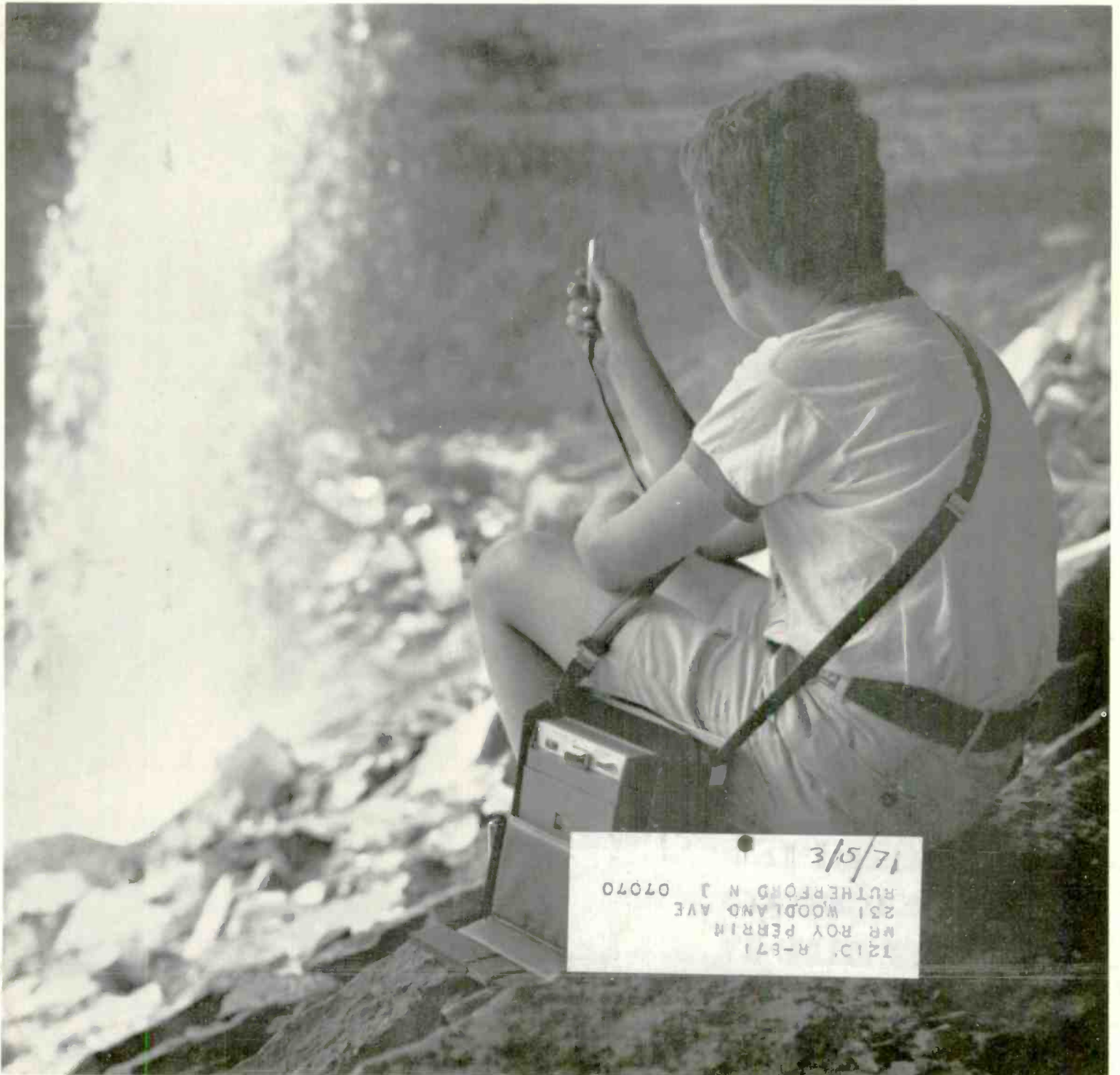


tape recording

VOLUME 17, NO. 6

60¢

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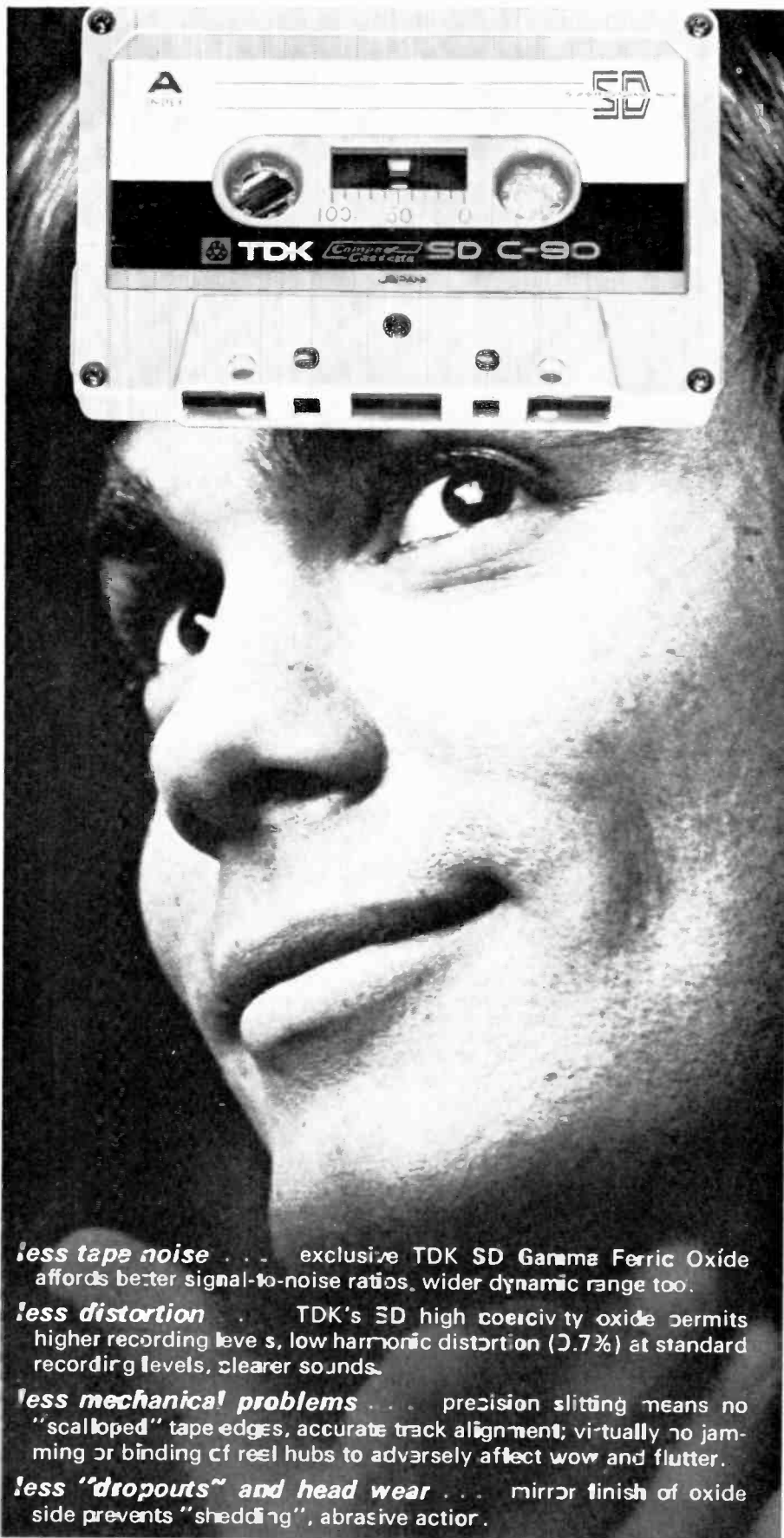
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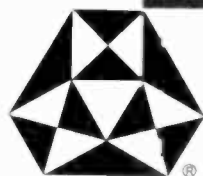
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NOV-DEC, 1970

VOLUME 17, NO. 6

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A black and white photograph of a control room, likely from the 1970s or 1980s. The room features a large, curved desk with several large monitors and control panels. The perspective is from a high angle, looking down at the desk. The text is centered in the middle of the image.

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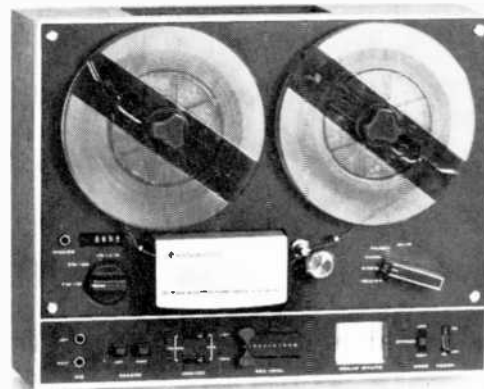


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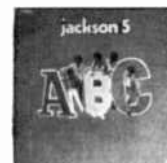
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Dunhi LP, 8TR, CASS



33443 IRON BUTTER-
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30615 JACKSON FIVE
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65775 VERY BEST OF
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33029 BUFFY SAINTE-
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dies in the Rain
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42704 CROSBY, STILLS,
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Completely Well
Blues LP, 8TR, CASS

33083 COUNTRY JOE &
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NOTES

Cassettes in Vending Machines

The latest marketing technique to be used with cassettes is the automatic, coin-operated vending machine. Now undergoing trials in Canadian gas stations, the cassette vendor is expected to open up some new markets while helping the expanding prerecorded tape business to grow some more.

The coin-op machines will also take oil company credit cards, and at some future date, perhaps a sophisticated, keyed credit card. Changemaking machines are on the premises, so the needed \$6 to \$7 in coins can be obtained easily. The cassette vending machine is aimed at people who are killing time in gas stations — getting a flat fixed, the oil changed, or even having the gas tank filled. It's just the latest form of impulse-buying aid.

* * *

Four-channel Shot-in-the-arm for Cartridges

Some people believe that eight-track cartridges will eventually be replaced by cassettes. To back their view, cassette advocates claim that a gradual phasing out has already started, with Detroit beginning to offer cassette players as built-in options. But the appearance of four-channel (quadrasonic) stereo has changed the picture somewhat.

Quad stereo requires four, separate and discrete channels or tracks for its recording — the same way that ordinary stereo requires two channels of sound. So far, there has been no commercial quad record that uses a single groove, so tape is the only really viable medium for quad right now.

Capitalizing on this, companies such as RCA and Motorola have jumped into the fray with consumer equip-

ment that will be on the market this fall. RCA has two home quad cartridge units, and Motorola has an under-dash automotive unit. Both the RCA and Motorola systems will also play conventional stereo cartridges, and RCA is manufacturing the appropriate quad cart albums to be played on these units. Lear Jet and Automatic Radio have also announced quad 8 players.

Initially, the quad cartridges will cost a bit more than an equivalent length album in conventional stereo. Demonstrations have won trade approval, and until a really workable quad disc shows up on the market, the quad 8 cartridge may be where it's all at.

* * *

Standards for Reversing Machines

We commented some time ago in this column about the lack of standards for actuating auto-reverse tape recorders. There are the metal-foil-strip types, the 20 — Hz tone units, those that sense 10 seconds of silence and those that rely on a trapped trailer tape. Even the foil-operated units have no standard. The old standby of putting a piece of aluminum foil tape on the oxide side has gone out the window where some new tape equipment manufacturers are concerned.

At first it seemed like an unbelievable departure from already established industry standards; but we can see the prudence of sticking the sensing foil on the backing side instead of the oxide side of the tape. When such tapes are played on machines without reversing features, the foil on the oxide side presumably can cause some head damage. If the foil is on the backing side, such head damage is patently impossible. Now if we make the backing side standard . . .

* * *

THE DOLBY STRETCHER -- NEW BOON FOR TAPE

By Walter G. Salm

For a couple of years now, prerecorded tapes have been quietly benefitting from the use of an unusual noise-reduction system. Called the Dolby process, after its inventor and manufacturer, Dr. Ray Dolby, the process reduces objectionable tape noise by so much that it virtually disappears. This noise includes hiss, rumble, scrape and print-through.

All these extraneous noises are added at the tape recorder itself; they're seldom present in the electronic signal which starts with the microphone and goes through a mixing console onto the tape. One premise is basic to the Dolby process — these annoying and sometimes destructive noise factors are added when the tape is recorded. Thus the Dolby A-301 "black box" is inserted between the recording console and the tape recorder to process the signal before any junk can be added.

How does it do this? For one thing, any tape hobbyist or tape-o-phile probably realizes that noise — especially hiss — is most noticeable during quiet passages in the music. During the crash and thunder of a full-orchestra fortissimo, any tape hiss and other assorted noises disappear; they're masked by the loud music. Thus, it's the quiet, pianissimo portions of the sound that must receive the devoted attention of the Dolby noise reducer.

The processor expands or stretches these low-level passages before they reach the recorder. It operates in four separate frequency bands: 0 - 80 Hertz, 80 - 3000 Hertz, 3000 - 9000 Hertz and 9000 Hertz to the upper audio limit of the equipment. Each frequency band operates on a special segment of tape noise reduction, and each band has its own special circuits.

The "stretched" or Dolbyized tape can be duplicated and redubbed any number of times without any further need for Dolby circuitry, and without adding any noise. Remember, under ordinary, non-Dolby conditions, each time a tape is dubbed, the noise (hiss) level goes up about three decibels. The Dolby system reduces hiss by 10 to 14 decibels — well below the audible level, and this 10-to-14

dB figure continues to hold true for any number of tape-to-tape dubs, since the music is already stretched.

In playback, the Dolby A-301 is, in effect, turned around, and the signal is reprocessed through it on its way to the amplifier. The previously expanded low-level passages are now compressed — brought down from their relatively high levels back to where they belong. Any tape-induced noise is likewise pushed back down, way below the music's signal level. Now the noise is down in the mud, where it won't bother anyone.

In preparing commercial pre-recorded tapes and records, Dolbyized masters save at least six to 10 dB of noise that would normally accumulate on the finished product. The final product is not Dolbyized, since the consumer can't be expected to have a Dolby system in his living room. But at each step of the way, the dubs, the remix and transfers have all been with stretched music, and the listener is the ultimate beneficiary.

In tape packages and on record liners, the recording company may make some reference to special, new, low-noise recording or some mysterious process that makes their tapes superior. It's all due to the Dolby system, although it's seldom mentioned by name.

The A-301 is fairly expensive — about \$1500 for a stereo unit. The studio that masters on a 16-channel recorder will need to use eight of these units, so it's unlikely that modern rock and pop will avail itself of low-noise processing for a while yet. But in the realm of classical music, where the master is seldom more than four tracks, the Dolby is quite feasible and it's a rare classical recording session today that doesn't use the A-301's.

But it wasn't always so. The A-301 is a "black box" with no knobs or controls

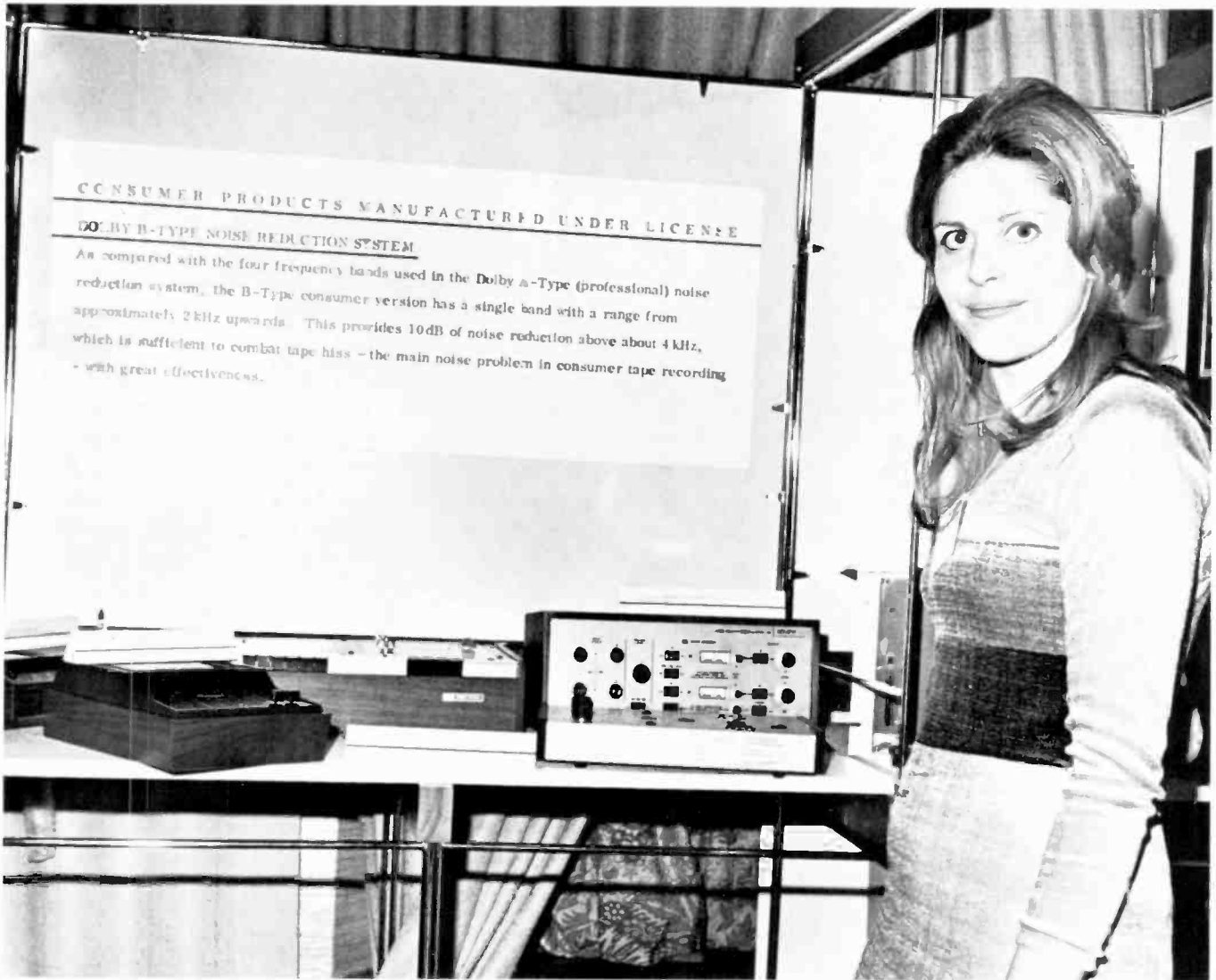
for the recording engineers to twiddle. Engineers don't like something they can't control, and automatically distrusted the Dolby stretchers. When they heard demonstrations with and without the Dolby, often they refused to believe their own ears, and sometimes even accused the demonstrators of gimmicking up the tape and adding hiss that wasn't there.

The fact is that the use of the Dolby makes such a startling difference that it is almost unbelievable, no matter how much you're willing to believe. This in spite of the fact that the innards of the A-301 are carefully and lovingly hand-crafted in Dolby's laboratory in London, England.

What kind of man is this inventor, Dr. Dolby? Judging from his accomplishments, one would certainly say, "brilliant, scholarly, secretive and furtive." Brilliant, he is, but for all the rest, we must fade and dissolve the exhibit floor of the Audio Engineering Society's annual convention, where Dr. Ray Dolby is holding forth with a skeptical audio engineer. First impression: "Gee, I never imagined Dr. Dolby would be so young." And young he is in years, but old in accomplishments.

As a teenager, working for Ampex while still an engineering undergraduate, he developed, almost single-handedly, the crucial circuitry for the world's first successful video tape recorder. His basic circuits are still used by Ampex today. That was in 1955. Today, his beautiful wife, Dagmar, helps decorate his AES exhibits, while he works on new sales and cross licensing deals with other manufacturers.

The Dolby A-301 could never become a consumer item. It's too expensive for most homes, and generally not available. Each unit is lovingly hand-crafted in what Dolby calls the "Rolls-Royce" tradition. "Engineers are



Dr. Ray Dolby's wife Dagmar, shows off some new consumer products containing licensed Dolby "B" circuits for hiss-reduction.

still suspicious of this unit," he says, "so we have to give them something that is virtually foolproof and fail-safe." Thus the Rolls-Royce tradition. Make sure the unit works every time, so the engineer becomes convinced. Then, maybe in the future, after the concept is fully understood by the engineering community, and they have accepted it in toto, then perhaps Dolby will start mass-production.

In the meantime, the Dolby process has been licensed to certain consumer-product manufacturers on a very limited basis. It was at the 1968 High-Fidelity Show that KLH Laboratories unveiled its very first tape recorder, and surprise of surprises, it included a built-in Dolby stretcher! To be sure, it wasn't the complete Dolby package; instead it used just one band of the Dolby system — the 9000 Hertz and up frequencies. This

happens to be the band where most of the tape hiss occurs, so the most obvious immediate advantage of the KLH Dolby circuit is its operation as a hiss-killer. This recorder in deck form, is priced at \$600.

KLH has since introduced a lower-cost open reel tape deck with Dolby high-band built in. In all such systems, the hiss-killing circuitry must be switchable so it can be cut out of the tape recording and playback paths when conventional, non-stretched recordings are to be made or played back.

One immediate advantage of the low-noise reproduction possible with the stretcher is slow-speed tapes without hiss. It's axiomatic — the slower the tape speed, the greater the background noise level. Thus tapes made at 3¾ ips have a higher background noise factor than tapes made at 7½ ips. But there's some signal loss too at these lower speeds.

The answer lies in using somewhat more expensive, low-noise tape. It's called "low-noise" and it is to some extent, but the big draw is its extended frequency range. A conventional tape recorder using low-noise (or wide dynamic range) tape can produce satisfactory frequency response at the 3¾ ips speed in most cases. But there's a hitch — low-noise tape or not — there'll still be an appreciable increase in tape hiss at the slower speed. This is where the Dolby stretcher comes in. Use special, low-noise cassette tape along with the Dolby and your home recordings off the air, from records or of live music can rival the sound of the best professional equipment.

Now the Dolby system is being made more generally available. A component stretcher is being marketed by Advent Corp. for plug-in use with whatever tape recorder you may have. This one is another single-band unit, and

it attacks potential tape hiss very admirably. Selling for \$250, the unit can be patched into your system between the amplifier and the tape recorder for Dolbyizing any and all tapes — open reel, cartridges and cassettes — while you're rolling them.

One thing the Dolby system can't do — it cannot clean up tapes already recorded. It will only be effective when it's used during brand-new takes.

In the cassette end of the tape industry, several manufacturers are introducing cassette decks with single-band ("B" type) Dolby circuitry built in. The cassette is a natural for the Dolby stretcher, since the main objection to cassettes has been the inordinately high hiss level caused by the tape's slow (1-7/8 ips) speed. Another objection has been limited frequency response. Now that chromium dioxide tape and the new super-wide-range tapes have teamed up with Dolby hiss-killers, the cassette stands to reap enormous benefits in reproduction quality and consumer acceptance.

In the meantime, Dolby has been licensing its "B" system to a number of manufacturers, particularly in the cassette field. It's very likely that pre-stretched pre-recorded cassette tapes will be on the market in large numbers very soon. Already, some tape duplicators are announcing the release of such tapes.

In the meantime, the appropriate hardware continues to roll off the line. Harman-Kardon's new CAD 5 cassette deck embodies all of the excellent performance features of its predecessor CAD 4, along with switchable Dolby "B" system circuits. Price tag on this new unit is \$240, which would well be a pace setting dollar figure for an industry that gets more competitive every day.

Advent has included its Dolby "B" sys-

tem in a new cassette recorder, as have Fisher and Vivitar Electronics. These Dolby-ized cassette tape recorders are being manufactured by a single supplier in Japan, with various established U. S. manufacturers name-branding them for sale here.

One thing seems apparent: Dolby-stretched prerecorded cassette tapes will someday soon become a standard item on record store counters. For a while, manufacturers may have to carry double inventories of both Dolbyized and non-Dolby cassettes, just to satisfy the market demand. Cheapie playback-only monobattery portables will probably have a switchable attenuator that will just roll off the treble sharply. Dolby and non-Dolby makes little difference when played through a two-inch loudspeaker.

Eventually, some company like Advent will come out with an inexpensive adapter that can be inserted in the line between the cassette machine and the amplifier to permit playing pre-stretched pre-recorded tapes. Within five years or so, the Dolby-stretched cassette will most likely become the standard for the industry, along with a wide-range tape formulation such as chromium dioxide. None of today's cassette recorders will be obsoleted immediately. In fact, when the changes do come, they'll probably be made in such a way that today's equipment will still be capable of service for many years to come.

The cassette is outselling all other recorders by a wide margin. Therefore, every resource of the home entertainment industry will be bent to the task of making the cassette more and more viable as a universal standard. The Dolby system is an important step in that direction, and one that will have a far reaching impact on the industry over the next decade.



Fisher RC-80 has Dolby "B" circuits built in for hiss-free cassette recording.



Harman-Kardon CAD 5 is one of several new cassette machines to incorporate Dolby "B" circuits.

EQUIPMENT REPORT: ASTROCOM/MARLUX 407

Every so often (or so seldom) someone comes along with a new piece of equipment that is so markedly superior in its field that it immediately becomes an outstanding value in its price range. Such a unit is the Astrocom/Marlux 407. Available only in deck form, this open-reel unit is packed with an array of features that seem incredible for its price (\$459.95) and a quality of handling that clearly belongs with a higher-priced machine.

The result of a joint Japanese-American venture, the 407 is the only model in its family right now, although a new quad stereo version is being readied for the market. The basic deck has three motors, solenoid controls, four heads, automatic reversing for playback, switchable echo channels, and a positive operating action that has to be tried to be believed.

Three motors is always the best way to go if you have the space and the money. How this is done for so little cash is still a mystery here, but it will certainly help to sell a lot of recorders.

Physically, the machine is a beauty, in a satiny, understated sort of way. It's housed in a hand-rubbed wood case and plays standing up or lying down. The standing position is preferable, since it makes tape handling that much easier. Putting on the first reel of tape is a bit tricky, until you learn the tape path precisely. The unit has a pair of tape lifters under the protective head assembly cover, and the tendency is to try to thread the tape between these lifters and the heads. This is a mistake since the machine wasn't designed that way. Apparently too many people have tried it that way, so now a tape threading chart is packed with each machine.

Also included with each machine is its own personal frequency response profile — something no other tape recorder shows you. Carefully plotted on a Breul & Kjar graphic recorder, the four charts show absolute recorded frequency response of left and right



channels at $7\frac{1}{2}$ and $3\frac{3}{4}$ ips. That takes guts, because all the claims in the world for extended frequency response go out the window with one quick glance at charts of this kind. Yes, there's usable response there at the oh-so-high frequencies usually quoted by cheap recorder manufacturers — but there you can see how much is really usable, and plan your recording accordingly.

The solenoid-controlled action is smooth, responsive and easy to use. A big, red stop button is the center one in a line of five solenoid control buttons. Moving right from the top button are the forward play/record and the fast forward buttons. Moving left from red stop are reverse play and fast rewind buttons. Rewind and fast forward times are quite fast because of the three-motor design, some 65 seconds in fast forward for 1800 feet of tape, and 60 seconds rewind for the same length of tape.

As with most three-motor, solenoid-operated machines, tape threading tends to be a little difficult and fumble-fingered the first few times. But overall, threading is about as easy (or as difficult) as with most three-motor units; it becomes second nature after a little

practice. A standard swinging tape guide on the tapeupreel side activates a built-in snap switch which shuts the whole thing down when tape tension is missing. The resounding "clunk" of solenoids and relays at the end of a fast wind pass is both definitive and reassuring; you know for sure that rig has shut down.

The automatic reverse feature may stir some controversy among purists. "You buy a three-head, three-motor machine for recording ease and professional quality," they say, "and never add to the complexity of this beautifully simple kind of transport with auto reversing." So they may say, but Astrocom engineers have come up with a reversing system that is neither complex nor compromising in equipment quality. If you don't like automatic reversing, just pretend it's not there. If you do like it (and we do, most emphatically), then use it wherever appropriate.

There is one hitch with this auto-reverse system — it uses metal sensing foil on the backing (shiny) side of the tape, instead of on the oxide side which is normal practice with the majority of reversing machines. This bit of non-standardization is a problem only if you have already owned another foil-operated reversing machine; all your tapes will be foiled on the oxide side and will require a second foil strip on the backing side. So you have to start re-foiling your tape library — something you can do easily the first time you play each tape on the Astrocom/Marlux.

There is a logical reason for this foil arrangement. Foil on the oxide side, played on another, non-reversing machine, could conceivably damage the heads. Foil on the backing side cannot damage the heads no matter what kind of machine is used (except perhaps for a cross-field head or two).

Unlike most reversing machines, the capstan is located to the right of the head assembly, below the forward takeup reel. This makes for positive speed control during recording (it records in forward mode only). The theory is that the capstan and pinch roller are simply a metering system and their location makes little difference during playback, since the feed (now takeup) reel main-

tains proper tension at all times. The proof of the pudding is that the system works, and the machine sounds great, playing back in either direction.

One distressing bit of design: the stereo headphone monitoring jack is at the rear of the machine, making it awfully hard to get to. Also, the playback amplifier doesn't provide really adequate power for headphone monitoring. You find yourself cranking up the playback level controls, and if they're turned all the way up, the playback amplifier begins to oscillate. A small, outboard headphone monitoring amplifier should be added to your accessory kit if you expect to do much monitoring this way.

One special feature of three-head machines is their ability to provide tape-to-tape echo. Usually, to do this, you have to patch in the tape output signal to the machine's line input on the other channel. With the 407, it simply requires the touch of a pushbutton control at the top of the electronics panel.

The machine also uses an all-electronic governor on its tape speed control, and has an electronic tape tension selector to compensate for the differences between standard-base and thin tapes. The lighted VU meters are paired next to each other for easy visual monitoring and all the controls are concentric clutch-type. There are separate line input and microphone input controls, so it's possible to mix incoming signals. Microphone jacks are on the front panel; line input and output jacks are at the rear, along with a parallel DIN (European) type jack for systems that use this type of connector.

Recorded sound is superb with this machine. It came through some of the most rigorous test tapes we could find with flying colors. And that's where the proof of the pudding is after all — the recording and playback of difficult musical material.

The 407 is a workmanlike machine that responds quite well in all of its control functions and is superb as a recording instrument. For one-tape-recorder households, its auto-reversing feature gives it that much more versatility. Certainly an excellent buy in today's tape recorder market.

THERE'S A QUAD]

By Walter G. Salm

Four-channel stereo, quadrasonic stereo, tetraphonic stereo, surround sound — all are names that have been bestowed on the newest important development in the high-fidelity business since stereo bowed in 1956-57. To be sure, there are many "expert" detractors — just as there were many experts in 1956 who strenuously argued against stereo. Yet quad stereo (the name we're betting on) is being called the most significant improvement in high fidelity since the introduction of two-channel stereo.

Why should this be so? And just what is this new phenomenon? Basically, quad calls for four discrete channels of music — recorded separately — just as stereo has its two channels recorded on separate tracks. In its purest form, quad's two rear-of-the-room speakers help to recreate the reverberation time and acoustics of the concert hall where the recording was made — something that has been impossible until now; the average living room just isn't big enough to have the needed acoustic characteristics.

The recording is made in conventional fashion, with the addition of two rear-facing microphones to pick up the room's reverberation from the rear. The listener is theoretically placed in the best listening position. On first hearing, quad sounds bigger than life, more real than real, and certainly vastly better than ordinary stereo. Even where the rear channels aren't obviously there, the music has a certain, undefinable "something" that makes it sound huge and round.

There are certain classical works — precious few of them — that were originally scored for part of the orchestra located at the rear of the

hall. Now, for the first time, the listener can hear a recorded performance of such works the way the composer had intended. This then, is the original scoring for quad stereo — some of it more than 200 years old. It's certainly a strange and wonderful sensation to be attacked by music originating on all sides, but it takes some getting used to. After all, who ever heard of trumpets suddenly blaring forth from the rear of the living room instead of the front?

One of the prime proponents of quad — Acoustic Research — has been demonstrating this new kind of sound continuously in its listening room in New York's Grand Central Station since mid-1969. As with two-channel during its early days, the only quad music readily available right now is on tape. The AR demo room has had several Telex/Viking tape machines as its music source. The first was a custom-built open-reel deck that had little if any family resemblance to the company's product line.

This machine was replaced by a four-track broadcast-quality cartridge player, which has been the main source of quad ever since. The tapes are especially prepared for the demo, since no one is producing quad on four-track cartridges these days. In fact, the only major suppliers of quad recordings have been Columbia, Vanguard and RCA. RCA is a fairly recent entry in the quad market — having introduced one of the first true quad consumer products in mid 1970.

RCA and Motorola both started producing quad playback machines for 8-track cartridges, and RCA immediately started to crank out music cartridges for the system. The develop-

IN YOUR FUTURE

ment of the quad cartridge may forestall for a while what had been shaping up as a final standoff between the cartridge and the cassette as the most popular and future standard recording format. The cartridge will still disappear eventually, notwithstanding the advent of quad — mainly because four-channel phonograph records are close to becoming a reality. But the cartridge has little to fear from the discs for a while, since more development work seems in store for the quad disc.

But because the new quad discs will presumably be compatible — a quad disc played on an ordinary stereo system will still provide the two main up-front channels — there may be some serious thought given to going all-quad on discs immediately. The trouble now is, there are several different, competing quad disc systems going through the final throes of research and development and patent registration, and it's still too early to tell which one will ultimately be chosen for the industry standard.

With all this trouble, we sometimes wonder why audiophiles don't simply stick with tape. Actually, most true audiophiles will do just that, but the advent of the four-channel disc will mean more interest and certainly a lot more new equipment designs for quad than there would be if it were a tape-only medium. The overall effect will be to bring down prices on equipment while filling the showrooms to overflowing with myriad new types of gear.

In the meantime, what about that huge library of two-channel stereo discs and tapes you've been accumulating over the years? Don't throw it all out; it won't be obsolete for



Open-reel quad stereo unit by 3M Wollensak is one of several reel-type machines capable of two or four-channel playback.



Fisher 701 quad receiver had conventional stereo FM/AM and amplifier plus two more amplifier channels for surround sound. Unit will also synthesize quad from existing two-channel program sources.



Sansui/quad synthesizer is a preamp-type unit, taking two-channel sources and producing four channels for direct feed to power amplifiers.

some time to come yet. New equipment bowing on the market now emphasizes the usability of these "old-fashioned" recordings. Quad synthesizers are built into some of the new four-channel amplifiers, and certainly a synthesizer plus conventional stereo amplifier would be easy enough to set up if you're all that serious about it.

Synthesizer/amplifier combinations are being produced by Fisher, Harman-Kardon, and Sansui. Dyna has been talking up a "derived third channel" technique that they feel will fill the gap for a stepping-stone to full quad. Electro-Voice has developed a compatible quad matrix for records, and its quad decoder (slated to retail for \$49.95) will not only unscramble the coded signals into four channel sources, it will also create a form of synthetic quad from two-channel sources.

If a matrix system like the E-V format is ultimately adopted as the industry standard, it would be no great feat to put four matrixed quad channels into the space now occupied by two on stereo tape — thus keeping tape costs inline. By the same token, matrixed quad can be broadcast with conventional FM stereo equipment with no extras or modifications needed and no FCC approval required.

In the meantime, enterprising FM stereo stations across the country have been broadcasting from a limited selection of open-reel quad tapes. These quadcasts have had to make use of two stereo stations tied together with telephonerlines. Even here, there has been little if any standardization. Stations in Boston, New York and San Francisco have gone on the air using widely differing theoretical microphone placements with the New York stations the only ones broadcasting a viable combination.

Champing at the bit to start single-station quadcasting, various broadcast techniques have been proposed and are being studied by the FCC. First one to get the nod for limited experimental broadcasts has been the JVC FM-modulated quad disc, which supposedly would create some wierd-looking sidebands. This technique has gotten a 30-day experimental approval for San Francisco station K-101.

In the meantime, there's no real shortage of potential quad material already recorded.



Quad-8 stereo cartridge system by RCA uses 8-track cartridges as program source, is compatible for two-channel playback.

Most master tapes in the vaults of various recording companies were mastered with multi-track equipment, so there exists on the masters some eight to 16 tracks of material to remix to four-channel instead of two. This backlog of readily available music will be a boon to the record and tape manufacturers when the market begins to open up for quad.

One big question for now: if matrixing four channels into two tracks on tape is feasible, will this become a tape industry standard instead of four discrete channels? Right now, there's no doubt — the finest quad

sound available is on tape, and it uses four discrete channels. Probably the most spectacular demonstration of this fact has got to be the recording of a motorcyclist who rides in large circles around the listening room. This was amply demonstrated at a special quad meeting of the Audio Engineering Society in early 1970, and is still a kind of yardstick for measuring quad progress. What to buy is an open question for now. You can always start with a second stereo amplifier and a pair of speakers for the rear of the room. These will be needed no matter which system finally wins out.

ROLLING YOUR

By George Davidson



Telex-Viking model 814S



Concord Model 808



Craig Model 3303

Not too long ago, if you wanted to use 8-track cartridges, the only way you could get music was to buy it prerecorded. Even today, the vast majority of cartridge machines are the playback-only type, and the tape-o-phile who wants to roll his own has to do some active searching and canny shopping.

But the situation is vastly improved over what it was a couple of years ago. For quite some time, there were only two machines on the market that would let the hobbyist record his own cartridge. They were relatively expensive. Many would-be fans were discouraged before they even got started. All that's changed now. For a few dollars more than you would spend on a good-quality home playback deck, you can buy recording capability. Another plus: the price of raw tape cartridges has likewise tumbled, so that it's no longer a rich man's hobby.

OWN CARTRIDGES



ROBERTS MODEL 808 RECORDER/PLAYER SYSTEM

Roberts Model 808



HRC-5-8 track recorder player

A tape cartridge is not something you record casually from a couple of microphones. Generally, it's going to be a main music source. That's one of the main reasons why the original Roberts cartridge recorder was built into an open-reel tape recorder; the open-reel tapes were usually the program source for the cartridges.

Even when you have a piece of this new equipment, you're not home free. Cartridges have certain built-in limitations that make recording them more difficult than open reel or cassettes. For one thing, these machines never have a rewind capability. It's not the manufacturer's fault; running a cartridge backwards is a physical impossibility. Some of these machines have a fast forward of sorts, but in any case it's only two or two and a half times the playing speed. Again, the cartridge's physical limitations prevent a faster wind.



Sony Model TC-8W



Lafayette Model RK-890



Automatic Radio Model HRP-1356



Panasonic Model RS-803

Blank cartridges will have the piece of metal sensing foil already in place for triggering the program changing mechanism. Be sure you are right at this foil strip when you start recording the first sequence, or you'll have trouble. Also, the foil comes around with annoying regularity, and may well make the machine change tracks in the middle of a favorite song or movement of a symphony. Try to pre-time the material you plan to record and see if you can't work around this track-changing problem. A stopwatch is almost a must for cartridge recording.

Tape length can be a little deceptive. Remember, the tape runs at 3-3/4 ips and produces four stereo pairs of tracks. This means that a 150-foot length of tape will provide eight minutes per program or a total of 32 minutes. Because you may elect to have some blank tape on each program to avoid interrupting music during the change cycle, the actual useable amount of recording time will be somewhat less than this figure. It all depends on your personal preferences and the kind of music you're recording.

One way to do this is to start the first track with a minute or so of silence if the first sequence you want to record is only say seven minutes long. A little careful juggling like this can produce a professional-sounding cartridge without some of the many bloopers the pros pull in the name of convenience on the production line.

At last count, there were at least 15 companies making or marketing cartridge recorders. That's not very many when you consider that there are at least four times that number involved in producing and marketing playback-only equipment for eight-track cartridges. Some of these firms have just one such machine in their product line; others may have several, each with special capabilities.

The granddaddy of them all, Roberts, has no less than five cartridge recorders in its line. Of these, two – the Model 808 and 808D are cartridge-only machines. The other three – Models 778X, 1725-8L III and 333X are combination open-reel/cartridge machines. The

333X goes a step further; it also has a cassette recorder built in, so all three basic tape formats are under one roof. Prices vary widely, as you might expect. The basic 808D deck lists for \$169.95, while the triple threat 333X retails for \$559.95.

The BSR/McDonald Model RD8S is not only an eight-track cartridge recorder deck, it is BSR's only piece of tape equipment, which puts it into a rather strange and unique position. Listed for \$199.95, the unit has an automatic ejector, which stops the tape and shoves it out after the cartridge is finished, or after just one program is done. This eliminates, according to BSR, the problem of the forgetful recording hobbyist. Actually, an auto stop/eject feature would be great on all cartridge machines — players as well as recorders.

Switchable automatic stop and eject is also featured in the JVC Model 1250 cartridge recorder. Listing for \$169.95, other special features include a parallel DIN (European type) socket on the rear panel, so DIN or standard U.S. phono plugs can be used.

The eject function is an especially important one on auto stop cartridge machines. If the machine were to simply stop running at the end of all four programs, the cartridge's built-in rubber pinch roller would remain in intimate contact with the capstan. This could result in flats forming on the roller, which in turn would cause severe flutter. By ejecting after stopping, the cartridge's rubber roller is maintained intact with no long-term wear or damage.

But, firm in the belief that anyone using such equipment will remove the cartridge shortly after the machine shuts off, Panasonic (Matsushita) has designed its recording cartridge machine with an auto off only. Nice part of this is the price — just \$125 for the Model RS-803 US — a deck model. Another version, the Model RS-820S, has a built-in power amplifier (32 watts peak) and comes equipped with two speakers and an AM/FM receiver. Priced at \$349.95, this unit also has auto stop and eject. Both this and the lower-cost deck have a fast-forward speed.



Realistic Model TR-8



BSR Model RD8S



Standard 8 track stereo recorder



Roberts Model 808D



JVC Model 1250



Panasonic Model RS-820S

A look at the chart accompanying this article shows a wide price spread, and some lavish extra features on some recorders, while missing from others. Some machines have automatic level control, a big help when you need five hands to make the recording, but not to the liking of the audio purist. Some have switchable auto level control, which means you can let the recorder pick its own recording level, or you can do it with the VU meters.

In spite of the possibility of developing flats on rubber pinch rollers, a surprising number of machines shut off automatically but do not eject the cartridge. Wow and flutter specs and true frequency response characteristics are the other determining factors in selecting a higher-

Roberts Model 333X



ROBERTS MODEL 333X

priced machine over one that looks attractive and may have other features the higher-priced one doesn't have. As with all equipment, you have to decide which tradeoffs are to your advantage; you pay your money and take your choice. We hope our chart will help make that choice a little easier for you.

SPECIAL FEATURES KEY

- OR: With open-reel recorder
- D: With DIN plug plus U.S. jacks
- SP: With speakers
- SW: Sound with sound
- 4/8: Both 4 and 8-track carts
- K: With cassette recorder
- SPB: Speakers built in
- PH: Mag. phono preamp



Midland Model 12-632



Midland Model 12-630



Viking Model 811-R

“See spec chart on pages 28-29”

Manufacturer	Model No.	Auto Stop	Auto Eject	Fast Forward
Allied/Radio Shack	1188	Yes	Yes	Yes
	TR-8	Yes	Yes	Yes
Automatic Radio	HRP-1356	Yes	No	No
BSR/McDonald	RD8S	Yes	Yes	No
Concord	Mark VIII	Yes	No	Yes
Craig	3303	Yes	No	No
JVC	1250	Yes	Yes	Yes
Lafayette	RK-890	Yes	Yes	Yes
Midland	12-630	No	No	No
	12-632	No	No	No
Muntz	HRC-5	Yes	No	No
	HRC-85	Yes	No	No
	HW-512	Yes	No	No
Panasonic	RS-803US	Yes	No	No
	RS-820S	Yes	Yes	Yes
Roberts	808D	Yes	No	Yes
	808	Yes	No	Yes
	1725-8L III	Yes	No	No
	778X	Yes	No	No
	333X	Yes	No	No
Sony	TC-8W	Yes	No	No
Standard	SR-T39ODK	Yes	No	No
Telex	811-R	Yes	No	No
	812	Yes	No	No
	812-S	Yes	No	No
	814	Yes	No	No
	814-S	Yes	No	No
Weltron	WTR-800	Yes	Yes	No

VU Meters	Ampl. Power	AM/FM Radio	Auto Level Control	Special Features	Price
Two	—	—	No	—	\$159.95
Two	—	—	No	—	159.95
Two	—	—	Yes	—	124.95
Two	—	—	No	—	199.95
Two	20 W	—	No	OR	289.79
None	12 W	Yes	Yes	SP	249.95
Two	—	—	No	D	169.95
Two	—	—	No	SW	119.95
Two	—	—	No	PH	199.95
Two	—	—	No	—	179.95
None	—	—	Yes	—	109.95
Two	—	—	No	—	149.90
Two	200 W	—	No	PH, 4/8	299.95
Two	—	—	No	—	125.00
Two	32 W	Yes	No	SP, PH	349.95
Two	—	—	No	—	169.95
Two	20 W	—	No	SP	229.95
Two	4 W	—	No	SPB, OR	359.95
Two	12 W	—	No	SPB, OR	429.95
Two	24 W	—	No	SPB, OR, K	559.95
None	—	—	Yes	—	159.95
None	—	—	Yes	—	129.95
One	—	—	No	—	169.95
Two	100 W	—	No	PH	259.95
Two	100 W	—	No	PH, SP	299.95
Two	100 W	Yes	No	PH	309.95
Two	100 W	Yes	No	PH, SP	349.95
Two	—	—	Yes	—	139.95

tape

REVIEWS

Charles Aznavour

New Love Songs, includes *Adieu, Entre Nous, Un Jour, Au Voleur, J'aimerais* and others. *Ampex/Reprise 8-Track, 8RM6288. \$6.95.*

Music ***
Performance **
Recording ***

Should songs be sung or acted? Ideally, both and no one is more suited than Charles Aznavour to do precisely this. He reaches your heart, your mind, your glandular system, your memory, your wishes, your every reason to listen to a stereo tape.

But Aznavour is a stylist short of universal appeal. He is not for rock and roll fans nor for the cognoscenti of jazz classics; Aznavour is for Aznavour fans.

Bobby Vinton

Take Good Care Of My Baby, includes the title song, *To Be Alone, I Apologize, Forget Me Not, Sentimental Me* and others. *Epic 8-Track, N18-10120. \$6.98.*

Music *
Recording *
Performance *

For a girl in herearly teens, romance

is at all times uppermost in her mind. Whether or not the object of her affection exists solely in her dreams one can be certain that the relationship is of the soap opera genre. If music is capable of exciting the imagination, Bobby Vinton's *Take Good Care of My Baby* is made to order for our teenage lover. The tired cliches more whining than tuneful, serve only to obliterate the melodies which at best might provide the background music for a tea dance. If you are over fifteen, you must still believe in the good fairy to go for Bobby Vinton.

The Glenn Miller Orchestra

Something New includes *Tijuana Brass Hits: "The Lonely Bull," Mexican Shuffle," What Now My Love,"* and others. *Epic 8-Track. N18-10116. \$6.98.*

Music **
Performance *
Recording ***

How does one evaluate great talent misapplied? The Glenn Miller Orchestra is great. The Glenn Miller Orchestra playing the *Tijuana Brass* is awful. The sound is like that of an Atlas straining the weight of a marble. But the marble is pure agate in smaller hands.

Joe Scott

A Symphony of Our Time. Joe Scott and friends performing *House of the Rising Sun, Ruby Tuesday, White Room, America, Yellow Submarine* and others. *Ampex/Mainstream Cassette M5307. \$6.95.*

Music **
Performance ***
Recording ***

Heavy, heavy, hangs this symphony of our times. The rock selections just don't seem to adapt or translate to the symphonic structure when performed. Too many crashing crescendos and overpowering fanfares make it hard to tell where one song ends and another begins. Mr. Scott and his orchestra are more-than-competent musicians, but this rendition just doesn't work in the now-classic George Martin style.

There are some pleasurable, nice-to-listen-to string section spots. But to really enjoy this tape one would have to be an avid classics fan — as the recording somehow misses coming together in that middle territory that belongs to every listener.

C.P.

Guitars

The Great Guitars of Jazz. Have You

Met Miss Jones, A Foggy Day, Stella By Starlight, All the Things You Are and six others. *MGM/Ampex M 84691*, 8-track cartridge, \$6.95.

Program ****
Performance ****
Recording ****

Seven of the greatest guitarists around today or any day for that matter are heard here including Tal Farlow, Barney Kessel, Herb Ellis and the late Wes Montgomery. It's good listening fare all the way and a cool jazz fan's delight.

The emphasis is on the standards and with material like the titles listed above, what could be wrong? The answer is nothing. Some of the alleged guitarists in the hard-rock groups ought to give it a listen to hear how the instrument should really be played.

P.A.V.

Ian & Sylvia

The Best of Ian & Sylvia, includes You Were On My Mind, 24 Hours From Tulsa, Four Strong Winds, Changes, Four Rode By, and others. *Ampex/Vanguard 8-Track, VGM-89269*, \$6.95.

Music ****
Performance ****
Recording ****

The Best of Ian & Sylvia is not merely the best of these two performers, but the best of a folk style which, created by these two Canadians, has become a standard in the field. "You Were on My Mind," "Four Strong Winds," and "Twenty-four Hours from Tulsa," three of their biggest smashes, all are frequently recorded by others indicating their appeal to fellow singers as well as to the general public. If imitation is the sincerest form of flat-

ery, Ian & Sylvia have been well rewarded.

Hugo Montenegro

Hang 'Em High, includes the title song, the themes from "The Fox" "Bandolero," "For Love of Ivy" and "In the Heat of the Night" and others. *RCA 8-Track, P8S-1353*, \$6.95

Music ***
Performance ****
Recording ****

You don't have to go to the movies to enjoy Hang 'Em High as done by Hugo Montenegro. But if you have seen "Hang 'Em High" and the other movies, the themes of which are brilliantly recorded here, one soon realizes that he has more than enough in the Montenegro sound to recapture most of the pictorial impact of the picture themselves. The orchestrations are rich and full, but yet are given a most appealing personal quality by the whistling of Muzzy Marcellino. Hugo Montenegro deserves four stars even if the movies do not.

The Village Stompers

Washington Square includes the following: "Washington Square," "Midnight in Moscow," "Walk Right In," "If I Had A Hammer," and others. *Epic 8-Track, N18-10108*, \$6.98.

Music ***
Performance ***
Recording ***

With their musical tribute to Washington Square, the Village Stompers emerged as a leading rock group. Their foot-tapping sound, exemplified in the title song, is indeed unique. Yet, this novel quality is both their strong point, and weakness, for it obliterates the

individual melodies with the result that one song seems to run into the next. The Village Stompers may be fairly limited in their approach, but the overall effect has a pulsating, pleasing quality.

Stravinsky

Firebird Suite and Petrushka Suite. Igor Stravinsky conducting the Columbia Symphony Orchestra. *Columbia MQ915*, 7½ ips, \$7.98.

Music ****
Performance ***
Recording ****

Composers are supposed to provide us with "definitive" performances of their works — at least this was the traditional interpretation a few years ago. Not so these days. When we hear a composer conducting his own works, it usually evinces a grimace; the baton fares not as well as does the pen in his hand. And this is unfortunate, for who better than the composer knows how a work should be performed? Presumably the answer is just about any conductor that's worth his salt. The reason is simple: conducting is his business, not the composer's.

And this lack of talent crossing the boundaries is evident here in this Columbia release. To be sure, Stravinsky does an admirable job in conducting both works — but this is more to the credit of the musicians than to his leadership. His baton is lax and lacks discipline in too many places. Still, the recording comes off extremely well, and we're treated to the first recording (on tape) of the new revised edition of the Firebird. Yet, we can't help missing the Ormandy touch with these ballets. The captain of the Philadelphians always had a special rapport with Stravinsky's music. Why is he missing in this release?

W.G.S.

tape

Reviews

Mozart

Quintets in B Flat, k.174, c. k.406. Also in C, k.515 and g, k.516. Also Clarinet Quintet in A, k.581 and Oboe Quartet in F, k.370. Pascal String Quartet with soloists. *Piper Classics OR PR 123, PR 122, PR 125, \$3.98 ea. or cassette PC 1023, PC 1022, PC 1025, \$3.98 ea.*

Music ***
Performance ****
Recording ****

Piper Classics, Bell & Howell's new prerecorded tape line, makes an auspicious debut this month with material which is both unusual and welcome. Culled from the catalogs of Monitor Records are these three chamber music tapes which, incidentally, are making their first appearance on cassette.

Musically, the Pascal Quartet is a well-trained ensemble with a feeling for the lyricism in the music. The playing is first-rate, and the recording clear and crisp without being spectacular. Perhaps the most pleasant surprise is the Quintet k.174, better known in its wind version. The Pascal essayed these works some years ago for Concert Hall Society in recordings which were much admired. The fine, sensitive playing may still be admired in a recording which is modern.

Recorded on B&H's new UHD tape, these pieces form a good advertisement for the new product. Backgrounds are comfortably quiet, and dynamics are wide — particularly in the reel versions. The cassette versions lack some of the violin subtleties of the reel recordings, due, no doubt, to a lack of high frequencies. But both are worthy of comparison with the best full-priced chamber product from Deutsche Grammophon or Ampex.

Bell & Howell has come up with an attractive four color package. Unfortunately, there are no liner notes

and each Piper release comes in the same box. Bindings don't tell you which is which; they only identify the composer.

R. A.

Mozart

Piano Sonata in A, k.331 and Piano Concerto No. 9, k.271. Also Piano Concerto No. 19, k.459 and No. 26, "Coronation," k.537. Lili Kraus, piano, with Vienna State Opera Orch. cond. Victor Desarzens and Amsterdam Philharmonic Society cond. Gianfranco Rivoli. *Piper Classics OR 3 3/4 ips PR 117 199, \$3.98 ea. or cassette PC 1017 and PC 1009, \$3.98 ea.*

Music ****
Performance ***
Recording ***

Piper Classics adds two more firsts with the cassette versions of these Mozart masterpieces. Lili Kraus is an acknowledged master in this repertoire; in fact the major competition to the reel versions comes from her recording of all 27 for Epic. It should be acknowledged at the outset that the Epics are better recorded and have better orchestral support than is available here. Nonetheless, the pianistics are the thing, and they're marvelous in both versions.

We found the Amsterdam Philharmonic Society somewhat ragged in its approach to Mozart, while the Vienna State Opera group seemed to know exactly what it was doing. Both recordings seem to predate the Epics, which may account for their more cavernous sound. If you own cassette equipment and love Mozart, don't let this put you off; even if there were competition, any defects in the recordings are masked by the deficiencies in most cassette equipment. How-

ever, if you really love Mozart and you want really good sound, perhaps you should investigate Epic.

These tapes are well worth their modest asking price. We do wish Piper would do something about providing fuller information on the spines, and about differentiating one release from another. Nonetheless, the label is one you'll want to keep your eye on.

R. A.

Chopin a la Moog

Chopin a la Moog-with Lots of Strings Attached. Waltz in D Flat (Minute), Etude in C-Sharp Minor, Ballade in G Minor, Mazurka in D, Waltz in C-sharp Minor, Waltz in A-Flat, Etude in A-Flat, Waltz in E Minor, Prelude in D-Flat (Raindrop), Polonaise in A. Arranged, conducted and performed on the Moog Synthesizer by Hans Wurman with accompanying string orchestra. RCA Cassette. RK-1162. \$6.95.

Music ****
Performance ****
Recording ****

If you're a purist type of Chopin lover, forget this one. If you're a Chopin lover who has bought new tapes every so often until you've reached the point of asking, "What, not another Chopin tape?" then this is definitely for you. If you liked the Switched-on Bach release, you'll likewise like this.

The Moog synthesizer has a way of making trite and true music sound fresh and newly awakened, provided it doesn't trample on your esthetic sensibilities. This reading is especially fresh, done with a painstaking degree of craftsmanship that perhaps even Chopin himself would have appreciated.

For after all, the Moog is basically a keyboard instrument, even though it issues some very unpiano like sounds. The addition of the string orchestra to

the sound track here provides some lush backdrops and counterpoint where the solo Moog might not be up to it — even in multi-track retakes. But the solo Moog does manage to hold its own for a large part of the time, with salutary results. Bravo Moog for freshening up Chopin for us!

W.G.S.

Beethoven

Piano Concerto No. 4 in G. with Scarlatti: Sonatas in A, D. Emil Gilels, Leningrad Philharmonic Orch. cond. Sanderling. Also Piano Concerto No. 5 in E Flat, "Emperor." Emil Gilels, Leningrad Philharmonic Orch. cond. Sanderling. *Piper Classics cassettes PC 5004, 5005, \$3.98 ea.*

Music ****
 Performance ****
 Recording **

These recordings were released in the Soviet Union more than a decade ago, and have been on the Monitor label here nearly that long. This means less-than-the-best stereo sound (in fact, despite indications to the contrary, neither recording is stereo) and a general tubbiness. It also means superb piano playing by an accepted master performing at his prime.

There is some estimable competition on cassette from Cliburn, Arrau and others, including Gilels himself (in the "Emperor.") Frankly, we'd be inclined to spend a bit more money and go for a more modern recording. However, it should be noted that B&H's tape sound is among the quietest of commercially-recorded cassettes — a good advertisement for its new UHD tape. The packaging is attractive, though it conveys a bare minimum of information.

R. A.

The Country Coalition

Time to Get it Together; The Country Coalition performing Age of Angels, How So I Love You, Your One Man Band, Time To Get It Together and others. *Ampex/ABC Cassette M56043. \$6.95.*

Music ****
 Performance ****
 Recording ****

When you hear this tape you'll want to get together with all your favorite people and introduce them to the special magic of the Country Coalition and their lively music.

Such folk, those Country Coalition people! They'd like you to think their songs are as American as Mom, apple pie and the flag. They're right; they are! But they're lots more too. This is a very enjoyable album, one the whole family will love. And it's filled with an excellent mix of old and new country western favorites. All of which are telling us just-plain-folk that it's Time To Get It Together.

C.P.

Country Joe McDonald

Tonight I'm Singing Just for You. Country Joe McDonald singing Ring of Fire, Heartaches by the Number, You Done Me Wrong, Oklahoma Hills and others. *Ampex/Vanguard Cassette M56557. \$6.95.*

Music ****
 Performance ***
 Recording ****

Tonight, play this tape just for yourself and tomorrow you'll share it with a friend. It's that kind of music — good country western; the kind you'll want to sing along with. There are lots of recognizable tunes, some old, some new, like Heartaches By The Number,

Ring of Fire and Tiger By The Tail.

Country Joe has the talent to perform this music with plenty of bluegrass country feeling supplied for effect. And it's interesting to hear him with the Jordaniars rather than the Fish as a backup group.

It all works out nicely in the end with Country Joe and The Jordaniars singing and playing their stuff just for you.

C.P.

Abreast of Soul

Abreast of Soul; Ike and Tina Turner, Fontella Blase et al singing. This Would Make Me Happy, Chain of Fools, Nothing You Can Do Boy, Poor Little Fool, Thinking Black and others. *Ampex/Pompeii Cassette M5357. \$6.95.*

Music ****
 Performance ****
 Recording ****

This recording is soul food from above for undernourished listeners. The personnel — Ike and Tina Turner, Fontella Blass and the rest are a collection of some of the grooviest performers around. Their music plays off itself in a slow, easy-moving, soul-filled style.

Those of you who have heard Tina Turner before, know she puts her heart as well as her soul into her music — and it comes through to the listener, loud and clear in Nothing You Can Do Boy. Ike's Thinking Black, reaches out to grab you and holds on tight, proving the fact that a little soul is good for the soul!

C.P.

El Chicano

Viva Tirado. Includes Cantaloupe Island, Quiet Village, The Look of Love, Eleanor Rigby, Viva Tirado, Sometimes I Feel Like a Motherless

tape

Reviews

Child, three others. *Kapp/Ampex M 3632, Open reel, 7½ ips. \$6.95.*

Music ***
Performance ***
Recording ****

These six musicians produce a large, largely relaxed, sound that neatly fills in behind and under the tinkle of ice in cocktail glasses. It's no surprise, then, that this reel plays so well as low-level background music in the living room. What is surprising is that some of these after-hours takes, "Eleanor Rigby" and "Light My Fire" in particular, push up from this subliminal level to demand — and get — closer attention. All in all, a pleasant, often rewarding, set of sounds.

W.S.

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Jim Nabors

Jim Nabors-Everything Is Beautiful. Selections are: Mama, A Rainbow, Everything Is Beautiful, Hi-Lili-Hi-Lo, A Time For Us, The World I Used To Know, Bridge Over Troubled Waters, If I Never Laugh Again, The Sweetheart Tree, Windmills Of Your Mind, Yesterday When I Was Young, I Can't Stop Loving You. *Columbia, 8 Track Cartridge, CA-30129. (Also on cassette CT30129) and open reel GR 30129.) \$6.98.*

Music ***
Performance ***
Recording ***

Gomer is long gone. . . except in re-runs, but Jim Nabors continues on. This, his latest, is another time tested set of semi-contemporary pop standards. His voice seems to continue to gain in musical know how and he has mastered timing. He is extremely good on Sinatra's recent hit, The World I Used to Know, and Yesterday When I Was Young. After the first listening, you can almost forget the goofy corn-fed country boy image.

F. R.

Black Pearl

Black Pearl — Live! Featuring Uptown, I Get the Blues Most Every Night, Cold Sweat, People Get Ready and others. *Ampex Cassette M5350. \$6.95.*

Music ****
Performance ***
Recording ****

Sometimes live is better . . . as in the case of the soul-rock-jazz Black Pearl. This tape of their concert captures the group's down-home feeling for soul and translates it into pulsating big-

city rhythm without missing a beat. And this writer found herself instantly dancing while listening.

Black Pearl are musicians' musicians . . . superior in every respect. And this mixing of jazz-rock-soul gets a special coming together, enter some lead guitar, solo spots.

Uptown and People Get Ready are the two cuts you can groove with most. It's definitely a tape you'll like from a group that should go far.

C.P.

The Archies

Sunshine. Includes One Big Family, Over and Over, Suddenly Susan, Mr. Factory and eight others. *Kirshner P8KO 1006, 8-track cartridge. \$6.95.*

Program **
Performance ***
Recording ***

I'm not sure whether "Sunshine" is just a "put-on" or was just rushed out to cover The Archies' singles hit, "Sugar, Sugar." It just comes across to me as a mish-mash of contemporary-sounding tunes with little thought or planning.

In fairness to The Archies, the group sounds like they did the best they could with what they had to work with. Some of the kids may dig it, but I think most will find it a little too juvenile for their taste.

P.A.V.

TAPE REVIEWERS

- R.A. — Robert Angus
- W.G.S. — Walter G. Salm
- F.R. — Fred Romary
- P.A.V. — Paul A. Votano
- C.P. — Cathi Pierro
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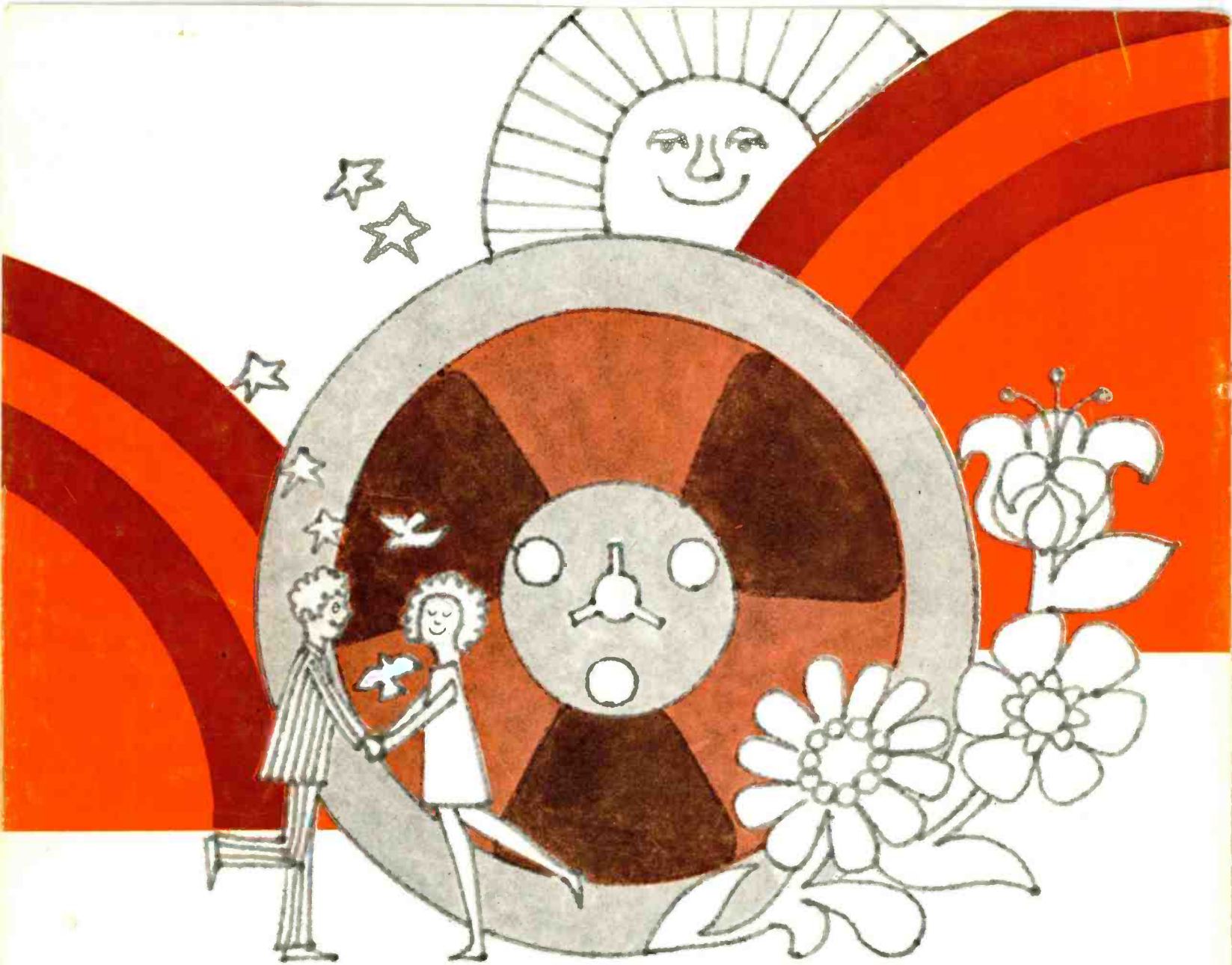
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