VOLUME 17, NO. 3

60¢

tape recording





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tape recording

MAY-JUNE, 1970

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- 2. Have you ever taken drugs to get high?
- 3. Do you know anyone who takes drugs?
- 4. Have you ever experimented with drugs to see what it's like?
- 5. Do your younger brothers or sisters have access to drugs?
- 6. If you wanted drugs could you get them easily?
- 7. Have your parents ever asked you directly, "Are you using drugs?"
- 8. Is it possible to get high on something in your parents' medicine chest?
- 9. Do your parents take too many pills?
- 10. What are the reasons young people take drugs?

When it comes to the drug scene, a lot of parents really don't know what's happening—as you may be able to see by their answers to their questions. You can help them get the facts by sending for the Federal source book "Answers to the

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most frequently asked questions about drug abuse." When you get it, give the book to your parents as a gift. You'll have a lot to talk about.

For Parents

together and see how far apart you are.

- 1. Do you see any difference between marijuana and alcohol?
- 2. Has your child ever been high on drugs?

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- 3. Do your children associate with any drug users?
- 4. Have you ever experimented with drugs to see what it's like?
- 5. Do you think your children under 13 have access to drugs?
- 6. If your children wanted drugs could they get them easily?
- 7. Have you ever asked your child if he or she uses drugs?
- 8. Is there anything in your home that your children could get high on?
 - 9. Do you believe you take too many pills?
- **10.** What are the reasons young people take drugs?

If your child's answers disturb together and had a talk about drugs We've written a booklet that i "Answers to the most frequently as It won't make you an expert, but it will give you some important answers. Send for the booklet. Read it. Talk with your child. It's important—for you both.	night help that talk. It's called
S15.87/5 z	Name:

by Walter G. Salm

USE THAT TAPE RECORDER!

So you've got a tape recorder. You've used it a couple of times and have run out of ideas. There it sits in the closet, crowding out valuable storage space, and you're beginning to wonder why you spent all that money. Chances are, you originally bought the tape recorder because you thought you had a use for it, and now that the novelty has worn off, there it sits.

The tape recorder sitting there in the closet is one of the most versatile and useful home entertainment instruments that's ever been invented. And you don't have to limit it to home entertainment; there are virtually hundreds of ways it can work for you. But let's look at the entertainment aspect first. If you have a stereo phonograph or console combination of some kind, you probably spend a certain amount of money on records every year. If you have an FM radio built into that stereo equipment of yours, you have a ready-made source for building a very low-cost music library. Anything coming in on the radio can be recorded on tape for a fraction of the cost of the original records.

The best way to make a tape recording from a record player, FM radio or TV set is with a direct electrical connection. The worst way to do it is by putting a microphone in front of the loudspeaker. Microphones supplied with tape recorders generally aren't very good quality; the speakers may not be either and you'll have all kinds of problems with mis-matched

acoustics, room noise and just poor sound fidelity in general. If you have one of the more complex stereo consoles chances are it will already have connections on the back for adding a tape recorder. Generally, these will be labeled "tape output" and "tape" or "auxiliary input." You'll need appropriate cables to plug into these jacks. Usually these are standard phono jacks; the tape recorder's input will be the same or will be a phone jack. You can buy ready-made cables for making these connections at most hi-fi showrooms and radio parts distributors. Be sure that the cable is long enough to reach from the recorder to the equipment that you're connecting it to. The jack marked "tape output" is connected to the "line input" or "preampinput" of the tape recorder. If this is a stereo setup, there will be two jacks for each input and output, and you'll need two cables - one for each channel. For playback, you can use the tape recorder's own speakers, or if you have pretty good speakers on your stereo equipment, you can run another cable pair from the "line output" on the recorder to the "auxiliary" or "tape input" jacks on your console.

What if you don't have these very handy jacks on your stereo? With a little cutting and soldering, you can add the proper connectors to your equipment in one evening. Let's take the console-type unit first. If this has a phonograph and a radio, there will be a phono/ radio selector switch somewhere on the control panel. Locate the center wiper of the switch for each stereo channel. This will be a terminal that's always making contact with the rotating blade on the wafer, and the wire from this contact goes to the grid of the first amplifier tube or to the base of the first amplifier transistor in the circuit. It may be interrupted by a coupling capacitor-about .02 uf for tube-type circuits; anywhere from 1 uf to 10 uf for transistor circuits. There will be



a switch section that switches 117 volts AC for automatic shutoff in the phono mode. Don't touch this section.

Run a wire connection from this center wiper terminal through a .02 uf capacitor to the center terminal of the output jack, which you can mount at the rear of the cabinet or at any other convenient spot where it won't be an eyesore. For stereo units, run two of these cables from the identical switch sections. Be sure to use shielded phono cable, connecting the center conductor to these signal points. The shield braid should go to a ground connection (the chassis). Hooked up this way, whatever is being played on your stereo – records, FM or AM radio – you'll be able to record directly.

A less satisfactory but much easier method is to attach leads to the speaker connections. If your speakers don't have readily accessible terminals and are the plug-in type, you can make a "Y" connecting cable, or buy one ready-made for each channel. The speaker will plug into one jack, the tape recorder into the other, and the tail of the "Y" will plug into the unit's speaker jack. If the speaker terminals are exposed, a cable with a pair of alligator clips at one end can be attached to these terminals very easily. The other end will have an appropriate plug for use with the recorder. With this type of setup, remember that changing the volume control setting on the stereo will change the signal level that's going to the tape recorder. Use a fairly low volume level at the speakers for best reproduction. For playback, again using alligator clips, the stereo speakers can be hooked into the tape recorder's "extension speaker" connections.

A permanently wired playback setup at the console is preferable, but again requires some

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cutting and soldering. In this case, you'll also have to add a switch to the unit — a doublepole double-throw (DPDT) rocker, toggle, slide or rotary — whichever type that's convenient. Mount the stereo pair of jacks and run their center connectors to one outside pair of contacts on the new switch. The other outside set of switch contacts go back to that center wiper on the selector switch, or just to the tape output jacks you've already installed. To do this, you'll have to break the signal path from the selector switch to the equipment's amplifier. The wires from the amplifier itself will go to the center wiper contacts of the new DPDT switch.

With this arrangement, when the selector switch is set on "Radio," simply flipping the new switch will cut off the radio and switch in the tape recorder as the music source. In





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the "phono" position, the console will shut down unless the phono motor is running, so don't use the phono position.

A tape recorder is a wonderful working aid in studying, preparing speeches, learning languages, or just taking notes. If any of your youngsters have the problem of trying to learn the essence of some boring (to them) material for school, an effective learning method is to have them read the material into the microphone, and then play the tape while following the text visually. This gives them a triple exposure to the material and they'll retain it for quite a while.

Does Junior have a part in the new school play? Let him rehearse it with the tape recorder. It works wonders for memorizing the lines and improving the delivery.

If you're Mister Average Parent, you take a lot of pictures. Let the tape recorder be a companion and a helpmate in your photography. Tape can also augment the pictures with sound "snapshots" of those precious fleeting moments that the kids may never repeat. Their first words, first sentences, even the baby yellinghislungs out - all are excellent material for your tape library. The tape can provide "instant sound tracks for home movies, and will provide narration and background for slide showing as well. You can add an inexpensive slide synchronizer for a "Lazy man's" slide show, with the slide projector triggered automatically by the tape recorder at precisely the right point in the narration.

Hobbies – any kind at all – can be much more enjoyable with a tape recorder participating. The collector can take notes on tape for his rocks, stamps, model autos or whatever – notes that would be too laborious and time-consuming to take in the usual longhand. Visits to shows and expositions can be made more interesting and meaningful. The battery tape recorder can take down running notes and commentary on the show; it will record the sales delivery for products that you're interested in, and you can discuss and record impressions of the show with other visitors. Add to this some unusual candid "Pop" sounds that you can tape on the show floor, which will be fine additions to your personal collection of sound effects for future use in movies and slide shows.

The battery portable recorder is probably the handiest type of machine from a standpoint of portability, but it can eat up an awful lot of batteries if you use it for a music source in the house without the benefit of an AC power pack. A recorder of this kind can follow you anywhere, and if this is what you have gathering dust in the closet, get it out into the sunlight where it'll do some good.

The battery portable has taken on many new refinements and forms that make it even more useful. The minature cassette machines that are becoming very popular now can go virtually anywhere and can do almost anything that you'd want a tape recorder to do. They're equally at home taking dictation on an airliner or a commuter train, and can serve just as well on the front seat of the family car during tieups. Even here, it takes on an additional dimension, since the recorder means that the person driving to work can use his highway time productively for dictating notes, letters, reports and anything else that won't take his eyes off the road. And these machines are surprisingly good - much better than you'd expect at first glance. New refinements of the cassette system also provide full stereophonic music programming on these tiny tapes.

If that machine that you're scratching your head about is a four-track stereo model, it's a potential source of an incredible variety of music for your stereo system. From time to time, you might also want to treat yourself to a prerecorded tape. They're a little more expensive than their disc equivalent, but unlike records, they never develop surface noise from dirt, handling and airborne contaminants, and they aren't bothered by surface scratches.

There are many accessories that can make your recorder easier to use and help toward higher-quality records. A couple of these items are absolute musts: a head demagnetizer (degausser) and some cotton swabs and head-cleaning solution (alcohol will do). Weekly maintenance with the degausser and the head cleaner will keep your recordings sounding topnotch and will prevent any residual magnetism in the heads from adding





noise to your tapes. Other accessories can include quality microphones, microphone mixers, tape splicers, splicing tape, leader tape, bulk erasers, telephone pickups, VOX (voice-actuated microphones), foot pedals and other remote-control items. If you also buy a splicer, a supply of splicing tape and leader tape, some empty reels (including 3M's self-threading reel) and some blank tape, you're in business to stay.

Making good tape recordings, like good photography, comes with experience and some occasional expert advice. Don't be afraid to make mistakes. You can always erase the tape and reuse it. And don't be afraid to experiment; tape recorders offer an enormous range of possible uses, and it's always quite conceivable that you could discover a totally new way of putting the oxide-coated plastic ribbon to work for you.



CARTRIDGE & CASSETTES CASSETTES ACCESSORIES : A BUYERS GUIDE

By Robert Angus

"The human mind can conceive of nothing," Benjamin Franklin once wrote, "but that another human mind can improve upon." The inventors of the cassette and eight-track cartridge can say amen to that, for their brainchildren have spawned literally hundreds of inventions and products designed to improve on the original, increase the versatility of the cartridge or cassette recorder, or to make life easier for the cartridge and cassette user. Want to turn your cassette or cartridge portable into a radio? You have a choice of AM, FM or marine band tuners that plug in and operate through your recorder. Want to turn your recorder into a dictaphone or car tape player? There's an assortment of gadgets to do either job. Worried about having somebody steal your car player? There's a burglar alarm system to ease your mind. And so it goes.

However, amid the deluge of accessories currently on the market, there are the inevitable money-wasters, some that perform better than others, and a few that actually can harm your equipment. To find out which are which, TAPE RECORDING surveyed literally dozens of accessory items.

Broadly, they fall into three major categories: gadgets designed to increase the versatility or usefulness of your recorder or player; housekeeping items, designed to keep your recorder in good condition and your tapes in order; and do-it-yourself tools like splicers, special microphones and pickup coils. In eachcategory are products which sell for 99 cents or \$3.99 yet are virtually identical; or you'll discover by shopping around that the cartridge carrying case that sells in one store for \$11.95 can be had in another for \$8.99. Some stores, when you buy your cassette or cartridge recorder, may even throw in a head cleaner or storage case as part of the deal.

Some Stores May Throw In E







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Versatility

You can convert your cassette or cartridge player into a radio (if there isn't a tuner already built in) simply by adding a plug-in tuner.

There are models for AM and FM in both cartridge and cassette configuration; some combination AM-FM cartridge models, even FM stereo cartridge tuners (cassette FM stereo is expected later this year). And if you want marine bank as well, there's a model from Panasonic. Although TAPE RE-CORDING was unable to test all of the models currently on the market, we discovered that there is a wide range in quality from one brand to another. Among the better models: Channel Marketing's AMK. FMK and FMM cartridge AM, FM and FM stereo models; and AMC and FMC AM and FM cassette tuners. Generally we found the cartridge models better in terms of sensitivity and selectivity than the cassette units; and easier to tune. Because of the small knobs on cassette units, tuning can be a very delicate procedure when trying to pilot a car through traffic. We also found that there are tuners - identical in appearance to each other, and to some of the better models, that are sold under a wide variety of trade names and perform equally badly under all of them.

In our opinion, an AM tuner should be able to pull in all the important local stations (even the best can't pull in the weakest stations in our area), and to keep them tuned in when we drive locally. It should be relatively insensitive to external interference like passing trucks or car engines. Panasonic and Channel Marketing passed; some no-name brands did not. For FM, we added the requisite that the signal be relatively noisefree and clean, and that we be able to dial all local commercial stations (there are some low-powered educational outlets in our area). Results were favorable with both cartridge and cassette models; the former held signals longer when travelling away from stations. Channel's FM stereo model produced satisfactory stereo within city limits; as we travelled away, the signal degraded rapidly. However, there is a local-DX switch on the unit which coverts the stereo signal to mono for longdistance reception in case you want to listen to a stereo station on a long trip.

The better cassette tuners contain four transistors and one diode; cartridge models may use from eight transistors for AM or mono to 12 for FM stereo. When you go shopping, take your cassette or cartridge player along with you (if it's a portable), and ask the dealer to let you test the tuner for yourself. If yours is a car unit or home deck, ask him to demonstrate for you. Pick out your favorite AM and FM stations, move the player around the room and hold it in different positions. If strong stations fade, or if you can't pick up the stations you want, save your money. A complicating factor is the trend toward blisterpacking all accessory items, including cartridge and cassette tuners. Although the dealer may be asking as much as \$29.95 for an FM stereo tuner, you have no way of hearing it before you buy because it's sealed in plastic. Our advice: don't buy unless the dealer will demonstrate to your satisfaction or let you return the tuner if it's unsatisfactory. Another word of caution: cassette tuners may be small and compact, but none is as small

as the standard cassette, and some of the better ones are too large to fit into all cassette players. Virtually any cassette tuner will fit a Carry-Corder type player, for example; but only the smallest go comfortably into a car player or slot-loaded home deck. Make sure your equipment will accomodate the tuner you plan to buy.

The only functioning cassette-to-cartridge adapter we've found yet is the one offered by Panasonic, although more are expected later this year. In effect, the cassette fits inside the adapter, which contains its own playback head. The adapter then fits inside the eight-track cartridge player, where a second electromagnet transmits the cassette impulses to the cartridge playback head. Because many cassette tracks are 15 minutes long (or less), the adapter is not particularly convenient to use. To hear both tracks, or to play more than one cassette, you have to remove the adapter from the player, take out the cassette and turn it over or insert another one, then put the adapter back into your player. It performs as advertised.

If you're not entirely bent on pleasure, there's a family of accessories designed to convent your Carry-Corder type of cassette portable into a dictating machine. Produced primarily by such recorder manufacturers as Norelco, Sony/Superscope and Craig, this family includes an AC adapter, to permit use with ordinary house current; stenographic headsets and earphones; and a foot pedal, to leave the hands free for typing. These products vary mainly in the type of connectors used. Hence, it is possible to use virtually any of them with practically any battery-operated cassette recorder provided the connections are identical, or you have an adapter to make them. The Norelco series, for example, works just fine with an Aiwa recorder once we make the necessary alterations.

Most AC adapters, such as Craig's Model 9211 and Norelco's BE 150 (selling for approximately \$6) double as battery chargers. When used to power the recorder, they provide a constant, somewhat slower speed than did a set of new Eveready batteries. Although we haven't exhausted the batteries yet, it's safe to say that as chargers, the adapters double or treble battery life. The earphones are hardly audio quality. However, they are neither lower-fi nor less comfortable than ordinary office-type stenographic headphones. Selling for \$3 to \$6, they do what they're supposed to. The treadle or foot control, at \$7 to \$15 has other uses besides transcribing dictation; it can be used as a remote control in a variety of situations. Our secretary advises us that as a piece of office equipment, it has a major drawback - no provision for backspacing, which means that a secretary must still use her hands to operate it. Wollensak plans to market a treadle with backspace feature this year which may be adaptable to machines other than its own.

In the same general area are nickel cadmium powerpaks such as Craig's Model 9205 (\$17) or Norelco's BP2204 (\$25), both designed for Carry-Corder type protables and interchangeable with some other models. Before buying, make sure that the type you're considering will fit and operate properly in your equipment. We found these to provide more steady current than the standard carbon batteries over a longer period of time (one manufacturer says his work up to nine



hours continuously). However, if you use nicads, make sure they're charged just before using. If you take your recorder off the shelf two weeks after it's been charged, the batteries will be drained.

Robins Industries, Audiotex, Switchcraft and other manufacturers classify their lines of patch cords and adapters as versatility accessories because these connectors facilitate recording off the air or from one brand of recorder to another. The adapters and connectors come in a vareity of sizes and shapes, and are similar to those offered for use with reel recorders.

Finally, there are specialized recording devices like lapel microphones, telephone coils and microphones with remote control switches which can be used with your cartridge or cassette recorder. These vary in price and quality, depending on the degree of fidelity you need and the quality of your recorder. Although it's possible to buy lapel mikes with a frequency response to 20,000 cps, it's foolish to do so if you plan to use one with your cassette recorder. In general, a good crystal or ceramic mike will do just as well because of the limited fidelity of the recorder. Some telephone coils produce a hum which all but obliterates the telephone conversation they're supposed to pick up. Among those which don't are Craig's Model 9501 (\$3.49) and Norelco's TP86, (\$7.65). There are less expensive models on the market - but try, if possible, before you buy.

HOUSEKEEPING

If you're just beginning a library of tape cartridges or cassettes, it may be difficult to

imagine the day when housekeeping – keeping your player clean and in functioning order, keeping track of and protecting your tapes – will be a problem. Take it from us, that day is nearer than you think.

As soon as you amass a library of any size, you'll be needing a carrying case to help you tote your cartridges or cassettes. There are a number of sizes, styles and tapes of construction. They range in price from \$2.98 to \$20 or more and to the untutored eye, all look very much alike (except for capacity, which tends to increase as the price goes up). Herb Hartman of LeBo Products, one of the largest manufacturers of carrying cases, points out that there are three basic construction materials in any carrying case: plastic, cardboard and wood; and three methods of formation: heat sealing, glueing and stitching, Thus a 12-cassette carrier may be offered in a glued plastic case with only a plastic cassette divider to keep it rigid for \$1.98; in a cardboard-lined glued version for \$2.49, heat sealed with cardboard for \$2,98, cardboard stitched for \$3.49; wood heat sealed for \$3.99 and wood stitched for \$4,49. The same scale might apply to larger cases as well. Hartman points out that wood obviously is more durable than cardboard or plastic alone, and makes for more solid construction. By the same token, heat sealed plastic is better bonded than mere glueing; and the combination of heat sealing and stitching makes not only for durability but for good looks as well.

In addition to Le-Bo, other big guns in the carrying case business are Recoton, Robins Industries and Channel Marketing. Most of









these utilize all of the types of construction listed above, and most make the standard sizes: a 12-cassette carrier; a 30-cassette carrier, a 10-cartridge carrier, cassette carriers for 12 or 30 tapes; carriers for 10, 15 or 24 cartridges. In addition there are alligator leatherette attache cases of cardboard or wood holding 30 cassettes or 30 cartridges. Le-Bo's wood cassette model sells for \$11.95; a cardboard version might retail for about \$2 less.

If you plan to play cartridges or cassettes at home only, you may be interested in a storage rack for the living room. Norelco has a 6-cassette utility model (CLR) for. 20 cents; Le-Bo, Recoton and others have lazy susantypes which look suspiciously alike, no matter who made them. For \$14.95, you can get one to hold 48 cartridges or 48 cassettes. Robins has an attractive modular unit in walnut which holds 12 cartridges for \$5. The cassette version, at \$3.30, also holds a dozen tapes.

Then there are the storage albums, available from Norelco, Robins, Channel Marketing and others. Prices range from \$3.30 for Robins' 12-cassette album to \$22.90 for Norelco's C-90 album, which comes with six blank C-90 cassettes. In the same general area are tape mailers from BASF, Channel Marketing, Robins and Ampex, for prices ranging from 10 cents apiece for the cardboard variety to 55 cents for impact-resistant plastic. If you need empty Norelco-type plastic tape boxes, they're 55 cents apiece from Robins.

If you have a cleanliness thing, you may be interested in CM's or Robins' little plastic pullover bags to keep your cartridges or cassettes clean (\$1.15 for a package of 20), or CM's Channel Brite cartridge cleaner, which wipes finger prints and other grime off the cartridge or cassette shell. Or there are dust shields which fit across the end of a cartridge or cassette to keep dirt out. These pieces of plastic, which sell for about eight cents apiece do serve a useful purpose in lengthening the life of your tapes by keeping foreign matter out and tape lubrication from evaporating.

You don't have to be fastidious to be concerned about player cleanliness. Like any reel recorder, cartridge and cassette heads collect oxide; and a large enough deposit interferes with performance. Because cartridge and cassette heads are difficult to get at, accessory manufacturers have come up with an odd assortment of gadgets to do the job. The one which looks easiest to use, and is most common, is the head-cleaning cassette or cartridge. Inside a standard shell is a length of abrasive tape. You simply play the cartridge as you would ordinarily, and the abrasive cleaners will do the job, all right - buy they'll also wear down your heads, cutting as much as 25 per cent of their life expectancy. The damage is greatest when the oxide deposits on your heads are small. A better idea are the cartridges and cassettes introduced earlier this year which contain a length of cotton tape rather than the abrasive material. Before "playing" the tape, you soak it in a cleaning solution (in Le-Bo's version, the cleaning fluid is squeezed onto the tape during playing from a plastic reservoir inside the cartridge or cassette). The cotton applies a solvent which loosens the

You don't have to be fastidious to





be concerned about player cleanliness.

Sooner or heads units your will become requiring the of **use** a demagnetizeder restore high frequency response. it. Good test cartridges and cassettes are avail-

oxide, then wipes both off as it continues to travel past the heads. Of course, a cassette or cartridge player can be cleaned in the same way and with the same tools as a reel recorder - a cotton-tipped swab and a cleaning solution like denatured alcohol. There are several good commercial cleaners available from Robins, Recoton, Le-Bo, Audiotex and others, and if drugstore Q-tips aren't long enough to reach into the heads of your machine, Robins has a long-handled variety priced at \$2.25 for 25 (with a bottle each of head cleaner and tape lubricant). There's an later, near Geaner as well, supplied in a can with a long extension nozzle to enable you to reach inaccessible heads. Robins, CM, Recoton, Audiotex and Le-Bo are among those offering it.

magnetized, Some manufacturers have computed as to sive head cleaning tapes with test tapes to form three-in-one cartridges and cassettes (besides cleaning, these tapes offer you a chance to check balance between stereo channels to and alignment of your player head). If you want test tapes, they're available separately. However, it may not do you much good to know that your head is out of alignment if you don't have the tools or the skill to align able from Channel Marketing. They contain a frequency response test, proper tape tracking program and individual track volume balance check, speaker and program identification and an automatic switching test. To find out if your player is running at the proper speed, there are Robins strobe units (\$6.15 for cassettes, \$7.50 for cartridges).

> Sooner or later, your unit's heads will become magnetized, requiring the use of a demagnetizer to restore high frequency response. There are probe types similar to those designed for reel recorders, and the easy-to-use shell types. Le-Bo and CM have a DC cartridge model which plugs into a car cigarette lighter for \$8.95, or an AC type that works in the home for \$6.95. Both work in exactly the

same way as a reel recorder demagnetizer – there are two pole pieces which press against the poles of the electromagnetic head and remove any electrical charge. Because it's so difficult to see what you're doing, we found the shell types – pole pieces mounted in a cartridge or cassette shell – much easier to use. You simply insert the cartridge and plug in the electrical cord hanging out the bottom, then remove the cartridge after a minute or two. Lafayette Radio, Robins and others offer an eight-track cartridge model for from \$9 to \$15 (Robins has AC and DC models); an AC cassette model for \$6 to \$9.

Can you over-clean or demagnetize your heads too often? Experts are divided. If you're using an abrasive head cleaner, the answer is an unqualified yes. Some recording engineers argue that cartridge and cassette heads should be swabbed with cleaner as often as possible. Others feel that once every six or eight hours is enough and still others feel that you needn't bother until you notice a degradation in sound quality or actually see a buildup of iron oxide on the playback head, which may mean hundreds of hours between cleanings. Demagnetization isn't required as often some experts say every eight to ten hours, others do it every 24 hours and still others skip the job for months at a time. If your machine records as well as plays back, it probably will need demagnetization more frequently.

Before we leave the housekeeping area, there's the matter of keeping your tapes properly labelled and indexed. Robins is one of the first manufacturers to offer replacement labels for cassettes, and an intelligent indexing system. If you elect to reuse a cassette,

until now you've had to scratch out the original label information and try to find room to write in what you've just recorded. The Robins labels, at five cents apiece in packages of 20, come in five colors to permit color coding of recorded material. They're pressure sensitive and can be pressed quickly into place. Unfortunately, so far there's no cartridge equivalent. The cataloging kit, at \$5, contains a 120-page log with room to list the contents of each cartridge or cassette; 240 numbered index spots in two sets (one for the cartridge, the other for the container), 120 pressure-sensitive labels for indicating titles and a ball point pen. It may not be ideal, but it's miles ahead of any competition. Robins packages some of these ingredients separately (the colored index numbers are available separately for \$1.65, for example). or in cartridge and cassette maintenance and storage kits. Channel Marketing offers extra mailing labels for cassettes,

If you own a car player, cassette or cartridge, perhaps the best investment you can make is in a burglar alarm or lock to protect it. Two of the best are the Bolen 200, a 7-pin tumbler cylinder lock which secures the player to the car chassis; and CM's "Squealer," a device which sounds your auto horn whenever a screw or bolt is removed from the tape player or its mountings. The former is \$10.95; the latter \$8.98. Using them both may seem like wearing both a belt and suspenders, but it can save you insurance premiums of \$20 a year and up on your car player (many companies now are exempting tape players from auto theft policies because of the high incidents of theft), or the loss of a unit worth \$60 to \$120 and more.

DO-IT-YOURSELF

Because cassette and cartridge equipment manufacturers believe that most of the machines they sell are used solely for the playback of music, there has been little attention paid to the do-it-yourselfers, the man who records his own. An exception to the rule is Robins Industries, which has long served the needs of the reel tape recordist. Robins currently offers the only tape splicers for cassettes, the TS 115 Gibson Girl automatic splicer for \$5, the TS 215 pocket-sized splicing block with 25 pre-cut splices for \$10 and the professional model, TS 315, with a heavy duty cast base, splicing patches and a burnishing roller. Because cassette tape is only half as wide as conventional tape and because its base is ½ mil polyester, it's not always easy to handle. Nevertheless, splicing may become necessary to create a cassette long enough to hold Beethoven's Ninth Symphony, or to remove excess tape from a C-60 holding a typical pop LP's worth of music. Remember before you start splicing cassette tapes that the splices must be precise no splicing tape hanging over the edge of the recording tape to stick to anything or catch on the innards of the cassette; no misaligned

tape to bind inside the shell, no rigid splices to add friction within the transport. It's possible to make good cassette splices – but it takes lots of practice and a very steady hand.

To facilitate tape splicing and editing, Robins offers a pair of tape winders – tiny reel locks tooled to fit the cassette hub – which sell for \$1.50. They permit rocking the tape back and forth past the heads on certain recorders to find the right spot to edit. Before investing, check to see that they'll work with your cassette deck (they won't with the slot variety).

The bulk eraser is as useful to the cartridge or cassette recordist as it is to his reel recorder



cousin. It permits rapid and thorough erasure of a cartridge or cassette. Robins has created models specifically for cartridges (TMC 2, \$30 or TMC 3, \$55) and cassettes (TMC 1, \$29) which seem to work well. Almost as fast, and substantially less expensive (\$1.98) is Channel Marketing's SEC Speed Erase, a ferrite bar that fits over the open end cf a cassette. When you put the cassette in your player and throw the transport into fast forward or reverse, the bar erases the entire tape in 10 to 20 seconds. We didn't have time to run durability tests on the Speed Erase – but initial results were favorable.

By the time you read this there may be another two hundred accessory items designed to make life easier for the cartridge or cassette user – or perhaps designed only to persuade you to part with a few dollars.

Because of their relatively low cost, accessories usually are bought on impulse – which means that people don't shop as carefully as they do when buying a more expensive item.

Do you really need the accessory you're considering? Will it do the job it's supposed to? Is it worth the money? And is it made to last? These are but a few of the questions you should be asking before shelling out \$6.98 for a carrying case or \$20 for a bulk cassette eraser. One thing is for sure – the right accessories can help you maintain your equipment a lot longer.



TITLE TITLE





REVIEWS

Sound Effects

Sound Effects in Super Stereo, Volume Three. Open reel. 7½ ips. Ampex/Audio Fidelity AFC 7011. \$7.95.

Sound Effects: U.S.A.D. Firepower Aboard Aircraft Carrier "Enterprise." Open reel, double length. 3-3/4 ips. Ampex/Audio Fidelity AFF 7012. \$9.95.

Sound Effects in Super Stereo, Volume Four. Open reel. 7½ ips. Ampex/Audio Fidelity AFC 7015. \$7.95.

Home Movie Sound Effects. Open reel. 3-3/4 ips. Ampex/Audio Fidelity AFX 7018. \$5.95.

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

Sound effects are great if you need them for a movie or slide show soundtrack or something like that. If you don't need them, they're a waste of money, and you end up having a jet plane take off in your living room just to scare the bejeesus out of your visitting Aunt Tillie who you never liked very much anyway.

When it boils down to originality, Audio Fidelity engineers must have really had to scrape for some of these sound effects. Yes, many of them are interesting; a few are even useful; some are even funny such as the tray of dishes crashing into a jillion pieces; some are suggestive like the pop bottle opening and pouring. Anyway, if you need sound effects, fine. Start with the Home Movie Sound tape. This one is a "best buy" and has a little bit of everything on it. When your needs become more sophisticated, you can branch out into the more specialized effects tapes listed here and in Ampex catalog.

W.G.S.

Perry Como

Perry Como In Person At The International Hotel, Las Vegas. Perry Como, Doodletown Pipers with the Nick Perito Orchestra. Selections Include Intro, I've Got You Under My Skin, Hello, Young Lovers, Everybody's Talking, If I Had A Hammer, Without A Song, If I Could Almost Read Your Mind,



Prisoner Of Love, Father Of Little Girls, Love is Spreading Over The World, When You Were Sweet Sixteen, Didn't We, Oh Marenariello. It's a Good Day, You'll Never Walk Alone, You Are Never Far Away From Me. 8-Track Cartridge (Also in cassette and open reel). RCA P8S-1608 \$6.95.

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

This package is flawless and Mr. Como is ageless. He hits those high notes like a kid auditioning for his first singing job. The audience loved every note of every old and new favorite and to Perry there is certainly no generation gap. Only fault I could find is that the act is over all too soon.

F.R.

Andre Kostelanetz

Andre Kostelanetz-Greatest Hits of the 60's. Theme from Romeo & Juliet, Hello Dolly, Yesterday, Try to Remember, Born Free, The Look of Love and others. Open reel. 3-3/4 ips. Columbia HC1247, \$6.98.

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

We still can't agree with the concept of using the slow speed on open reel tapes just to save a few pennies. This is a single-length album, so there's certainly no reason for the $3\frac{3}{4}$ ips speedhere. Fortunately, the slow speed does little to degrade the recorded sound, but then for music of this type, the upper octave of frequencies isn't always that important.

The selection of program material is basically good, the performance is excellent as always with Kosty, and the overall effect is pleasant. Trouble with a tape of this kind is that most people are likely to already own one

tape

or more versions of each number performedhere. Whether the additional investment for a Kostelanetz performance is worthwhile is up to the individual listener. It's certainly an excellent tape; no question about it.

W.G.S.

Henry Mancini

This is Henry Mancini. Included are: Peter Gunn, Days of Wine and Roses, Lightly Latin, Midnight Cowboy, The Sweetheart Tree, The Pink Panther Theme, Theme From Romeo and Juliet, Dear Heart, Snowfall, The Brothers Go To Mother's, Baby Elephant Walk,



Moon River, My Friend Andamo, Dreamsville, March of the Cue Balls, Mr. Lucky, Misty, Robbin's Nest, My One and Only Love, Softly, As 1 Leave You. 8-Track Cartridge, RCA Twin Pak P8S-5081. \$9,95.

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

This double set is a collection of the finest recordings by Mr. Mancini distilled from his various movie and pop packages. Some fine solo work can be found by guitarist Bob Bain, Shelly Manne on drums, and the late Buddy Cole on Hammond organ. And don't forget Mancini's own simple piano style that touches every feeling.

F.R.

Jose Feliciano

El Fantastico! Un Poco Tarde, Sabor A Mi, Nosotros, Un Telegrama and eight others. *RCA Victor P8S 1598*, *8-track cartridge*, *\$6.95*.

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

This is a quality performance by the blind Puerto Rican "soul" singer, Jose Feliciano. It helps if you understand Spanish because all twelve selections are in the Latin idiom but it's not necessary, because musically all the numbers are top-drawer.

One characteristic of the recording that impressed me was the masterful guitar strumming of Feliciano. This is often overlooked in his performances because of his overpowering singing, but he is truly a great musician and a much admired one among his contemporaries.

P.A.V.

Andy Williams

Andy Williams' Greatest Hits. Andy Williams singing Born Free, Days of Wine and Roses, Moon River, More, Charade and others. Open reel. 3-3/4 ips. Columbia HC 1248. \$6.98.

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

It's hard to find fault with Andy

Williams in any way at all. If anything, perhapshe's too self-assured, and wellhe should be. His programming, arrangements, delivery and recording all rate tops. Even the slow speed (3-3/4 ips) does nothing to detract from the overall picture.

Most of these tunes are old-time favorites that we must have heard by dozens of other artists; in many cases we have several other artists' recordings of them. But no matter; this is Andy, and whatever he touches with his golden voice comes out glittering. Need we say more?

W.G.S.

Roger Williams

Themes from Great Movies. Raindrops Keep Fallin' on My Head, On a Clear Day, Hello Dolly, Midnight Cowboy and others. Roger Williams with orchestrasconducted by Don Costa and Ralph Carmichael. Ampex/Kapp M3629. Open reel. 7½ ips. \$6.95.

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

The music selection here represents an excellent cross-section of middle of the road popular tunes drawn from some of today's most popular movies. The formatting is excellent; unfortunately we can't say quite the same for the arrangements and performance. Some of the old Roger Williams schmaltz is missing; he's trying to hard to groove. Go back to the schmaltz, Roger; we like you better that way.

Where the old Williams peeks through the performance comes across as exceptional. Maybe we're just a little old-fashioned that way. The recording suffers also from some unevenness; chalk that up to using two different orchestra leaders (presumably at different times and places). It also results in a noticeable difference in noise level between the two different takes. Some have hiss; others don't. Still it's a very worthwhile collection and certainly worth investigating.

W.G.S.

Paul Mauriat

Paul Mauriat and His Orchestra Playing Let the Sunshine in, Midnight Cowboy, Hello Love, I Want to Live, Sweet Charity and others. Open reel. 7½ ips. Ampex/Philips L 6337. \$7.95.

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

Paul Mauriat is fast becoming a household word like Montavani and Kostelanetz. His own stamp on today's popular music is both distinctive and distinguishing. His arrangements have brought a breath of fresh



air into a segment of the music business that was yellowing from age and inertia. His is a "new sound" for the middle-aged adults who find Monty and Kosty too tame.

Here with the new sound for the 70's, Mauriat has a feel for what will satisfy most palates. The music has a hefty off-beat rhythm, but never gets raucous or repetitive. It's good, easy listening type stuff at its easiest and newest. Definitely a must buy.

W.G.S.

Broadway

Joy: The Original Cast Recording. Includes Time, Brown Baby, Funky Blue, What Is A Friend and ten others. RCA Victor 08S 1045, 8-track cartridge, \$7.95.

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

I wish I had seen this show because it really lives up to its title – "Joy." Anything that Oscar Brown, Jr. is connected with has got to be fresh, original and tuneful, and the star doesn't let the listener down in this recording.

Singer Jean Pace and the Brazilian accordionist: with the big, beautiful face, Sivuca, are also outstanding contributors. So, too, congaist Norman Shobey. There are some great "message" songs here as well as others that are just wonderfully musical and have nothing in particular to say. Boy, I sure wish I had seen this show!

F.A.V.

Floyd Cramer

Only The Big Ones. Includes A Lover's Concerto, What's New Pussycat?, The Shadow of Your Smile, A Walk in the Black Forest, Hang On Sloopy, A Taste of Honey, Yesterday, five others. RCA Victor. Open reel. 3% ips. \$6.95.

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

One way to insure sales success (or just plain good listening) is to put a big band to work on lush arrangements of 12 top tunes, add the dash of Floyd Cramer's piano, season with the Nashville Sound and spread smoothly along a ribbor of quarter-inch plastic. RCA Victor's done just that here. Unless you are a devoted fan of the artists who first gave life these big ones — in fact made them big ones — including Jankowski, the Beatles, the Toys, the Tijuana Brass, etc., you'll find that these colorful arrangements stand up well to close aural scrutiny. In each selection,



Cramer demonstrates the reasons for his immense popularity and overall delivers a solid program that requires no apologies.

"A Lover's Concerto" is flawed by too-close miking of the rhythm section and all the numbers seem to benefit from slight bass de-emphasis. Otherwise, as you'd expect, the recording is right on.

W.S.

Classical Collection

American Airlines Classical Program no. CW-229. Works, some complete, some excerpted, by Piroye, Mendelssohn, Telemann, Bartok, Schein, Bach, Kraus, Sibelius, Rossini, Mozart, Stravinsky, Desprez and Ives. Ampex/ American Airlines/Nonesuch CW-229. Open reel 3-3/4 ips. \$23.95.

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

tape

It's excruciatingly difficult for arrangers to put together these classical airline tapes; they've got to try to include something for everyone, and in the process they almost always compromise programming. Too many selections are a movement or two from a major work. This only serves to whet the listener's appetite, and just when he's hooked on that particular piece of music, in comes the syrupy voice of Bill Watson to tell him what he's been listening to and what's coming next. Please, Bill, go back to WQXR and leave the tapes alone. Without this commentary, we could squeeze in another movement or two.

Shorter works are liberally represented, presumably to avoid the stigma of cutting short a symphony in the middle too often. Many of the selections are thoroughly delightful, including some lesser-known composers whom we normally wouldn't hear. The Piroye Dialogue for organ is a superb short piece; the Telemann Sonata in F Minor gives Jean-Pierre Rampal ample exercise for his flute, and he's as great as ever.

Overall, musical selections are good, but programming is tantalizing with its abbreviated selections. Nonesuch produces a rich, warm chamber orchestra sound, and the performances here are quite good. Annoyingly, sequence B seems to have been dubbed at a lower recording level than sequence A - requiring a resetting of the amplifier's volume control. It also degrades the signal-to-noise ratio somewhat.

W.G.S.

Bizet (Plus Two)

The Naked Carmen-Electric Rock Opera – "Created, written, produced and

arranged" by John Corigliano and David A. Hess from the opera by Georges Bizet. With Melba Moore, David Hess, Pig Iron, Detroit Symphony Orchestra cond. Paul Paray, Mary Bruce and Her-Starbuds, John Atkins, others. *Mercury/Ampex M 604 reel 7½ ips. \$6.95.*

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

The provocative title, alas, is this Carmen's best feature. What follows the threading of the tape to the takeup reel and punching the "go" button never quite lives up to the title's promise of irreverance and humor. Billed as rock opera, Naked turns out to be neither. Despite the presence of the

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
W.S.	_	William Schroeder

Detroit Symphony, counterpointed – or outpointed – by Pig Iron and the Moog, an array of vocalists and a covey of earnest tape dancers, the concept is done in by banal lyrics and casual, if not careless, delivery by several of the soloists. A principal failing may be the lack of cohesion. Many of the individual elements give a feeling of having been manufactured separately and spliced – or force fit – tcgether. While a few selections are worth rehearing, the rest don't work and cause the total structure to sag badly.

Of what can be salvaged, the in-

strumental segments replay best. "The March of the Toreadors" pits the full symphony orchestra against Pig Iron and almost achieves the level of the Hoffnung Festival's operatic whimsey. Mary Bruce and her tap dancing Starbuds turn the "Gypsy Song" into a zany examination of "This Sick and Hungry World" but presenting the "Flower Song" as a poorly-miked, scratchy record - complete with repeatinggroove is dull, pointless humor. The producers chose a worthy warhouse to satirize but lost their touch very early. They should have put more time into better reins-and lyrics. Carman, even half-naked, could still make for a great off-Broadway show.

W.S.

Arthur Fiedler

Arthur Fiedler/Boston Pops – Have A Ball With Arthur. Selections are: Hey Jude, Misty, Spanish Flea, 1 Left My Heart in San Francisco, Chattanooga Choo Choo, High Noon, Cabaret, Swan Lake Waltz, Serenade, Hungarian Dance No. 6, On A Clear Day You Can See Forever Medley, Flight Of The Bumblebee.8-track Cartridge (also in cassette), RCA R8S-1166. \$6.95.

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

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