide a fine balance for the perhaps slightly overrefined instrumentals. Wishbone Ash treats rock as if it were a classic form—which by this time I suppose it is. Not that this performance is precious in any way; rather, it suggests the rock equivalent of the Juilliard Quartet's examination of one of the "attributed-to" works of Pergolesi. An interesting album. P.R.

TAMMY WYNETTE: *One of a Kind*. Tammy Wynette (vocals); instrumental accompaniment. *One of a Kind; Love Survived; Sweet Music Man; What I Had with You;* and six others. Epic KE 35044 \$5.98, © EA 35044 \$6.98, © ET 35044 \$6.98.

Performance: **Good**
Recording: **Very good**

It's too bad Kenny Rogers' *Sweet Music Man* got a little overexposed before Tammy Wynette got out the version here, for hers is, finally, one that was worth recording. In general, Wynette and producer Billy Sherrill have taken a turn toward simplicity on "One of a Kind," if not quite toward hard country. The effect is pretty good, in any case, with the sound behind her a lot cleaner kind of neutral than the old overdressed backings were. Wy-

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nette has some choruses she can really bear down on, as she did in the original *Stand By Your Man*. This one's a keeper. N.C.

RECORDING OF SPECIAL MERIT

NEIL YOUNG: *Decade*. Neil Young (vocals, guitar); Crazy Horse (vocals and instrumentals); Emmylou Harris (vocals); other musicians. *Down to the Wire; Burned; Mr. Soul; Broken Arrow; Expecting to Fly; Sugar Mountain; I Am a Child; The Loner; Cinnamon Girl*; and twenty-six others. WARNER BROS. 3RS-2257 three discs \$11.98, © 3R8-2257 \$11.98, © 3R5-2257 \$11.98.

Performance: **Fascinating**
Recording: **Variable**

As a friend of mine recently observed, Neil Young may be a bozo, but he's such a great bozo. Consider his history. Once he was the most meticulous of pop craftsmen, the master of the overdub (he informs us that it took a hundred takes to get *Broken Arrow* right). Now he churns out albums that make Dylan's sloppiest sound overrehearsed. For a while, he pretty much defined pop-star flash (remember those buckskin jackets?). When he got bored with that, he went one-on-one with James Taylor in the "Brooding Troubadour Who Makes Freshman Girls Weep" sweepstakes. These days he does major tours clad in battered Bermuda shorts. Once his most representative albums were like "Harvest"—lush, vacuous, and huge sellers. These days they're more like "Tonight's the Night"—stark, challenging, and difficult to listen to. Yet, for all that, Neil remains the only Sixties artist nobody calls burnt-out or irrelevant.

"Decade," his remarkably comprehensive new greatest-hits collection, demonstrates that what many of us mistook for profound change over time was nothing of the sort, but simply a case of our inability to see the total artist, rather than just the facets, as the years went by. There's something here for almost everybody: the sharply drawn portraits of the L.A. scene and precursors of country-rock (*Mr. Soul* and *I Am a Child*) that he offered with the Buffalo Springfield; the heavy-metal clamor and guitar duels (*Down by the River*) that still define his live style; the commercial hooks and production genius of songs like *Helpless*; the gentle humor of his love/car song *Long May You Run*; the still compelling indignation of his Kent State protest opus *Ohio*. Even gaucheries and embarrassments like *A Man Needs a Maid* are included here, which proves that he's not afraid to make an ass of himself in public. We also get a few previously unreleased items, the most memorable being the original version of *Love Is a Rose*. If you missed it on "Zuma," "Decade" contains what is in my opinion Neil's masterpiece, *Cortez the Killer*, a mysterious, almost epic song that evokes visions of ancient empires and raises startling questions about male/female relationships.

All in all, this is a superb overview of the work of an artist who at his best makes most of his contemporaries sound faintly puerile by comparison, and at his worst is still an endearing foul-up. Catch him while you can. S.S.

COLLECTIONS

RECORDING OF SPECIAL MERIT

FLAT PICKING GUITAR FESTIVAL. David

Bromberg, Richard Lieberman, Michael Aumen, Dick Fegy, Tom Gilfellow, Eric Thompson (guitars); other musicians. *Paddy on the Swingpipe; Soldier's Joy; Hippodrome Reel; Shebeg An She Mor; Beaumont Rag; Dusty Miller; Alabama Jubilee*; and nine others. KICKING MULE KM 206 \$6.98.


Performance: **Teaching by example**
Recording: **Clean**

You should allow for the factor that flatpicking is one of my favorite things. I find this album intriguing, and I can while away a lot of time trying to figure out how these pickers do some of these wild things. The material is from various provinces of secular music, so it is not particularly heavy with down-home

stuff, and the performers get the damndest variety of sounds from striking strings with a plectrum grasped between thumb and forefinger that you ever imagined. Particularly noteworthy is how well some of these guys play with second guitarists, the team of Eric Thompson and Jody Stecher being most notable among those. The album sheds left and right all those preconceived notions about what the flatpick *ought* to do. I think I'd find it a pleasurable instrumental recording even if I were more casual about the subject; what I'm more sure of is that, given a few more recordings like this, I'll never be motivated to know beans about *fingerpicking*. N.C.

(Continued overleaf)

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Donna Summer: Disco Breakthrough

ONCE upon a time, a disco queen with pop impulses got together with some electronic rock musicians out of Munich and made a two-record album. They wrote some good songs with strong melodies and listen-to-me words that tell a story, put them to a solid disco beat, and arranged them with electronic keyboards, a Moog, and layers of rock. And, wonder of wonders, it all came out *terrific*. I'm talking about Donna Summer's new "Once Upon a Time" album, and if you don't believe that those seemingly incompatible strands can be woven together, then prepare to be converted. When Miss Summer announces that she's "gonna dance, dance the night away" (*Queen for a Day*), the rock, the disco, and the pop come careening together out of one of the dandiest up-tempo disco sides ever cut.

Or listen to the opening of *Dance into My Life*, a very danceable song ornamented with talking electronics, twenty-first-century computer conversations, and other snatches of the seemingly random bleeps and blips of German electronic rock. There's also *Faster and Faster to Nowhere*, which combines a very strong disco rhythm with *Psycho*-like strings and a super-intense delivery by Miss Summer. And then there's *Working the Midnight Shift*, with an almost boogie-woogie electronic piano syncopated against a plain-

tive melody that just may be the album's best.

Clearly, when so many elements are mixed together, one or another is bound to dominate from time to time. Disco purists will be unhappy with some of the songs here, rock fans with others. But that's the astonishing strength of the whole thing. This is really a *breakthrough* album, an answer to all those who have been claiming that disco is all of a sameness. Here is proof positive that it's not true. (Did we ever, by the way, need proof that all waltzes do not sound alike?)

ONE more thing: if you still wonder whether the sexy Miss Summer can really sing, listen to her soar through the gospel-blues of *A Man Like You* or her variations on the chorus to *Sweet Romance*. Pick up "Once Upon a Time" and live happily ever after.

—Edward Buxbaum

DONNA SUMMER: *Once Upon a Time*. Donna Summer (vocals); instrumental accompaniment. *Once Upon a Time; Faster and Faster to Nowhere; Fairy Tale High; Say Something Nice; Now I Need You; Working the Midnight Shift; Queen for a Day; If You Got It Flaunt It; A Man Like You; Sweet Romance; Dance into My Life; Rumour Has It; I Love You; Happily Ever After*. CASABLANCA NBLP 7078-2 two discs \$11.98.

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- **MELBA MOORE:** *A Portrait of Melba*. BUDDAH BDS 5695 \$7.98.
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(List compiled by David Mancuso, owner of the Loft, one of New York City's top discos.)



THEATER • FILMS

ALEX NORTH: *Film Music. Unchained: Main Theme. The Racers: Love Theme. Viva Zapata!: Josefa. The Bad Seed: Lullaby. A Streetcar Named Desire: Blanche. The Bachelor Party: Love Theme. The Thirteenth Letter: Denise. Stage Struck: Eva*. And four others. Orchestra, Alex North cond. CITADEL CT 6023 \$6.98.

Performance: **Lean but languid**
Recording: **Fair**

Alex North was one of the first American-born composers to crash the Hollywood music scene, which for years was populated almost entirely by Europeans with overblown nineteenth-century ideas about what a movie score ought to be. When North contributed a jazz score for *A Streetcar Named Desire* in 1951, it was one of the few times the action of a Hollywood film was not accompanied by heraldic trumpet fanfares and banks of sobbing strings. His theme for Blanche Dubois from that score is a strange and poignant blend, reflecting both her sad isolation and her heavily perfumed sensuality, in a subdued jazz idiom. After *Streetcar*, North went on to compose a great many other scores for films:

“. . . proof positive that disco is not all of a sameness”

this album represents only the first seven years of his Hollywood sojourn. In addition to Blanche, there are character themes for Denise, the lovely young woman threatened by blackmail in a Quebec town in *The Thirteenth Letter*; Eva, the stage-struck heroine of *Stage Struck*; Bacio, the truck driver (played by Burt Lancaster) who softens up Anna Magnani in *The Rose Tattoo*; and Josefa, the girl Marlon Brando loved in *Viva Zapata*. There are also love themes, lullabies, and main title themes from half a dozen other movies, all of them displaying the composer's originality. But North's melting melodies begin to cloy after a while when heard one after another. The unnamed orchestra is conducted skillfully by the composer, but the recorded sound is a little on the tubby side. P.K.



RECORDING OF SPECIAL MERIT

GEORGE BARNES: *Blues Going Up*. George Barnes, Duncan James (guitars); Dean Reilly (bass); Benny Barth (drums). *When Sunny Gets Blue*; *The Flintstones Theme*; *Pick Yourself Up*; *Three Little Words*; *On Green Dolphin Street*; and seven others. CONCORD JAZZ CJ-43 \$6.98.

Performance: **Soft and bouncy**
Recording: **Very good remote**

George Barnes made his record debut in 1938 accompanying an obscure singer, Louis Powell, doing an obscure song, *Sissy*. The record, issued by Vocalion, is long forgotten, but it is of some historical importance because Barnes—who was only sixteen at the time—played an amplified guitar and *Sissy* appears to have been the first recording ever to include that instrument. It predates by a year Floyd Smith's use of the electric guitar on Andy Kirk's *Floyd's Guitar Blues*, which is generally hailed as the pioneer recording.

"Blues Going Up" was recorded in April 1977 during a special performance at Bimbo's 365 Club in San Francisco, and it offers as fine an example of swing (some call it "mainstream") guitar playing as you are likely to find. With Barnes, and very much on his wavelength, is one of his students, guitarist Duncan James. They are wonderful together (and sometimes hard to tell apart). Completing the tightly-knit quartet are bassist Dean Reilly, who plays the upright with just a touch of amplification, and drummer Benny Barth, erstwhile member (along with Monk and Buddy Montgomery) of the Mastersounds. The four make a superb combination as they breeze through this program of familiar melodies with marvelous elegance and infectious swing, all four working as one.

Sadly, George Barnes did not live to see this album released. I don't know if he was re-

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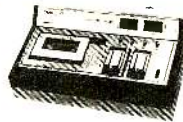


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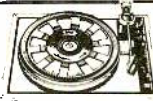
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corded again, but if this is his last record, it is
also one of his best. C.A.

RECORDING OF SPECIAL MERIT

ART BLAKEY: *The Finest of Art Blakey Big Band.* Art Blakey (drums); Donald Byrd, Bill Hardman (trumpets); John Coltrane, Al Cohn (tenor saxophones); Walter Bishop (piano); other musicians. *Midriff; Tippin'; Late Date; Pristine;* and four others. BETHLEHEM ® BCP-6015 \$6.98.

Performance: **Trane arriving**
Recording: **Very good mono**

Since he first emerged as a leader on recordings, in 1947, drummer Art Blakey has most frequently been heard with his various five-piece Jazz Messengers groups, and occasionally with larger percussion ensembles. This 1957 album of Blakey leading a big band was, therefore, a departure for him, though it should be pointed out that he already had considerable big-band experience as a sideman with Fletcher Henderson, Lucky Millinder, and Billy Eckstine. Big bands are often the first to sound dated, but this one has held up remarkably well considering the enormous changes that have taken place in the intervening twenty years. Much of that durability is due to the presence of some exceptional musicians, especially John Coltrane.

At the time of these sessions, Coltrane had already participated in close to two hundred recordings, starting in 1949, when he was an unrecognized member of a Dizzy Gillespie band on some Capitol recordings (just as Gillespie himself had been with Teddy Hill's band twelve years earlier), and including the now classic Miles Davis Quintet sides. Earlier in that year Coltrane had made his debut as a leader and young saxophone players had begun following in his venturesome footsteps, but many critics still refused to accept his music. Coltrane had yet to take his music the last giant step, but his work on this album reveals that he had already taken it quite a distance with his so-called "sheets of sound."

While Coltrane's solos are striking on *Midriff, Ain't Life Grand,* and *The Outer World,* he is heard to even greater advantage on the album's two quintet tracks, *Tippin'* and *Pristine,* which feature him with Donald Byrd and the rhythm section. (All but *Ain't Life Grand* recently appeared on "Turning Point," Bethlehem BCP 6024.) Byrd, who had joined Blakey's Jazz Messengers two years earlier and was beginning to make a name for himself, never fulfilled the promise of his playing on these and other recordings of the period.

Finally, there is Melba Liston, one of the most talented and overlooked women in jazz. A fine trombonist and excellent composer/arranger, she was responsible for *Last Date,* this album's most interesting chart. She has written for such diverse performers as Duke Ellington, Count Basie, Jon Lucien, and Diana Ross, but her considerable talent has for the most part been used to advance the careers of other artists. She is currently a director at the Jamaica Institute of Music in Kingston, but she should be right here, doing her own thing and getting the proper credit.

This reissue could easily have been just another historic document of budding talent, but it is far more than that: it is a fine album that has withstood the test of time. C.A.

(Continued on page 138)

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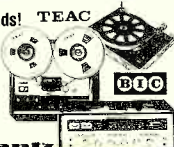
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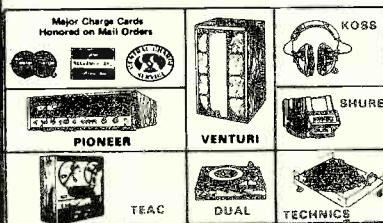
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WHEN the recently released recording of the Miles Davis/Tadd Dameron Quintet at the 1949 Paris International Jazz Festival was made, Chick Corea, Jack DeJohnette, Dave Holland, Keith Jarrett, John McLaughlin, Bennie Maupin, and Herbie Hancock—the men who helped Miles Davis cross over to the youth market in the late Sixties—were all either in or barely out of the sandbox. The first long-playing jazz record was on the presses, Dave Brubeck was launching his recording career in San Francisco, and the jazz public—having accustomed its ears to bop music—was about to be introduced to something called “cool jazz.” The new “cool” course jazz was about to take had been charted by Miles, Gil Evans, and Gerry Mulligan at a couple of Capitol sessions just weeks earlier, but in the Salle Pleyel that May evening in 1949 the temperature was decidedly above normal.

these sides yet, of course, so it is possible that Miles simply decided to give them what they expected to hear: the more emotional sound he had displayed on the Savoy and Dial sides with Charley Parker. Then, too, Miles had to conform to James Moody's style, which lacked the coolness of Mulligan and Konitz. It's clear that Miles was in a state of flux at the time; he was to take his style through quite a few more changes before finally plugging his trumpet into the electronic devices that won over the love-bead generation.

The music on the album is understandably a bit uneven, but the release is far from being of merely historic value. Though a year older than Miles (who was twenty-three in 1949), Moody is said to have been nervous at the thought of playing with him; he sounds self-assured, however, and his solos on the faster numbers have Parker's fluency. The recording unfortunately discriminates against Clarke



Photo Files

According to an insert in the new album describing the Columbia Contemporary Masters Series of which it is a part, the concert was recorded “by a fan in the audience, using homemade equipment.” However, I rather suspect that what we have here is an aircheck of a Radiodiffusion Française broadcast. The balance, the presence of an announcer talking over the music to give the selection titles and personnel lists, and the common practice in postwar Europe of broadcasting concerts by visiting jazz men combine to provide what seems to me overwhelming evidence of that. But regardless of how the recording came to be made, it is good that it was, for the album gives us the rare opportunity of hearing Miles Davis and Tadd Dameron together—and of hearing Dameron solo, which he rarely did on records.

Drummer Kenny Clarke, another prime mover of modern jazz in its early stages, came to Paris from New York with Davis and Dameron, but tenor saxophonist James Moody (who had made a name for himself as a soloist with Dizzy Gillespie's band) and bassist Barney Spieler were already living there and were added to the group by the festival's producer, critic Charles Delauney. So it was not an established, ongoing quintet, which makes the teamwork displayed on this recording all the more remarkable and admirable.

Miles' playing here is markedly different from his work on the aforementioned Capitol sides, even those recorded only two weeks before the festival. The French hadn't heard

and Spieler, failing to pick up the nuances of their instruments, and matters are not helped by a very poor mastering. Knowing firsthand what Columbia's engineers are capable of doing if they take the time, I was surprised to hear what can at best be described as a sloppy technical job on these sides. There are recorded (not surface) clicks and pops throughout that even an average engineer could have removed without impairing the performances.

THE same sloppiness carries over into the packaging. Like other albums in this series, the liner notes are by producer Henri Renaud, translated from the French by someone who needs to brush up on English. Columbia has spent a great deal of money promoting its re-entry into the jazz arena, and we must welcome such efforts to acquire and release rare material. But we would be better served if more attention were paid to such details as accurate information, readable notes, and listenable sound. Well, at least the music is extraordinary.

—Chris Albertson

MILES DAVIS/TADD DAMERON: *The Miles Davis/Tadd Dameron Quintet in Paris, Festival International de Jazz, May 1949.* Miles Davis (trumpet); James Moody (tenor saxophone); Tadd Dameron (piano); Barney Spieler (bass); Kenny Clarke (drums). *Riffide; Good Bait; Don't Blame Me; Lady Bird; "Wah" "Hoo"; Allen's Alley; Embraceable You; All the Things You Are; Ornithology.* COLUMBIA © JC 34804 \$7.98.

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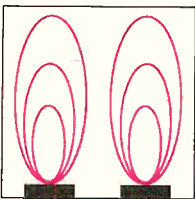


Figure A Ordinary Speaker Dispersion

moved "off-axis," that is, to the side instead of directly in front of these speakers. Figure B illustrates this. It is a Total Energy Response curve, taken with test microphones in all positions. When comparing the Jensen (blue line) with a comparably priced "flat" speaker (red line), you can see how deficient the other speaker is in total radiated energy in the mid and mid-high frequencies. This midrange deficiency is unfortunately very common amongst speakers, and gives many so-called "flat"

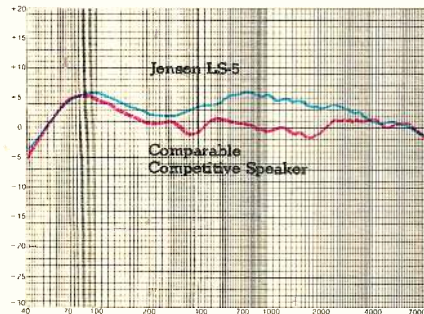


Figure B Total Energy Response Curve

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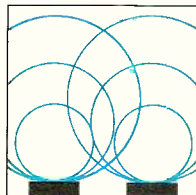


Figure C Jensen Lifestyle LS-5 Dispersion

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CHIVO BORRARO: Buenos Aires Blues. Horacio "Chivo" Borraro (flute, tenor saxophone, keyboards, percussion); instrumental accompaniment. *Blues para un Astronauta (Blues for an Astronaut); Mi Amigo Tarzan (My Friend Tarzan);* and three others. CATALYST CAT-7917 \$6.98, © 8T-7917 \$7.98.

Performance: **Interesting**
Recording: **Very good**

The Catalyst label seems to have entered into various licensing agreements with foreign companies, and while it is not always wise to import jazz into its homeland, there are instances when such products match or even surpass the homespun variety. An excellent example of this was last year's Catalyst import of "Amor Buenos Aires," an album by Jorge Lopez Ruiz (CAT-7908, reviewed here in October). Horacio "Chivo" Borraro, who participated on the Ruiz album, makes more use of electronic instruments and is less eclectic stylistically, but the arrangements show the same kind of imagination and fresh creativity that marked "Amor Buenos Aires." The blend of acoustic and electronic instruments is a healthy one, and Borraro stays away from the trite Headhunters/Return to Forever mold. If the two Catalyst releases are any indication, jazz is certainly alive and well in Argentina. C.A.

RECORDING OF SPECIAL MERIT

DEXTER GORDON: Sophisticated Giant. Dexter Gordon (soprano and tenor saxophones); Woody Shaw, Benny Bailey (trumpets, flugelhorn); Slide Hampton, Wayne Andre (trombones); Frank Wess (flute, piccolo, alto saxophone); Howard Johnson (tuba, baritone saxophone); Bobby Hutcherson (vibraphone); George Cables (piano); Rufus Reid (bass); Victor Lewis (drums). *Lauña; Red Top; Fried Bananas;* and three others. COLUMBIA JC 34989 \$7.98, © JCA 34989 \$7.98, © JCT 34989 \$7.98.

Performance: **Excellent**
Recording: **Very good**

Hearing this album, one is almost—but not quite—ready to forgive Columbia for the awful things it has done to jazz in recent years. It's Dexter Gordon presented as appropriately as he was on his live "Homecoming" album (Columbia PG 34650), but this time with a larger group and in a studio setting. The arrangements—which suggest the intimacy of a much smaller group—are by trombonist Slide Hampton, from whom the disco-jazz generation might well take lessons, and the personnel seem to have been hand-picked by Gordon.

There are fine solos, particularly by trumpeter Woody Shaw and Gordon himself, but it is Hampton's work that makes this album special; his orchestrations bring to mind the wonderful octet he led in 1959 and 1960, before wasting his talent (as musical director for Lloyd Price), and eventually being driven to Europe by lack of appreciation at home. Columbia should make as much fuss over Hampton as it has over Dexter Gordon—both men deserve it, and so do the followers of good jazz. C.A.

RAHSAAN ROLAND KIRK: Early Roots. Rahsaan Roland Kirk (tenor saxophone, manzello, stritch); James Madison (piano); Carl Pruitt (bass); Henry Duncan (drums). *The Nearness of You; Easy Living; Slow Groove;*

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CIRCLE NO. 28 ON READER SERVICE CARD



RAHSAAN ROLAND KIRK (1936-1977)
Master of multi-instrumental technique

Triple Threat; and three others. BETHLEHEM BCP-6016 © \$6.98.

Performance: **Kirk's debut revisited**
Recording: **Good**

The late Rahsaan Roland Kirk was not the first jazz musician to play two or more horns at the same time, but he was the first to do so for the sake of art rather than novelty. This album, originally issued on the King label as LP 539 and as such long out of print, marked Kirk's record debut in 1956. He was barely twenty then, but he had started developing his multi-instrumental technique some four years earlier.

Though he plays two and possibly three instruments simultaneously on some of these tracks, overdubbing is painfully evident on *Stormy Weather* and *The Nearness of You*. But, technical imperfections aside, Kirk's work is in the main extremely interesting, especially on the first part of *Stormy Weather*, which has him playing the lead on tenor while producing beautiful countermelodies on the manzello, an instrument that sounds very similar to the soprano saxophone.

Except for *Easy Living*, the remaining selections are Kirk originals, blues ranging from the relaxed *Slow Groove*, with a very Parkerish stretch solo, to *Triple Threat*, which has Kirk riffing like a whole reed section in the manner to which we have since become accustomed. It's an impressive debut, showing promise that has since been fulfilled. C.A.

RECORDING OF SPECIAL MERIT

MIKE NOCK: *Almanac*. Mike Nock (piano); Bennie Maupin (flute, tenor saxophone); Cecil McBee (bass); Eddie Marshall (drums). *Hallucinogen; Symbiosis; Double Split; Emotivations*; and three others. IMPROVISING ARTISTS IAI 37.38.51 \$6.98 (available from Improvising Artists, Inc., 26 Jane Street, New York, N.Y. 10014).

Performance: **Sounds like '77**
Recording: **Very good**

This album was recorded in 1967—before Mike Nock formed his group, Fourth Way, and before Bennie Maupin joined Herbie Hancock—but the contemporary sound of the

music belies that fact. It's bop, free-form, and a combination of both, all played with imagination, grace, and skill. There is also a humorous bit of modernized funk called *Double Split*, and on the title tune, by Bennie Maupin, everybody just blows. I don't know why it took so long to release this session, but I view it as a welcome addition to my collection. It's not just that I'm a great admirer of Bennie Maupin and Cecil McBee (both of whom are heard to great advantage here); this is a very fine album from beginning to end, with not the slightest similarity among the seven tracks. That's rather refreshing these days. C.A.

COLLIN WALCOTT: *Grazing Dreams*. Collin Walcott (sitar, tabla); Don Cherry (trumpet, wood flute, doussn' gouni); John Abercrombie (guitars, electric mandolin); Palle Danielsson (bass); Dom Um Romao (berimbau, chica, tambourine, percussion). *Jewel Ornament; Moon Lake; Changeless Faith*; and two others. ECM ECM-1-1096 \$7.98, © 8T-1-1096 \$7.98.

Performance: **Tranquil**
Recording: **Excellent**

An erstwhile member of the Paul Winter Consort and Oregon, two chamber-jazz groups, Collin Walcott is a twenty-three-year-old New Yorker who studied the snare drum with a percussionist from the New York Philharmonic, sang madrigals in school, and learned the intricacies of the sitar from Ravi Shankar. "Grazing Dreams" is Walcott's latest ECM release, a soothing, ethereal blend of sounds evoking the Far East and middle Miles (Davis). Oddly enough, it is trumpeter (and flutist) Don Cherry who provides some of the most mellifluous sounds in this album—the same Don Cherry who helped Ornette Coleman shatter a few ears and a lot of traditions almost twenty years ago. Here he sounds more like Miles Davis in the Gil Evans years of the late Fifties. Equally mellow is the sound of John Abercrombie, who even manages to make the electric guitar sing *sotto voce*. I think you get the idea—ECM has come up with yet another set to nudge your ears and tickle your musical intellect. C.A.

RECORDING OF SPECIAL MERIT

RANDY WESTON. Randy Weston (piano). *Good Harvest; Sister Gladys; Monk Steps*; and four others. PAUSA PR-7017 \$6.98.

Performance: **Finger paintings**
Recording: **Good**

Unless you are already familiar with Randy Weston's music, you will probably skip over this record as you browse through the record-shop bins. But they say you can't judge an album by its cover, and this one is a good example of that. Randy Weston is a man of many musically interesting ideas, and he is capable of expressing them in just about any jazz idiom. Here he is more abstract than usual as he paints Monkish pictures that reflect his roots in this country as well as his travels abroad. From the brooding *Ode to Om-Kel Thoum* (a tribute to the late, great Arab singer, written for the World of Islam Festival) to a distinctly Westonian rendition of Benny Golson's *Out of the Past*, this album is a joy for the head, if not the feet. I can only hope that Randy Weston is recorded more and in the future presented in a more tasteful, visually attractive manner. C.A.

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It's Marantz.

Go For It.



Introducing the Koss Theory of loudspeaker design and the three new Koss CM speaker systems that prove it.



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Here for the first time is the culmination of a world-wide search for the ultimate in loudspeaker design within the limitations of today's technology and within affordable price restrictions. Indeed it represents a breakthrough in loudspeaker technology of such significance that it heralds the second major revolution in loudspeaker design.

By utilizing a complex series of audio engineering formulas and the precise knowledge of computer science, Koss engineers are now able to derive and produce the optimum system parameters for any loudspeaker. The incredible result of this engineering achievement is the new Koss CM

1010, 1020, and 1030 loudspeaker systems. Each represents the ultimate speaker system available in its price range. And each represents a listening experience you'll have to hear to believe.

Ask your Audio Dealer to let you hear this new, incredibly beautiful, Sound of Koss and to show you how the Koss Theory of loudspeaker design has created a whole new generation of loudspeakers. And if you'd like to have our full-color brochure telling all about the Koss Theory, write for it, c/o Fred Forbes. Once you've heard these revolutionary new loudspeakers, we think you'll agree: hearing is believing.

KOSS CM LOUDSPEAKER SYSTEMS hearing is believing™

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