Tapes For Your Children \$6 Wireless Microphone

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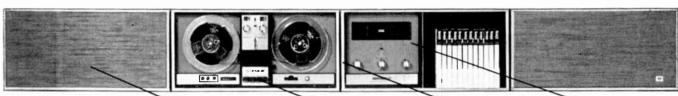
Vol. 13 No. 6



The Sounds of New York

How can a glamorous, sophisticated, rich-looking, beautiful tape recorder, that has earned a respected place in the home, be made even more desirable?

Here's how!



Last year's wall stereo was a great tape recorder. But this year's 5800 surpasses it! The cabinetry is fine walnut. Warm. Rich. Its design: more gracefullysculptured, leaner, sleeker than ever. Face plates and trim are now beautifullyburnished, gold in tone. But the biggest news in the 5800 is inside. Important improvements work together with solid-state circuitry to produce the most reliable Wollensak ever built.

Big 6" x 9" elliptical speakers and 3" tweeters produce full-throated high-fidelity sound. Speaker grill coverings are textured fabric, neutral in color to match any decor. Speaker systems are separated by a full 82" spread for magnificent stereophonic sound.

Finger-tip contoured, poweractivated push buttons assure positive tape control. Fourdigit tape counter indicates program location with unfailing preciseness. Golden-toned face plates and trim add another touch of elegance. Wider, roomier tape recesses and improved reel spindles make threading much faster. far easier.

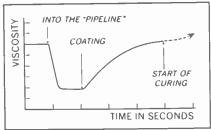
AM-FM Multiplex tuner (optional) includes built-in tape storage compartment. Modular design means entire unit can be hung, stacked, placed in a bookcase.



Some plain talk from Kodak about tape:

The binder that ties things together... and how to sound in the pink

"La sauce, c'est tout,"-the sauce is everything, say the French. An oversimplification perhaps. Still, as far as sound recording tape goes, the sauce — our "R-type" binder — counts for a lot. First off, there must be a mutual affinity between binder and oxide. It must be a good oxide mixer, while still keeping individual oxide particles at arm's length, you might say. Of course, fast drying, superior chemical stability, and a dozen other mechanical and chemical properties are a must. One very interesting point involves the "R-type" binder's extremely interesting viscosity characteristics . . .



"R-type" Binder Viscosity Graph

A Sticky Problem. Familiar with nodrip house paints? They're thick in the can . . . thin when you apply them (for low effort) . . . yet thicken again as soon as applied, so they won't drip. Somewhat the same thing has to happen when one applies the binder-oxide mix to the tape backing. It's got to go on smoothly-low viscosity . . . then it's got to stay put - high viscosity. To thicken the plot, once the coating is on, the tape is passed through a very strong magnetic field to physically align the oxide particles - low viscosity again. Once aligned, the particles have got to stay locked in "at attention!"—high viscosity. That's asking a lot of a binder. And ours delivers.

It's loaded. Our "R-type" binder not only gives you a more disciplined, smoother, more efficient oxide layer . . . but it allows us to incorporate a high oxide density in the magnetic dispersion. High output is the "proof" of this density. That's why KODAK Tapes give you from 1 to 3 db extra output compared to equivalent competitive tapes.

Pink noise testing . . . or how hi-fi is your room? Room acoustics certainly color the sound you hear . . . may even produce effects you have ascribed to electronics. Take test tapes, for example. They frequently make use of pure tones, even pure sine waves that easily go through your amplifier yet give a most confusing impression in your sound-level meter or ears. The culprit? Standing waves caused by hard parallel surfaces—like walls, floor and ceiling - which reflect the sound back and forth. At the point of reinforcement, the sound is loud: at the null point, it's low. What to do? Persian wall-hangings, bearskin rugs and soft rounded forms-if you're lucky enough—help keep standing waves down. But to develop the very best in KODAK Sound Recording Tapes, our engineers turn to "pink noise" testing.

Why pink? Unlike pure tones that



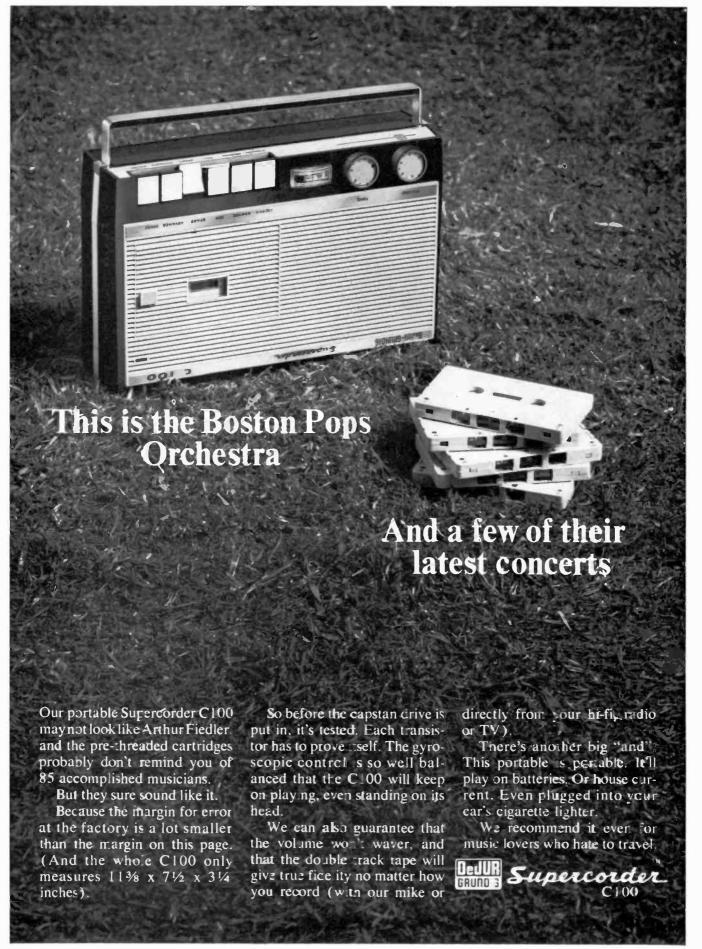
make for easy instrumentation, musical sounds are complex - very similar to narrow bands of "white noise." But a white noise generator produces a mixture of all possible tones with equal energy-per-unit frequency. By breaking this white noise down into one-third octave bands of equal energy, we can study portions of the sound spectrum separately, yet have sound waves that are sufficiently complex so standing waves no longer confuse the issue. We call this type of white noise "pink." We're working on a practical simplification that will let you do something of this sort for your



own checkout. But meanwhile, relax to the music of KODAK Tape, secure in the knowledge that it is even "Pink Noise Tested!"

KODAK Tapes—on DUROL Base and polyester base—are available at most electronic, camera, and department stores. To get the most out of your tape system, send for free, 24-page "Plain Talk" booklet which covers the major aspects of tape performance. Write: Dept. 940, Eastman Kodak Company, Rochester, N. Y. 14650.

EASTMAN KODAK COMPANY, Rochester, N.Y.





AUGUST, 1966

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tape

LETTER TO THE EDITOR

Winter Park, Fla.

Several months ago one of your issues contained an article appealing to your readers for "Tapes for Troops." It was a fine article and I felt impelled to join in the effort.

Now I want to share with you a letter which I have received from the Department of the Army, Headquarters 1st Logistical Command, Special Services Office, A.P.O. San Francisco 96307.

You don't need to print my name, but I think that you should reproduce the letter itself in your fine magazine urging others to cull their tape libraries for "Tapes for Troops." Our boys in Viet Nam are hungry for tapes of all sorts. They are buying recorders of every description wherever they can find them. And the Special Services people of the Army are doing a splendid job of getting any tapes we send over to them into libraries where the boys can use them. My understanding is that Special Services is also making dubbings from any tapes we send in order that copies may be made available in all sorts of remote situations.

You might repeat the information given in your article as to the various types of tapes that can be used (which covered a rather broad number of categories as I recall).

Who doesn't have tapes in his library which he seldom uses any more? Or older 2 tracks? Or duplicates that he could share? And if there is something new to sweeten the pot, all the better.

The address given in your article to which I sent my tapes was:

Tapes for Troops 1st Logistical Special Services Depot

A.P.O. San Francisco 96307 I presume that is still the proper address, but you could check it.

We will all feel better as we sit in the safe comfort of our homes listening to our favorite music if we have shared some of it with the boys who are doing a job for us in Viet Nam.

Frank P. Temple P.S.: If one can't quite afford to mail tapes first class for quick delivery, they can be sent very economically when marked "Sound Recordings, Special 4th Class Rate." which takes 6 to 8 weeks for delivery.

Boston, Mass.

I want to buy a pocket-size magnetic recorder for use on a trip I plan to take shortly, perhaps not using it thereafter or very seldom. I have looked at a Minifon at more than \$200 and an Aiwa at less than \$25.

To get an idea whether I would be throwing money away on a cheap recorder, for this special use, I looked up Consumers Research bulletins, but could find nothing on the pocket size. Nor, in the Boston Public Library, could I find anything that would help me determine how much I must pay for reasonable reliability.

Can you help me? I don't suppose you feel you can recommend specific models, but do I have to spend \$200 for reasonably satisfactory performance? Will any cheap Japanese (I was told "they are all Japanese") portable recorders fall apart immediately? With me, this is an experiment, for pleasure, not a lifetime proposition; but still it's my "hard-earned money" and I need guidance.

(Miss) Shirley Smith Sincerely,

P.S.: I must have an instrument I can conceal in a handbag or under a coat, as the "yarns" I hope to get would immediately cease if I set a recording device down among us.

S.S.

Suggest you start out with an inexpensive, capstan-drive battery

Who would you put in the box?



"Dizzy"?



Beethoven?



Uncle Louie singing "Danny Boy"?



Build a world of your own on Scotch Magnetic Tape

Whatever your listening preference... "Scotch" Brand "Dynarange" Tape helps you create a new world of sound. Delivers true, clear, faithful reproduction across the entire sound range. Makes all music come clearer... cuts background noise... gives you fidelity you didn't know your recorder had.

Best of all, "Dynarange" is so sensitive it gives you the same full fidelity at a slow 3¾ speed that you ordinarily expect only at 7½ ips. Lets you record twice the music per foot! The result? You use less tape ... save 25% or more in costs! Lifetime silicone lubrication protects against head wear. Ask your

dealer for a demonstration. Magnetic Products Division

portable. (You can find a half dozen in the under \$50 range.) Any reliable hi fi dealer in your area can suggest the one best suited to your purposes.

If you decide to go on with tape recording as a hobby, you can always sell or trade in your low-cost unit—or keep it for knocking around.



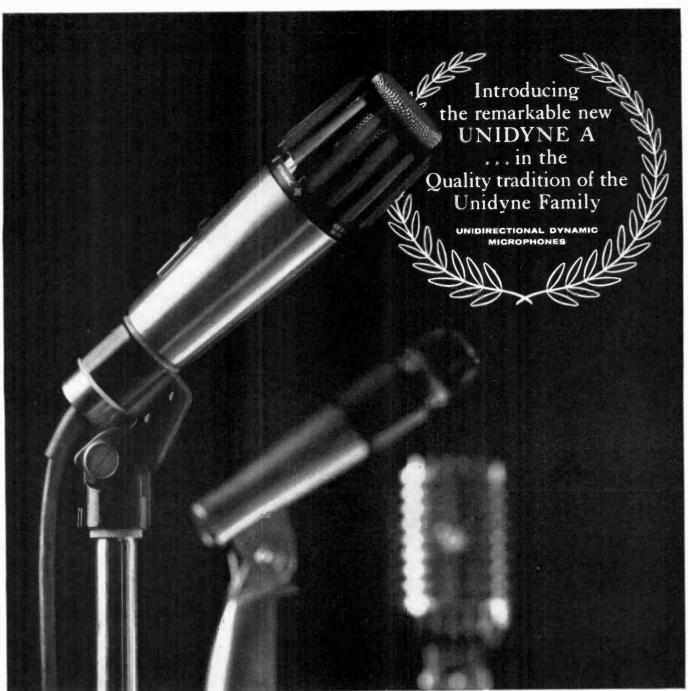
tape

NOTES

One of those oversights to which editors of publications such as this seem to be susceptible caused us to drop some important acknowledgements from our last issue. The editor's article on bias was based in large part on technical information supplied by the engineers of Eastman Kodak Co., and we'd like to thank Kodak's Mr. Paul Weis for his help in providing the necessary information and checking on our technical accuracy. The Ilustrations also were provided by Eastman Kodak Co.

Speaking of thanks, the publisher and editor would like to thank the tape clubs for their efforts in boosting TAPE RECORDING among their members and talking about us to advertisers. This magazine has always enjoyed the support of an enthusiastic readership, and it's nice to know you're still out there. When we began publishing TAPE RE-CORDING a year and a half ago. many clubs weren't sure how long we'd be around and understandably were reluctant to see their members spend money on a magazine which might disappear within the year. Well, we're still here and going strong - largely because of your help, advice and subscription checks.

We enjoy your mail even when it doesn't contain checks. If you like something we've done, we'd like to hear about it. And if you disapprove, or eatch us in a goof—we'd like to hear about that, too. Our only regret is that with our present overworked staff, it's impossible to answer each letter personally, or to answer all the queries we receive regarding equipment.



Now...eliminate background noise pickup at a new low price

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Never before such quality at so low a price! Controls background noise confusion, "thumping" sound from percussion instruments, and "hollow" sound associated with omnidirectional microphones. You'll be amazed and impressed by the clear, life-like tapes you can make with the new Shure Unidyne A... a low-cost, fine quality, wide-response unidirectional microphone with a truly symmetrical pickup pattern that picks up sound from the *front only*, at all frequencies. Only \$35.40 net.

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Unidyne A pairs (matched in both frequency and output) detect the subtle differences that "localize" sound for realistic, spatially-correct stereo tapes. Only \$70.80 net for the factory-matched pair, complete with plugs attached. (Note: The famed Unidyne II & III are also available in matched pairs).

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Taping the Sounds of New York

by Becky Odom



To the eight million people who call it home, New York may not seem like much of a tourist center. But to visitors from abroad and from most of the rest of the United States, New York is a magnet drawing millions of tourists each year. It doesn't have Philadelphia's Liberty Bell or the Grand Canyon's spectacle, Los Angeles' movie industry or New England's quiet charm. but it does have a lot to offer—and when I came to New York to work for TAPE RECORDING Magazine recently, I couldn't resist the opportunty to capture its sounds on a battery-operated tape recorder.

Because I was a relative newcomer in the city, I mapped a two-day program of sightseeing like a general planning his campaign. What I found is that there is a wealth of material to record (as well as to see and to photograph)—and many of the things I found exist in other American tourist centers. To find interesting things to tape, all you have to do is walk around, look, and listen—

and use a little imagination.

My sojourn began when I stepped out onto the street to find a taxi. Immediately things began happening which required my recorder's attention. Tearing down the street in front of me came two police cars, followed by fire trucks.

I'd been warned about talkative New York taxi drivers (I didn't know at the time). In the few short blocks we drove, I got the lowdown on New York's traffic situation at theatre time and how it could be corrected; some unsolicited advice on where to get the best Knobelwurst in town (a suggestion I adopted the next day); comments on women's fashions and we were starting on politics when we pulled up to Times Square. Where I come from, taxi drivers are expected to be seen—and not heard. But the recorder captured this monologue in its entirety—in a delicious Bronx accent which fascinates the folks back home.

As I got down into the theatre district, the crowds seemed as heavy as in New Orleans at Mardi Gras time, and most of the stores were open. As I passed 45th Street, I noticed a crowd standing around a preacher on a chair, right in the street. He was taking some pretty heavy heckling, but he gave as good as he got. I doubt if many of the theatres down the block have better shows. I have it now—on tape.

The next morning, Saturday, our photographer and I took a Claricon portable and a Grundig Super-Corder, an omnidirectional microphone, and three reels of triple play tape down to the tip of Manhattan for a ferry ride across the bay to Staten Island. I wanted to record a bit of the subway: the roar as the train came into the station, the click of the doors closing, the whine as



The lower East side retains its colorful style on streets like this fined with pushcarts.

Tape Recorder In New York . . .

the motors picked up speed, and the squeal as we rounded a curve. When I got down to the ferry slip, I found that it wasn't the best time to record the clink of nickels going into the turnstiles for the world's longest economy boat ride, but I recorded my own, then talked to the guard on duty while I waited for my boat. The trick in recording sounds like turnstiles is to place the microphone as close to the sound source as possible, then turn up the volume just beyond medium—unless there's a lot of background noise. in which case, you set the volume a bit below medium. For interviews, I try to hold the microphone face upward about midway between the subject and myself. When I taped my cab driver, after asking his permission, I held the recorder near his right shoulder as he talked.

The day wasn't much for sightseeing or picture-taking, I discovered as I walked out of a ramp onto the deck of the John F. Kennedy. It was cold and foggy. The fog, however, enhanced the recording. It seemed to add an eerie quality to the clanks and groans as the boat took on cars and trucks. Then there was the surge of engines, and we were off. From all over the harbor, foghorns and bells on bouys sounded their warning. As I stood on the stern of the lower deck, I could record the slap of the waves as we made our way. Later, I got even better sounds of the bay and the seagulls at the Fulton Fish Market.

The wind and the waves had given me an appetite, I discovered, as I stepped off the return ferry in Manhattan. There seemed to be nobody around as I continued uptown in the general direction of Chinatown, where I planned to have a snack. As we passed Wall Street, the only sound was that of a solitary motorcyclist sputtering past the New York Stock Exchange building around the corner.

Many major American cities have a Chinatown—usually an island of charm and color in the middle of a squalid slum. New York's is almost midway between the courts and the Bowery, and contains dozens of intriguing sights and sounds. On this particular day, there were a bunch of five-year-olds singing and playing in a lot on Pell Street—a strange combination of East and West.

Just down the street is the Eastern States Buddhist Temple of America, Inc. Actually, it looks more like an abandoned grocery or a storefront political headquarters from the outside than my idea of a Buddhist temple, but there was a sign in the window saying "Visitors Welcome" so I went in. Inside, a Buddhist monk didn't seem at all disturbed by my tape recorder. I examined the magnificent altarpiece, and to my surprise



"Dig We Must" says New York's Con Edison Co.



Polze had to fence in neo-Nazi pickets to protect them



Most folks in Chinatown are very cooperative.



at the May Day rally in New York's Union Square.

a taped voice was giving a dissertation on the Buddhist religion. Then I had a delightful conversation with the monk, a very soft-spoken man who was most accommodating. Later, my recorder and I eavesdropped as some old men sat conversing. Then came lunchtime. I must confess I was too hungry to bother recording the chatter of a Chinese family at an adjacent table or the Chinese music streaming from the jukebox. After lunch, I visited several of the gift shops in the neighborhood. You can't tape the haunting odor of Chinese incense, but you can tape the sales pitch of the clerk in a kind of broken, singsong English. (Most clerks don't approve.)

A bit further uptown lies the Lower East Side, famed in song and story as the neighborhood which spawned Irving Berlin, Al Jolson, Jimmy Durante, Eddie Cantor and Leo Gorcey and launched them into show business. Actually, the Lower East Side is largely a slum neighborhood settled first by Irish immigrants, later by Jews from Eastern Europe, and more recently by Puerto Ricans. Despite the old world flavor of many of the shops, the signs of Jewish settlement haven't totally disappeared.

Take Orchard Street for example. On a busy day, it's lined from one end to the other on both sides by pushcarts, by merchants who open the fronts of their stores and set up stands to sell reject socks and shoes, cheap plastic toys, firedamaged T-shirts, just about anything. On Sunday mornings, it's said to be one of the busiest places in New York. However, I was there on a rainy Saturday afternoon when only a few hardy souls were around. "You've heard of the House of Christian Dior," a young man selling \$18 dresses from a rack in the street shouted as I passed. "Well, this is the house of the Yiddische Dior!" We spent a delightful half-hour recording some of the funniest material I've ever heard.

Around the corner on Houston Street is Katz's Kosher Delicatessen, a landmark in lower Manhattan for a half-century. I just couldn't resist the salami and knishes and pickles in the window, so the recorder and I went in for another snack. Katz's is filled with odors as irresistible as any Chinese incense, and I soon found myself noshing on a thick Knobelwurst on rye and sipping a kosher celery tonic at a table next to three elderly men having a heated discussion in Yiddish.

A bit farther uptown I stumbled into an offthe-beaten-track antique shop where the star attraction at the moment was a scale model of a carousel—an exact replica, the dealer assured me, of one at Tivoli Gardens in Copenhagen. As it revolved, there were the unmistakable strains of old-fashioned carousel music. My surprise must

Tape Recorder In New York

The cries of seagulls are but one of a number of sounds one encounters on the ride from Manhattan to Staten Island





Annual May Day Rally attracts pro-Communists.

have showed, because the dealer let me in on his secret—an ancient monaural tape recorder concealed under the table on which the carousel sat, and controlled by a foot switch. Again, my recorder listened as the older model spoke.

I had heard about the discount department stores on Union Square, so I headed uptown (by taxi again) to see some of the \$49 copies of Paris Originals on display in the neighborhood. As it happened. I never got inside any of the stores. There was a much better show going on across the street-police everywhere, television cameramen, and demonstrators protesting the war in Viet Nam with speeches and songs. It was the annual May Day rally, a Communist "celebration." Demonstrating against the Communists were pro-war pickets and jackbooted members of the American Nazi Party. One interesting sidelight that occurred here was when I was approached by WNEW newscaster Stuart Klein. He wanted to know why I was taping the rally, and I did a turnabout and got a great interview with him!

By that time, I was getting pretty bushed, so I decided to head back to the office. On the way I caught a sound which I was beginning to decide really epitomized New York—the slap of a jackhammer against pavement. Everywhere I'd been in the city, there were sounds of construction—buildings going up or coming down, people digging holes in the street and filling them up. When this particular fellow found he was being taped, he turned off his hammer and took a few minutes out to chat. He found out I was a tourist and asked if I had been to the Statue of Liberty or the Empire State Building or on the Radio City tour. I admitted I hadn't. "Good Lord! What have you been doing with your time?" he asked.

The following morning, Sunday, I went to church and discovered that at least some church choirs and organists sound like real professionals. I didn't do any taping, but I could have—and the tapes would have been worth listening to again and again, After lunch, I took the Fifth Avenue bus down to the end of the line at Washington Square. Here dozens of young people-girls in bell bottoms, men in levis, wearing beards, were singing or listening to folk music. At a huge dry fountain there were perhaps a dozen knots of people, each listening to its own singers or group of singers. Here you could hear songs condemning the war in Viet Nam, young men in their 20s from the Bronx bemoaning the plight of the Okies during the 1930's, and real folk songs.



Greenwich Village's Washington Square is home to folk singers.



Sing-a-longs are a popular diversion for this park's visitors.

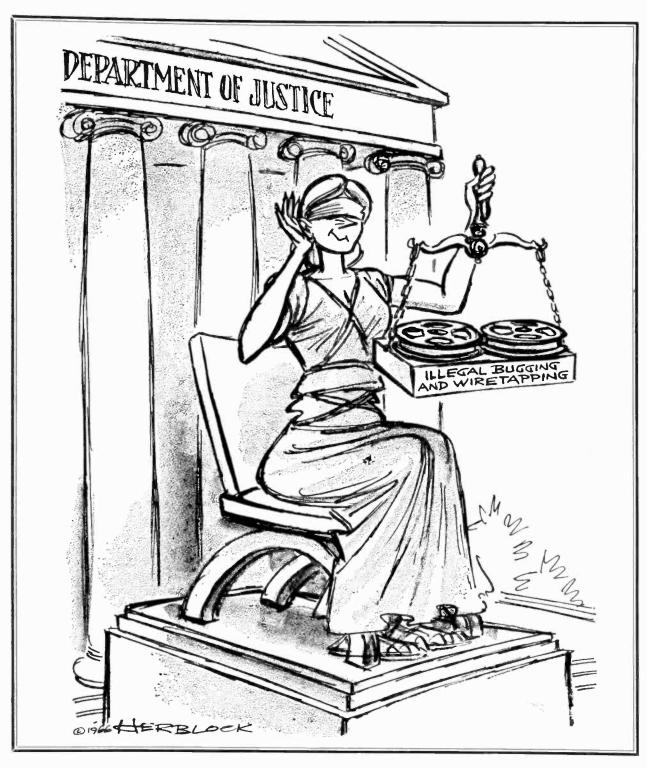
Instruments ranged from guitars and baujos to an inverted washtub into which a mop handle had been thrust and a string tied from the tub to the end of the handle. Surprisingly, some of the performers were quite good — especially a young man who had about forty-two songs that he wanted to play for me.

This didn't end my exploration of the city, although it did conclude my taping efforts. What this experiment proved to me is that anybody, with a little imagination, can find entertaining, offbeat things to record in any city. That fascinating tapes can be made even by an inexperienced person like me with a minimum of equipment and effort. That such tapes illustrate points you want to make about your visit when you get back home at least as well as pictures can, and can even enhance enjoyment of the pictures you take. Tape has one strong advantage over filmvou can play it back immediately to be sure youve recorded what you wanted to get. If the recording is defective or muffled, you can do it over again, right then and there.

One thing which surprised me—the ready acceptance of the recorder by everyone I met. In those cases in which I was recording an individual such as the taxi triver, the men in the restaurants, and others, I asked permission—and was never refused. I also asked permission to record in the Buddhist Temple and received it. In public places like the street preacher's meeting and the Washington Square outdoor hootenanny, I just recorded—and nobody batted an eyelash. If you have a battery portable and you haven't taped your city yet, why not plan a sound portrait this

Who's Bugging You?

by Leonard Schecter



"... there has even been invented the ultimate bug... It will pick up every sound in the room, even the rustling of the pages of a book or a sigh.

Although it was once a mark of some distinction, there is very little status left these days in having your phone bugged. What counts is being able to whip out a handy little 101 Sentry, slap it on a telephone and exclaim, "Ha! This instrument is under electronic surveillance." There is, alas, a bit of 007 in all of us.

Pandering to this spy-under-the-skin syndrome is a shop on West 46th St. in New York called Continental Telephone Supply. At first glance it appears to be a shop like any other. It sells tape recorders, hi-fi sound equipment and the strange-looking and probably useless little gizmos one sees in any electronics shop window. If there is anything different-looking about this shop, it's that it also sells telephones, most of them so French they make calling down for a box of dog yumnies as delicious an experience as ordering a bath for Madam DuBarry.

Under this frou-frou, though, are for sale some of the most sophisticated eavesdropping devices known to man or beauty parlor. Also some of the best eavesdropping detecting equipment outside of the U.S. Embassy in Moscow. Nor does one have to be a CIA agent to purchase this material. Just walk in and flash money.

The wide publicity engendered recently by electronic ears, battery-powered martini olives, taps, bugs and UNCLE has caused a sort of paranoia in this country. And the discovery in May, 1964, of an eavesdropping device in the eagle—the eagle, for goodness sakes—in the American Embassy in Moscow did nothing to turn us off. If you can't trust the American eagle, what's left?

Today, Madalyn Murray, professional gadfly and atheist, swears the feds are bugging her bed. The people who make automobiles see a bug under every blueprint for a new fastback. Simultaneous discoveries by slick drug companies lead to campaigns of bugging, de-bugging and counter-bugging. Wives with paramours have stopped using their home phones to talk to them. Husbands with mistresses won't use the phone altogether. It's gotten so that when a haberdasher takes on a new line of underwear he insists upon protection from the thieving spy who owns the store down the street.

"This is big business," says Ben Jamil, the short, dark, nervous dapper man who is the brain behind the electronic boom Continental has been setting off in the last few years. "This year we expect sales of our protective devices to far exceed the sales of our eavesdropping devices. The security business is getting bigger all the time. It's booming."

Nor is Jamil, who conducts his affairs from tacky although bustling offices over the store on

46th Street, above contributing to the hysteria which has created such a large demand for his products. Instead of goodby he says, "See you. And don't say anything on the telephone you don't want everybody to know." Jamil starts conferences with his own employees by raising his eyes in an attitude of prayer and intoning, "Hello, Big Brother, wherever you are."

"It's no joke," says Hank Klumb, who is in charge of Jamil's electronic department. "In the company I was with before, I discovered a leak in my own office. I found three mikes in those little holes in the acoustical tile in the ceiling. Now that was a professional job. An amateur would have used only one mike. Anyway, it turned out the guy responsible was one of my associates who was going into a competitive business of his own. I never go into a conference now without checking."

Continental sells three basic products to detect eavesdropping, and if one is going to feel secure one simply must have all three. "The Sweep" costs \$350 and is designed, says Ronald Fine, a perky young man who sells these things to the public, "to protect the little man from the big ear." A foot-square box with a pride of dials and a small rectangular antenna. The Sweep will detect and locate hidden transmitters. (Under a recent FCC ruling it's against the law to use a transmitter for eavesdropping, but since these are by their very nature surreptitious devices anyway, it's a law that will be widely ignored.) With most bugs doing their job through the air rather than wires these days. The Sweep is a handy little box. It will not, however, take notice of a wired microphone. For that one needs an even more sophisticated detector which is still in research and development.

Then there's the Sentry 101 (\$250). This is a metal box not much larger than a pack of cigaretts with a dial which will oscillate when plugged into a phone that has a wiretap on it. After that, you are on your own. On complaint the telephone company will trace down a bug and report its findings to the district attorney, who will then shrug his shoulders helplessly. Bugs even when detected are almost impossible to trace.

Finally, we have the dandy little all-purposes jammer, also priced at \$250. Just put it next to a telephone, turn it on and it hoplessly garbles any wireless tap that might be on the phone. The beauty part of the jammer as far as Continental is concerned is that even if your phone isn't bugged you think you ought to have one just in case it ever is. This is very good for business.

"Our next product, which is being developed in our Philadelphia lab," says Klumb, "will produce what we call 'white noise.' This will jam any

Who's Bugging You?

microphone, recorder, transmitter or anything else used to eavesdrop. It will provide perfect security

for any room.

This is a fairly rash statement because the only thing perfect about a bug is the shortness of its life cycle. No sooner does a bug reach adulthood in the brain of one technician when it becomes obsolete because another tehnician has found a specific DDT which will cause it to roll over dead on its back. Obsolescence in electronics is a daily way of life.

"We have men on our payroll we call manipulators," said Klumb, a man with a dripping Texas accent and a bristly little red mustache, a combination which makes him appear diabolical (and which he enjoys because it is the view he has of himself). "Anytime we invent a new device we bring it to a manipulator and he tries to beat it. The CIA has its own security systems all over and the boys there like to say they haven't had anything they couldn't beat, one way or another, in 32 minutes."

Maybe so, but the Russians defeated the CIA boys for a long time with an inert microphone which registered zero on everyone of their fancy dials. The only time the mike worked was when the Russians focused a beam on it from the opposite side of the room. There is only one way to unearth a microphone like that—tear a room apart inch by inch. And that's the way this one was uncovered, leaving some red faces, a very messy room and heaven knows how many stolen secrets.

There is a certain hilarity here. It has been suggested that as bugs and anti-bugs cancel each other out someone will at last discover the ultimate snooping weapon, an ear to a keyhole. "Could happen," Klumb says. "I know one of our engineers says he carries a bowie knife with him all the time so that when the big bang comes he's going to be the only caveman with a good steel knife."

In the meantime men like Jamil and Sid Mosler are going to make a lot of money. Mosler, of Mosler Safes, got into the bug business trying to work out ways to prevent people from stealing his burglar-proof safes. That led him into electronics and now it's the fastest growing part of his empire. "This whole business about bugs is overrated," says Coleman London, who runs Mosler's Danbury. Conn., plant, carefully putting the large private ear business he does with the U. S. government under the rug. "Our basic business is photo security, taking pictures of people who commit robberies, an improved method of reporting intrusions."

In the good old days a burglar alarm consisted of a loud bell. This was designed to wake up all the cops and babies in the neghborhood and scare hell out of the burglar besides. Times change, though, and so do burglary techniques. It wasn't long before the burglars were shutting off the bells as easily as they were breaking and entering. So science and Mosler developed a tape recorder that would call the cops when the crooks showed up.

"Hello, 16th precinct."

"This is a recording. The premises at 14 West 46th Street are being burglarized. This is a re-

cording. The premises at . . ."

When the crooks figured out ways to shut up that recorded yap, the Mosler people perfected a reporting system that involved giving the police a signal every 10 minutes that everything was fine. No signal and the cops jumped into their cars, sirens screaming. Even that turned out to be less than foolproof against pros, however. Thieves with a bit of know-how, a screwdriver and a hairpin were soon sending the cops perfume-scented all'swell messages while their confederates loaded the premises onto the back of a truck.

"People have been defeating our telephone lines," London admits. "We're putting a lot of effort into stopping that. We think we've got some lines now that *can't* be defeated." But he didn't want to bet.

Everybody gets a little cozy about revealing the amount of money that's involved in this bugging business. Jamil, a man given to small exaggerations, says cheerily that Continental probably sells 90 per cent of all bugging and de-bugging devices in the country and that business is so good he's about to set up franchised dealerships in Washington, Boston, Newark, Chicago and someplace on Long Island, South Shore, of course. "Last year the government spent a billion dollars on this kind of equipment," Jamil said. "Private industry in Detroit alone also spent a billion. Sales agencies spent half a billion or more."

Was Jamil saying that his business was running

into several billion dollars a year?

He shot his cufts modestly. "Well, no," he said. "Let's say several million. Don't forget we sell mail order all over the country. And we're expanding all the time."

The while business of industrial espionage is expanding so rapidly it recently oozed its way into the halls of Congress. There a stern committee of angry Senators twisted the arm of General Motors President James M. Roche until he apologized for hiring people to dig too deeply into the personal affairs of Ralph Nader, who wrote a book criticizing auto safety. Not that the Senators turned anything off. "They've been doing it for years and it'll get bigger," the Wall Street Journal quotes a Dallas private eye as saying. And a Cleveland management consultant says, "There's a whale

of a lot" of company spying, especially in cases of suspected patent infringement and employee dishonesty.

Just in case the government ever puts him out of the espionage supply business, Jamil is keeping escape routes open. One of his sidelines at the moment involves a telephone that will memorize 400 numbers and ring them at the press of a button, call back every 60 seconds if the line is busy, every 20 minutes if there is no answer, redial to a second number if the first doesn't answer and redirect incoming calls to a different number. "This is very good," Jamil says, "if you want your wife to think you are in the office when you are really someplace else."

The service that Jamil supplies that the Mosler company sneers at is to the individual snooper, the nosy neighbor, the nervous father, jealous husband, worried lover. Sixty per cent of his business, Jamil says, is with business concerns, 35 per cent with professionals—law enforcement officials, private detectives. The remaining 5 per cent walks into the store, looks around nervously, clears his throat and says, "Look, is there anything I can put on my telephone to find out what my wife. . . ."

"Step right this way," says Ronald Fine. "Now we have here a simple little device called the Byphone. .." This is the least sophisticated of Continnental's snooping gadgets. Slap it against a single linephone extension and you can pick up both ends of the conversation without the telltale lifting of a receiver. It's very handy for fathers who want to know what their teenage daughters are yacking about. "One man I know was sorry he listened," Fine says. "Turned out his daughter wasn't as nice a kid as he thought she was." The Byphone, available at a mere \$18.95, is also good for classy things like listening in on one's wife or other members of the household. But it's no good unless one is handy to an extension.

Trading up from the Byphone you are in the Unicom class (\$69.50). The Unicom can plug in on any single-line telephone. It's usually used in combination with a tape recorder. "If you can drive a car or put a plug on a lamp," Fine says, "you can learn how to connect a bug. I can teach a housewife how to do it in five minutes. And I have."

The Unicom is in great demand for commercial spying. It is not particularly unusual for a company to plant a secretary in a competitor's office. The girl is delighted because she collects two salaries. She doesn't have to do much; just reveal the contents of a sealed bid once in a while. A Unicom and a recorder on her phone will catch her red-faced. A Unicom can also be used to check unau-

thorized uses of telephones. An owner of a trucking company says he saved \$400 a month nabbing night workers who were using his phone to call relatives in places like Alaska and Bolivia.

Some companies use taps merely to check on the telephone sales pitches of their employees. No matter what the law is, you hire a man and you like to think you have a right to know if he's insulting customers on the telephone. Like most spying devices, however, this can be a two-edged bug.

An automobile dealer with showrooms on 57th Street installed several Unicoms and tape recorders not long ago to check on his salesmen's conversations. He sat down one evening to play back the recordings and discovered his sales manager was carrying on with a woman. The dealer chuckled until he suddenly realized the woman's voice was familiar. It was his own wife. They were divorced, but the sales manager was not fired. He sold too many cars.

Another tale has to do with the owner of a plant who was losing inventory out of his warehouse. Specialists told him that there was usually more than one employee involved and that the likeliest place for their secret conversations was the men's room. So several bugs were installed. Sure enough the thieves were caught on their own recorded admissions. And one of them was the owner's son, who was supposed to be learning the business from the ground up but couldn't wait to become a partner. The moral of this story is: keep your mouth shut in the men's room.

Next step up in electronic sleuthing is an In-Line Transmitter. This lovely gadget sells for \$179, and no one's life is complete without one. It's about the size of a lipstick and fits cozily inside any telephone, drawing power from the line itself. It sits there silently broadcasting every conversation, no matter how many lines the phone is hooked up to. An FM receiver in another room, or another building, picks up the signals. Plug in a recorder and you have the practically perfect tap.

It was this kind of tap, Jamil says, which made him big business. Ask him how he got into the bug line and he tells you, "You want the truth or a good story?"

Well, a little of each.

"The truth is," said Jamil, who is 32 and a Brooklyn College grad, "I started out selling these old phones because I like old things. Then people started asking for these other things and I started to sell them, too."

And the story?

"The story is that a man came in here one day and ordered two French phones, one for his wife, the other for his mistress. He didn't trust his mis-



tress, though, and wanted a bug put into her phone. Naturally he mixed the phones up and installed the one with the bug in his own home. The next night he's talking to his mistress on the telephone from his study and his wife picks up the conversation on the FM radio she's listening to. She divorced the bum. He was a scoundrel. A louse. But she thought the bug was wonderful. So she came in here and wanted to know all about them. She had a lot of money in her own right and she became my silent partner. It was her money that I used to build this business. Would you believe it?"

Probably not. On the other hand the whole business of bugging is unbelievable, unbelievable but true. There has even been invented the ultimate bug, the one that does everything but stand on its hind legs and beg. Slip it into a phone and you have one of the most sophisticated devices ever invented. It's something Napoleon Solo could use with pride. Once this fancy little gold-plated bug (it costs around \$600, or whatever the traffic will bear) is installed in a telephone, all you have to do is call a number that's attuned to and the phone, instead of ringing, becomes one great big bug. It will pick up every sound in the room, even the rustling of the pages of a book, or a sigh. And you can call the number from 3,000 miles away if you wish.

This is extraordinarily useful to business men who want to know what's said in their offices behind their backs, jealous husbands who travel a lot and spies. It's such a beautiful bug it's referred to as "The End" and the telephone company insists it can't exist. But what does the telephone company know? Any outfit that would change a nice old Gramercy exchange to LT is so far out it's bound not to know what's new. Or maybe, heaven forfend, the telephone company tells lies. There is, indeed, considerable underground opinion that the phone company not only knows about "The End," but it has perfected it to the point where it not only listens, it floats out sonic waves and takes and transmits pictures. This is not so far-fetched when one considers the way pictures are sent back from Mars. But a spokesman for the telephone company says, "Judas Priest! There's never been anything like that. And if there were we would be against it."

Yet there are some strange things around and you can walk into the shop on 46th Street and buy a lot of them. You say you wonder what all that arguing is about in the next apartment? Try an electronic stethoscope. It was designed to help a hard-of-hearing doctor, but it works swell if you put it against a wall instead of a heart.

The whole business of industrial espionage is expanding so rapidly it recently oozed its way into the halls of congress.

If that doesn't fill in the picture well enough, there's always a nice little keyhole microphone, a highly sensitive mike attached to a long plastic tube. If there's an electric outlet on the wall, you take off the plate, put the tube in and *voila!* Instant snooping.

You say you want to cheat on an exam? Get one of those handy-dandy concealed throat mikes and a button receiver for your ear; whisper the questions to a confederate down the street and he'll read you the answers out of a book.

Worried about all these bugs? Don't go to the park for your private conversations. For \$400 anybody can buy a long-distance microphone, stand behind a bush 150 feet away and pick up every whisper. Nor can you count on security by holding your talk in the middle of a football field at midnight. A high-priced parabolic microphone can pick up a hiccup at 500 feet or more. For real security try your private chat in the bathroom with the shower running. Only don't count on it for long because there's an expert somewhere working on a way to filter out the sound of running water.

Are you, perchance, a bookmaker? Great. Be sure to pick up one of those wonderful little Triple-0-Eights. It's no bigger than a pack of cigarettes and it will broadcast over a thousand feet. Try tapping the 0008 into a phone booth someplace. That way your customers can drop by, pretend to make a phone call and give you their bets instead. And you don't have to worry about the cops tapping your phone because you are not using it for anything but ordering beer.

Beautiful, right?

Questions like that bug, it might be said, people like Jamil who sell these little conveniences. "We sell these devices," they say. "We don't install them. If a guy buys one to install in his own office and puts it on his wife or competitor instead, we assume no responsibility."

Besides, that's what the public wants. In fact, the public can't get enough. "Why, do you know," Ronald Fine says, "I get a lot of people coming in here who want to buy something they can point at a guy and find out what he's thinking."

It's rough, but Continental doesn't have that.

Not yet.

REVIEWS

Bach

The Six Brandenburg Concertos, BW1 1046-1051; Suites for Orchestra Nos. 2 in B, BWV 1067 and 3 in D, BWV 1068. Berlin Philharmonic cond. Von Karajan Deutsche Grammophon DGT 8978, 71/2 1ps \$19.95.

> Music Performance Recording

Here is the fourth complete set of Prandenburg Concertos to appear on tape, the third taping of the Suite No. 3 and the second taping of the Suite No. 2. Pablo Casals and the Marlboro Festival Orchestra have managed to get the Brandenburgs onto a single standard reel at 7½ ips, while Otto Klemperer's single reel version is recorded by Capitol at 334 ips. The Scherchen and Von Karajan recordings each take two seveninch reels. Each recording has its own virtues, and your choice may well depend on your personal taste in conductors. The present tape sounds better to these ears than Capitol (brighter highs and less tape hiss) or Westminster (more brilliance and better overall tonal balance), comparable to Columbia's fine

When it comes to the Suites, however, Von Karajan's only real competition is from Karl Munchinger and the Stuttgart Chamber Orchestra, while Von Karajan tends to take the symphony approach to these works. Suites 2 and 3 are much more melodic than their comfamiliar tunes come-and benefit from Von Karajan's somewhat more lyrical approach. If you're building a Bach library, however, you might be better advised to buy Munchinger's complete recording of the Suites and Casals' complete recording of the Concertos. —R.A.

P.D.Q. Bach

Concerto for Horn & Hardart, Sinfoma Concertante, Quodlibet, Cantatas Iphigenia in Brooklyn soloists, orchestra cond. Master Vanguard VTC 1716, 7½ ips, \$7.95.

> Performance . . . Music Recording

Okay, baroqueniks, we're in for a little humor here. So, in essence, im-presario Peter Schickele announces in his introductory talk on P.D.Q. Bach. the last but certainly the least of J. S. Bach's 20-odd children. The tape is an obvious parody on the current popularity of baroque music, and might have come off if it had been handled with more restraint. Those music lovers familiar with Hoffnung Music Festivals produced in England by the late humorist Gerard

Hoffnung (by the way-why aren't those parodies and satires on tape?) will find some of the same elements present here-the Quodlibet, with quotes from virtually every musician of the period and some more recent; the cantata with a ridiculous set of lyrics, the movement that seems to go on forever while the composer makes up his mind how to end it, and the visual bits of humor, such as the left-handed Sewer Flute.

The audience (this was taped at a live performance in New York's Town Hall) is having a high old time, to judge from the laughter-and you'll get some laughs, too, if you're up on all the nuances of baroque composing and performing. If you dig this kind of musical in-joke, we'd prefer to see you spend your money on Elektra's ... Baroque Reatles Book. There's real parody and satire, with just the right amount of emphasis.

Recording here is fine and the soloists. which include harpsichordist Leonid Hambro and horn player Ralph Froelich, carry on in the spirit of the evening.

Musical Offering, BII'I' 1079 soloists cond. Richard Archive ARC 3220, 71/2 ips, \$7.95

Bach

Music • • • • Performance Performance

While, at least for this listener, this is not a perfect realization of Bach's magnificent tribute to Frederick the Great, it is a welcome addition to the tape catalogue, and certainly can find a place until a better version comes along. What trouble there is arises from the harpsichord of Karl Richter (who also acts as scholar and conductor). In the trio sonata, in particular, the harpsichord becomes a thick, plodding instrument when it should be lively and free.

The ensemble's other harpsichordist, Hedwig Bilgram, seems to be at odds with conductor Richter. Recording is clean, clear and close-to, with brilliant highs and a low hiss level. -R.A.

Beethoven

String Quartets Nos. 7-11, Op. 59 Nos. 1-3, "Rasumovsky," Op. 14, "Harp;"
Cp. 95 Amadeus Quartet, Deutsche
Grammophon DGG 8536, 7½ ips, \$21.95.

> Music Performance Recording . . .

This is the second volume in DGG's complete recording of the Beethoven string quartets, and a welcome addition

to the tape repertoire. Until now, to the best of our knowledge, none of these quartets have appeared on tape. To have them all together, and so well done at that, is a real pleasure.

This is not to say that this tape couldn't be dislodged at some later date by an even better performance and recording. When we took out our scores and started looking for some nits to pick, we found some: a weak solo at the beginning of the first Rasumovsky (and again in the first movement of the third); some tempos-particularly in the first quartet-which seem either too fast or too slow. The slow movement, for example, is taken much slower than the composer has marked it.

Now, what about the recording? The engineers have attempted to complete a tonal blend, rather than separating each instrument. Generally, one has the impression of a small, intimate auditorium with the microphones placed somewhat back in the hall. Tape hiss is present on my review copy, but I noted it only in the slow, quiet passages. Since this recording is at least seven years old, it doesn't qualify as super high fidelitybut then one wouldn't want these works recorded in Phase 4 Stereo. —R.A.

Dyorak

Symphonies Nos. 7 in D, 8 in G, 9 in E, "From the New World." Cleveland Orchestra cond. Szell Epic E3C 848, 33/4 its, \$11.59.

> Music Performance Recording

All three of these symphonies are already available on tape-and the audiophile who wants the maximum in fidelity can get these performances, recorded at 7½ ips on separate tapes at \$7.95 each. How does this version compare with those already available?
First, the sound: this tape is very lis-

tenable, with low hiss and a warm sound -warmer, in fact, than the 7½ ips version, which has more brilliant highs. It your recorder is capable of truly high fidelity performance, you'll certainly derive added pleasure from the separate recordings. If you're not primarily concerned with fidelity, you'll find this set more than adequate, and a great deal more economical.

Next, the competitive versions: Szell is a clear winner in No. 8 over London's Kertesz, but we'd rank his behind London's Kubelik in the other two. Kubelik, to our mind, has just the right idiom for Dvorak, and turns in a par-ticularly stirring version of the "New World." Actually, however, the difference here may be one of taste, since Szell's is a fine, businesslike performance, as opposed to Kubelik's highly romantic interpretation. The "New World" offers a number of other contenders: Fritz Reiner, Bruno Walter, Von Karajan, even Arturo Toscanini.

Epic is to be congratulated for providing a space, on the back of its box, to note the counter number from your recorder for each movement and each symphony. It also has thoughtfully provided the playing time of each movement, making location of any desired passage very much easier. We hope this a trend and we'll see it on collections of pop music as well as symphonics. Other labels please copy!

—R.A.

Gounod

Faust: Highlights; Romeo and Juliet: Highlights Rosanna Cartieri, Victoria de los Angeles, Nickolai Gedda, Michel Dens, Boris Christoff, Ernest Blanc, Liliane Berton, Paris Opera Orch. cond Lenbard and Cluytens Angel Y2S 3686, 344 ips, \$11.98.

Music • • • • • Music • • • • • • Recording

The Faust highlights are not new—they've been available as ZS 35827 (7½ ips) for some time. But this is the first appearance of Romeo and Juliet on tape, and a welcome one. Suffice it to say that the collection includes the major arias and concerted numbers from both operas—about all we'd want to hear of Romeo in any case. We hear about 25 per cent of Faust, and if you'd like to hear more, we'd strongly recommend Angel's complete recording—the only one on tape, but not likely to be bettered for many a year to come.

Michel Dens' Ballad of Queen Mab is probably the best-known aria in Romco, and is is sung well. The tomb scene between Cartieri and Gedda is both beautiful and moving. Nevertheless, Romco and Juliet is rarely performed primarily because all of the really good music (and then some) can be accomodated on this tape. Boris Christoff make a magnificent Mefistofeles on Track and is fortunate to be surrounded by a good cast. He is, nevertheless, the star. and dominates the tape (listen to his Serenade in Act 4 or the Waltz and Chorus in Act 2).

This seems to be a month of 3¼ ips releases. Like most of the others we've been listening to, this one shows a minimal increase in tape hiss over 7½ ips, but some dimming of high frequencies. We hope Angel continues to offer these performances complete at 7½ ips, in excerpt both at 7½ and 3¼ ips to suit the needs and the purses of as many collectors as possible.

Handel

Arias from Alcina, Guilio Cesare, Messiah, Samson. Joan Sutherland with various orchestras cond. Bonynge, Boult. Molinari-Pradelli London LOL 90110, 7½ ips, \$7.95.

Music • • • • Performance Recording • • • •

Joan Sutherland proves once again with this tape that she is the possessor of one of the world's most beautiful vocal instruments—and that she has no ability whatever to get inside the character she is supposed to be portraying. Her Acina and Cleopatra are stiff, wooden characters—much, one supposes the way Handel may have visualized them for the prima donnas of his day. Nevertheless, when these spectacularly beautiful arias are sung in an emotional monotone, they lose much of their interest.

Her "Messiah" excerpts, then, should be the highlights of the set. But somehow we can think of half a dozen sopranos who have sung them better—with much less in the way of vocal equipment. Sutherland, not Handel, is the attraction on this tape, made up mainly of excerpts from previously issued recordings. Sound is first-rate.

—R.A.

Haydn

Symphonles Nos. 99-104 Vicana State Opera Orchestra cond. Woldike Vanguard VEF 1916, 334 ips, \$9.95.

Music • • • • • Performance Recording • • •

These recordings were among the first to appear on two-track stereo tapes, way back in 1957, when they were one of the audio hits of the New York high fidelity music show. At that time, they cost \$11.95 a pair, and were considered a bargain at the price. Today, they're a real bargain, especially compared to Capitol's recording by Sir Thomas Beecham, priced at \$17.98. Both Capitol and Vanguard offer the same six symphonies. The recording of both leaves something to be desired-Vanguard's nine-year-old sound and Capitol's phoney stereo. Beecham's is clearly the finer performance, with the grand old man taking a leisurely pace through the "London," the "Clock," the "Military" and the other three symphonies composed for a concert series in London in 1795, while Woldike tends to rush his tempos. Beecham's sound is a shade cleaner, too, despite the attempts to spread it out over two channels (Vanguard makes much better use of the stereo medium).

If all else were equal, we would

recommend the Beecham as a cornerstone of any complete tape library. But all else is very definitely not equal. The Capitol recording certainly isn't twice as good as Vanguard's; and while we prefer Eeecham, we don't do so to the tune of \$8. We find this to be an ideal use of the \$\frac{3\psi}{4}\$ ips medium, with the speed's slight loss in fidelity admirably matched to the aging sound of the recording. The program is intelligent, the performance of high caliber, and the sound adequate.

Mozart

Complete Sonatas for Organ and Organ and Orchestra, Carl Weinrich, organ and Arthur Fiedler Sinfonietta cond. Fiedler RCA Victor FTC 3008, 7½ ips, 80.95.

Music • • • • • Performance Recording • • • •

Here's one of those odd coincidences which seem so frequently to strike the recording industry. Collectors wait for years for a complete recording of the organ sonatas, to be greeted finally with not one, but two sets. Columbia's with E. Power Biggs is not yet at hand, but Victor's set would seem to satisfy. The organ music is delightful in small doses,



Arthur Fiedler

but only the true Mozartean or organophile will want to listen to this tape
straight through. The organ, it should
be noted, is that of the General Tyeological Seninary in New York City, and it
has been beautifully taped by RCA engineer Ed Begley. It's an organ with the
"feel" of the European organs on which
Mozart himself may have performed
these pieces. RCA has recorded it about
nidway back in the hall, picking up
enough auditorium resonance to add color
to the instrument itself. Whether it's
worth your while to wait for the Biggs

Tape Reviews

tape will depend on your view of the two organists. But for a straightforward exposition of the music, sensitively played and well recorded, you can't go wrong with this tape.

—R.A.

Mozart

Contradanses, k.607, 535, 609, Vienna Marches, k.249, 335 No. 1, 445; German Dances, k.600; Minuets, k.568, 103; Mozart Ensemble cond. Boskovsky London LCK 80172, 7½ ips, \$11.95.

Music • • • • Performance Recording • • • •

Ampex Stereo Tapes deserves a great deal of credit for its efforts to expand the horizons of the classical tape repertoire. It remains to be seen whether London's recordings of Mozart's complete dances and marches will prove commercially successful on disc—yet Ampex evidently intends to make the series available complete on tape.

Nobody would argue that these are essential parts of the classical repertoire. or even that every well-appointed Mozart library should contain them. But we would argue that the music is highly enjoyable—the popular music of its day, created by a genius. It is stylishly performed—Boskovsky somehow manages never to let these short pieces sound repetitive or uninteresting—and skillfully recorded. For some light classical listening, or for a new insight into the greatest composer of his age, this tape is a worthwhile addition to the tape catalogues.

We enjoyed it, and we expect to continue enjoying it. —R.A.

Mozart

Piano Quartets in g, k.478 and E Flat, k.493 Peter Serkin, piano: Alexander Schneider, violin: Michael Tree, viola and David Soyer, cello Vanguard VTC 714, 7½ ips, \$7.95.

Music • • • • Performance Recording • • •

Mozart's two piano quartets are long overdue on tape. This recording of them features the teenage son of Rudolf Serkin with a strong trio under the supervision of violinist Alexander Schneider, a soloist in his own right and member of the Budapest String Quartet. The youthful Serkin is well on the way to being a worthy successor to his father. He has just the right touch for Mozart and has the technique we're coming to expect from young American pianists. Suffice it to say that Schneider supports him warmly and sympathetically. The Van-

guard recording is good, with miking rather closer to the instruments than we'd like. All in all, a useful addition to the catalogue.

Nevertheless, one can't turn away from this tape without hoping that someone else will try these quartets on tape soon. We believe the sonics, good as they are, can be improved. We feel that Serkin does well by this beautiful music—but we'd like to see someone else take a crack at it.

—R.A.

Prokofiev

Romeo & Juliet: Suite, Philharmonia Orch. cond. Kurts Ankel YS 36174, 334 ips, \$7.98.

Music • • • • • Performance Recording • • •

One of the pillars of our record collection has long been a recording by Efrem Kurtz of selections from the modern masters. That Columbia record has long been out of print, and our copy now worn and threadbare. Kurtz's new recording of the Romeo & Juliet Suite lives up to the promise of that early LP—a sharp, incisive reading of the score which manages to point up Prokofiev's wit and tenderness as they alternate throughout the score.

Angel has supplied this 41-minute tape on a five-inch reel, which seems to make sense to those of us whose shelf space is growing short. Personally, we'd much rather have 400 feet on a fairly full 5" reel than occupying only a small part of a 7" reel. Sound quality is more than adequate for the lower-priced home recorders. Ampex owners and those who play this tape on more expensive equipment may miss some of the brilliance of 7½ ips recording, however. —R.A.

Purcell

An Anthology contains excerpts from The Fairy Queen, The Indian Queen, King Arthur; Fantasias Nos. 4, 5, 7, 8, 11; Trio Sonatas Nos. 6, 8; Pavan No. 5; Dramatic Music from The Old Bachelor, Bonduca, Abdelazer, The Married Beau, The Double Dealer, etc. Bath Festival Orchestra cond. Menudin, ingel Y2S 3685, 3¾ ips, \$11.98.

Music • • • • • • Performance Recording • • • •

Angel has provided a real service to owners of tape recorders by offering this 100-minute program of the music of Henry Purcell—much of it never on tape before. One side—by far the more interesting, in our view—is devoted to music from the English Baroque genius's

stage works; the other to his instrumental compositions. Track One contains a ten-minute collection of music from The Indian Queen, highlights of which were released by Music Guild a few months ago. If you have the earlier tape, have no fear of duplication when you buy this one. The earlier tape concentrated on vocal highlights of the show, this one on orchestral highlights. We thought highly of the performance on this one, with Yehudi Menuhin acting as violin soloist as well as conductor. Some of the soprano arias from the stage works have been recorded, with soprano Joan Carlyle,

In addition to The Indian Queen, there's 15 minutes' worth of The Fairy Queen—a worthy addition to the tape repertoire, but hardly more than a sampling of the beautiful music in this incidental music designed to accompany a stage production of Shakespeare's Midsummer Night's Dream. King Arthur is not quite as musically rich as the other two, but the excerpts presented here are tuneful and pleasing.

Purcell's music for chamber ensemble seems to us less inspired then his compositions for the stage. Nevertheless, Yehudi Menuhin and a group of soloists play them stylishly and well. They have been programmed interestingly, and are a welcome and important addition to the tape catalogues. Suffice it to say that the recording is typical of the high quality of 3¼ ips releases today —R.A.



Vladimir Ashkenazy

Ravel

Gaspard de la Nuit, Debussy L'Isle Joyeuse, Chopin Scherzo No. 4 and Nocturne Op. 62 No. 1, l'ladimir Ashkenazy, piano London LCL 80176, 7½ ips, 87.95.

Music Performance Recording

We may as well confess at the outset that none of these are among our favorite piano pieces. Nevertheless, we can report that they are played, where required, with virtuosity, fire, dreaminess, strength and drive, Gaspard de la Nuit, in particular, makes technical demands on the performer which put it outside the repertoire of most keyboard performers. It is realized here as we imagine the composer would have liked to hear it-an opulent yet dreamy quality to Le Gibet, masculine assertion in Scarbo. The Debussy receives similar treatment, and the Chopin is about what Chopin lovers might expect. London has captured the piano beautifully.

Schumann

Dichterliebe, Liederkreis, Dictrich Fischcr-Dicskau, bar., Jorg Demus piano Deutsche Grammophon DGG 9109, 7½ ips, \$7.95.

Music • • • • • • Recording

Collectors of serious music on tape really must be grateful to that anonymous gentleman at Ampex Stereo tapes who inevitably slips a masterpiece like this into his monthly release list. This tape may not be "commercial"— the fact that it is the first recording of either song cycle would tend to support this view—but it certainly is an artistic triumph of which everyone associated with it can be proud. Schumann's best-known song cycle is performed by the outstanding singer of lieder of our day, accompanied by a pianist wholly sympathetic both to him and to the music. That would seem enough for \$7.95—but Ampex has thrown in the Liederkreis by the same forces.

If you're new to the world of the German art song, there's no better place to start than Fischer-Dieskau's crooning of the hauntingly beautiful "Im wunderschonen Monat Mai" (a tribute to love in springtime), which begins Track One. Later on in the same track comes "Ich Grolle Nicht," our own personal introduction to lieder.

When you've partaken of that feast, turn over to Track Two and enjoy "Mondnacht." the nostalgic "Schone Fremde," the ineffably sad "In der Fremde" and the justly famous "Fruhlingsnacht." This tape belongs in every tape library which makes any pretense of being comprehensive. —R.A.

Tchaikovsky

Sleeping Beauty Waltz, Serenade for Strings, Hamlet Overture, 1812 Overture, Francesca da Rimini, Symphony No. 5, Nutcracker Ballet: Symphony No. 5, Nutcracker Ballet: performed by Vew York Stadium Symphony, Poliakin,



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and Stokowski, cond.; Bavarian Symphony Orchestra, Hans Hagen, cond.; Lendon Symphony, Sir Malcolm Sargent and John Hollingsworth, cond.; 334 ips; Tape-Mates, TMS-107, \$11.95.

Music Performance Recording



The idea of a three-hour long-play tape of favorite classics by a beloved master such as Tchaikovsky is certainly an excellent one, especially at the very low price tag on this tape. The performances are quite competent, and in some cases can be called inspired. The recording, however is another matter. A certain quality is distinctly lacking, and this quality is reverberation. It can be compensated for to some degree by cranking up the treble controls, which makes the recording sound okay on full-size speakers, and even better on stereo headphones.

Some of the works are especially welcome such as the Hamlet Overture, I rarcesca da Rimini and most of the complete score for the Nutcracker Ballet. At the price that Tape-Mates has placed on this collection, it is a real rarity today -a bona fide bargain. —W.G.S.

Telemann

Hamburger Ebb und Fluht (Overture in C), Suite o. 6 in D, Concerto No. 3 in A, Trio Sonata in E Flat, Schola Cantorum Basiliensis Concert Ensemble cond. Wenzinger, Nuremberg Chamber Ensemble, Archive Production ARC 3198, 7½ ips, \$7.95.

Music • • • Performance Recording • •

Georg Philipp Telemann is this year's 'in' composer. In his day, Tele-

mann was accounted a greater composer than either Bach or Handel, and he proceeded to pile up more music than the two of them together—musical services for 12 entire church years, 44 passions and an unbelievable volume of sonatas and concertos for strings, woodwinds and brass.

However, this very fecundity brought about his undoing among music critics, and his work fell into the shadows which encompassed the baroque until recently. In the late 1950s, one critic wrote, "True, many of his compositions are the insignificant products of a highly developed routine. Like an office worker who has to fill out forms and compile statistics, Telemann produced music quickly and with ease," With that he was dismissed by the taste-setters.

But that was before the current baroque boom, which has caused record companies to permit us to listen for ourselves. The Overture in C, which occupies the first track on this tape, was written for the centenary celebrations of the Hamburg Admiralty College on April 6, 1723. If anyone still entertains doubts about Telemann's ability as a melodist or orchestrator, or about the integration of old instruments into modern performances, let him listen to this tape. For us, a beautifully performed and recorded tape of some not-to-be-forgotten music. If you're an admirer of baroque music, you'll want this tape. —R.A.

Verdi

Don Carlo Renata Tebaldi, Grace Bumbry, Carlo Bergonzi, Dietrich Fischer-Dieskau, Nicolai Ghiaurov, Royal Opera House, Convent Garden, Chorus & Orchestra cond. Solti London LOV 90116, 7½ ips, \$25.95.

Music • • • • • Performance Recording • • • •

Welcome to tape, Don Carlo! This tape is a worthwhile addition to the collection of anyone assembling a library of taped epera not only because it's the opera's first appearance on tape, but also because it's not likely to be outshone next month by a superior performance or recording. London has been recording operas long enough now to have mastered all of the tricks of the trade in regard to stage movement, close miking and soloists balance between orchestra and chorus, and the rest of it—and this is a virtuoso performance by the man at the controls.

Now let's look at the soloists. Renata Tebaldi is in better form here than we've heard her in years, although her high notes do show signs of age. Grace Bumbry, as Eboli, has both the voice and the temperament for the role. Carlo Ber-



Renata Tebaldi

gonzi is one of the outstanding tenors of our day—and his performance in the title role shows you why. Ghiaurov's voice is huge and magnificent—probably the best we're likely to get on tape, though we personally hanker for Pinza or Christoff. The Bulgarian is a fine singing actor, and it's worth having the tape to hear this interpretation. For us, the weak link is Fischer-Dieskau, who doesn't seem at home in Italian. His Rodrigo is remarkably restrained, particularly when compared to the other singing actors here.

The tape costs \$2.50 more than the records, but it features only three interruptions, as opposed to seven for the discs. Tape hiss is at a very low level.

—R.A.

Classical Workshop

Vol. 1 contains Beethoven German Dance No. 12 and Egmont Overture; Bizet Carmen: Aragonaise and Habanera; Weber Invitation to the Dance; Dvorak Slavonic Dance No. 8; Berlioz Symphonie Fantastique: excerpt; Tchaikovsky Symphony No. 5; Finale, Sleeping Beauty: Waltz, Nutcracker Suite: Arabian Dance, Trepak and Chinese Dance; Respighi Feset Romane: Circus Maximus; R. Strauss Rosenkavalier: Waltz; Salome, Dance of the Seven Veils; J. Strauss-Wiener Blut; Mozart Horn Concerto; Serenade No. 11; Rimsky-Korsakov-Scheherezade: excerpt; Brahms Hungarian Dance No. 7; Chopin Polonaise No. 1; Bartok Dance Suite; Moussorgsky Night on Bald Hountain; Gianastera Estancia: Malambo.

Vol. 2 contains Bartok Quartet No. 1 and Dance Suite; Copland Appalachian Spring; Debussy Quartet; Moussorgsky Pictures at an Exhibition; Shostakovich Symphony No. 5; and Villa Lobos Little Train of Caipira. Vol. 3 contains Beethoven Symphony No. 3, "Erolca"; Mahler Symphony No. 9; Mozart Symphony No. 40; Schubert Symphony No. 8, "Unfiinlshed"; and Tchalkovsky Manfred Symphony. Artists include Fine Arts Quartet, London Symphony Orchestra cond. Krips, Ludwig, Goosens, Sargent, Hollingsworth, Ferencsik, Susskind; Stadium Symphony Orchestra of New York cond. Stokowski, Paige, Poliankin; Jorge Bolet, piano, and others Tapehiates TMS 108, 109, 110, 3½ ips, \$11.95 each.

In any anthology of this size (each tape contains some 180 minutes' worth of stereo music), there are bound to be some ups and downs—some performances weaker than others some recordings not as good as others. We found this collection to be of a high level throughout, relying as it does on the beautifullyrecorded and performed Everest catalogue. Here and there, Everest's tapes have been supplemented by some doctored stereo recordings from monaural Counterpoint catalogue. These excerpts, found mainly on the first tape, are distinctly less well recorded and less well performed than the rest of the material but by no means bad enough to detract from Tape Mates' overall attempt to provide a wide selection of classical music at a very economical price.

Our only quibble with the series is that things appear to be thrown together—particularly on that first tape, with its 22 separate items. An all-Beethoven or all-Romantic symphonic tape might have been more in order. But then, how much can you expect for \$11.95? What you get are first-rate performances, generally first-rate recordings (fidelity is only slightly below that of Everest's 7½ ips tapes on our Roberts 997) and a great deal of good music. —R.A.

Arthur Fiedler

Holiday for Strings, Boston Pops Orchestra, Arthur Fiedler, conducting Holiday for Strings, Liebesfreud, Humeresque-Swanee River, Pizzicato Polka, Andante Cantabile, Arkansas Traveler, Surrey with the Fringe on Top, Our Waltz, Flight of the Bumblebee, Malaguena, Concert-Polka for 2 Violins, No Strings Attached, and Finale from Mendelssohn's E Minor Violin Concerto, RCA, FTC-2217, \$7.95.

The Boston Pops has done it again. Chalk it up to good programming plus a very clear head for unusual and popular arrangements of old standards. Whatever the reason, this tape, along with virtually every Boston Pops re-

lease in the past, comes off as an exceptionally good presentation. Ostensibly, this tape is devoted entirely to works for the strings, although Mr. Fiedler manages to sneak in a few percussion instruments, some brass and other winds on occasion.

Unfortunately, the mood change is too abrupt in some cases—going from the sublime and tranquil beauty of Tchaikovsky's Andante Cantabile to the rather loud and raucus Arkansas Traveler. A slight re-arranging of the order of this tape's selections would have been beneficial. As with anything recorded by Fiedler, the performance, interpretation and recording are all lively and welldone.

—W.G.S.

Collection

Classical Workshop (Vol. VI), includes Wagner's Good Fridey Spell, Wotan's Farewell to Brunhilde and Magic Fire Musics; Chopin's Mazurka in A Minor Waltz, op. 64 No. 2, Prelude Rondo, Op. 73; Thomas Cannings Fantasy on Hymm by Justice Morgan; Richard Strauss, Don Juan, Dance of the Seven Veils, Ein Heldenleben; Mozart, Sonata in D Major, K. 44; Fantasy from J. Strauss' Fledermaus on duo-pianos; 334 ips. Tape-Mates. TMS-122, \$11.95.

Music • • • • • Performance Recording • • •

This tape contains a rather strange marriage of classical works from widely divergent composers. The motto here seems to be "as different as possible" when picking out selections for the tape. Presumably, this arrangement was made for people who like a lot of variety, but it's just possible that the listener's variety preferances may not include all the selections on this tape.

This unseemly programming is coupled with some injudicious mislabeling—Don Juan somehow got called "Till Eulenspiegel" on the tape jacket. Whoever's performing (the artists are hinted at a couple of times) does an excellent job by and large, and the tape is reasonbly-well recorded for 334 ips, although it is helped by boosting the treble. —W.G.S.

Opera

Sopranos of Our Time with do los An-Famous Duets from Opera and Great geles, Nilsson, Schwarzkopf, Callas. Sutherland, Gedda, Corelli, Gobbi, Simionato and others Angel Y2S 3692, 334 ips, \$11.98.

Music • • • • • Performance • • • •

There's some magnificent singing on this tape, made up of excerpts from Angel's complete opera recordings and

from recitals previously issued by some of the artists. The tape serves as something of a sampler not only for the vocal collector, but also for the opera neophyte, who will find some tasty morsels here which Angel obviously hopes will lead to purchases of the complete operas. Of the nine soprano arias and eight duets, Mozart is represented by four-Schwarzkopf singing Porgi amor and the Dove Sono from Marriage of Figaro; Sutherland is-an excerpt from Don Giovanni and Wachter and Sciutti in La Ci Darem La Mano from the same opera. Verdi is represented by excerpts from Macbeth (sung by Callas), Traviata (del Monte and de los Angeles) and Trovatore (Corelli and Simionato). Other operas represented include Die Walkure, Faust, Boheme and Pearl Fishers—the duet from which, sung by Gedda and Blanc, we found to be the high point of the tape. Recording quality is good, though our copy seems to lack brilliance.

—R.A.

Philadelphia Orchestra

Beethoven Symphony No. 8; Wagner Tristan und Isolde: Prelude and Love Death; Tchaikovsky Romen and Juliet; Debussy Afternoon of a Faun; Ravel La Valse, Philadelphia Orchestra cond. Ormandy, Columbia H2M 9, 3½ ips \$9.95.

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Tape Reviews



Eugene Ormandy

Ever since the day, as a very young man, we settled back into a red plush seat in the Academy of Music in Philadelphia to listen to Eugene Ormandy conduct the Debussy for a group of school children, we've been convinced that he and his orchestra could do no wrong. From the broad sweeps of Beethoven and Wagner, Ormandy moves to the moodiness of Debussy and Ravel without seemingly missing a beat. The performances are beautifully thought out and executed, as they always are. The selection is one which will appeal to anyone just beginning his tape library.

The recording is better than the \$9.95 price tag would indicate, although our copy does contain more tape hiss than the average 334 ips release. We consider this to be one of the best values among recent tape releases. While it contains only about half as much music as the Tape-Mates Classical Workshops (reviewed elsewhere this issue), the program has been developed with a great deal more forethought, and recording and performance are part of an integrated whole. If your tape library doesn't already include the items recorded here, this release is a must.

—R.A.

Alfred Apaka

Alfred Apaka Sings Hawaiian Wedding Song. Decca ST74-4571 71/2 \$7.95.

Recording

Music

Performance

Decca offers a collection of favorite Hawaiian ballads as sung by the inimitable Hawaiian song stylist, the late Alfred Apaka. While Apaka's voice is uniquely appealing and synonymous with tropical music, the twelve tracks featured in this album are overloaded with traditional Hawaiian sugar, syrupthick with sentimental sop.

Decca should have interjected some Hawaiian pyrotechnics—or even a volcanic belch—as a change of pace. Selections include songs sung in English as well as in original Hawaiian. The Album is pleasant to listen to and relaxing to a fault. Among the favorites: Hawaiian Il edding Song, Two Shadows on the Sand, Beautiful Kahana, Hawaiian Paradise, Humming Water, and One More Aloha.

Broadway

Wait a Minim! Original Broadway Cast recording with Andrew, Paul Tracey, Kendrew Lascelles, Michel Martel, Nigel Pegram, April Olrich, Dana Valcry, Sarah Atkinson London LAN 85002, 7½ ips, \$7.95.

Music Performance Recording

For a show whose chief virtue was supposed to be biting wit and satire, with some pungent comments on South Africa's troubled racial situation, this representation on tape seems singularly mild. What we have, for the most part, is a group of highly agreeable young people singing folk songs, popular songs and a few authentic South African ditties. In virtually every case, we can recall having heard them better done elsewhere.

Now and again, however, the voice of protest speaks out—in such numbers as London Talking Blues, Black - White Calypso. Lee Hays' highly effective Hammer Song or Ewan MacColl's Dirty Old Town. These are by far the best numbers on the tape, but whether there are enough of them to hold your interest may be another question. You get a total of 19 numbers for your money, only five of which we found worth hearing twice. Performances are fresh, young and enthusiastic—but they don't rank with those by professionals in the folk or ballad field. Recording is adequate. —R.A.

Broadway

Weill—Lost In the Stars. Original Broadway Cast recording with Todd Duncan, Inex Matthews, Sheila Guyse. Herbert Coleman, Orch. cond Levine Decca ST74-9120, 7½ ips, \$7.95.

Lost in the Stars, presented in 1954, was the last of Kurt Weill's scores for the Broadway stage before his untimely death. Based on Alan Paton's moving novel, Cry the Beloved Country and with a book by Maxwell Anderson, it was not a box office success, and one had despaired ever of finding the record-

ing on tape. Nonetheless, here it is, "enhanced" for stereo tape, with the magnificent performances of Todd Duncan, Inez Matthews and Herbert Coleman. Any serious collector of show music, any admirer of the work of Kurt Weill, must have this tape.

Nevertheless, we have a bone to pick with Decca, which has made a highly profitable living for years off reissues such as this. The price tag is a trifle high for a monaural recording of only average quality when it first appeared. Other companies are giving us recordings of vintage shows for \$5.95, taped at 3¾ ips; or are pairing older recordings into low-priced twin-packs. This is an outstanding case of tape wasting, in our opinion, since there's nothing on this tape that would be lost in a 3¾ ips recording.

But Decca wants \$7.95—and we suggest you spend it.

Discotheque

Discotheque Dance Album, with Tony Motola, Doc Severinsen, Dick Hyman, Bob Haggart and orchestra directed by Bobby Byrne; including A Taste of lioney, St. Louis Blues, Old Devil Moon, Mr. Tambourine Man, Gonna Build a Mountain, Tonight, and six others; 334 ips. Command CMX 892, \$7.95.

Music • • • • Performance Recording • • •

As with many discotheque releases, this one features several big name artists, including Tony Mottola, Doc Severinsen, Dick Hyman and Bob Haggart. The beat is unusual (so are discotheque dances), and the tunes are familar, in their origin at least. What the performers do with them is another matter. Since this tape is designed for discotheque dancing, we certainly can't classify it as a listening piece, which it certainly is not, but dance beats it has galore, and will probably be a big hit at your next party, provided a few of your guests have elastic sacroiliacs.

—W.G.S.

Percy Faith

Music from Camelot and The Sound of Music, Percy Faith and his orchestra. Columbia 112C 11, \$9.95.

Music • • • • • Performance Recording • • •

This double-length tape certainly has a great deal to commend it as far as the casual listener is concerned. Unfortunately, Mr. Faith in his inimitable fashion, takes otherwise lively and well-beloved music and makes it into a potpourri without identity. The tape is very pleasant for background music, and that's about as

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far as it goes. For lovers of the original Broadway shows, naturally this bland purely instrumental arrangement can't compete with original cast recordings, nor is it intended to. This is not to say that the tape is unpleasant—this could never be said of Percy Faith— but there is a blandness and sameness about the performance that lends itself to background listening, and little else, but for background, it is an admirable choice.

—W.G.S.

Marilyn Horne

Souvenir of a Golden Era. Arias by Kossini, Bellini, Beethoven, Gluck, Meycibeer, Verdi Genera Opera Chorus. L'Orchestre de la Suisse Romande cond. Lewis London LOH 90117, 7½ ips, \$12.95.

Music • • • • Performance • • • • Recording • • •

"I am mentally, like the long-vanished students of old Heidleberg, pulling your carriage through the streets," gushed one effete critic over the appearance of nezzosoprano Marilyn Horne's first recital. Marilyn Horne is indeed a young lady with a fine, smooth voice which covers

an amazingly wide range.
You'll have to pardon us for a bit of bias on this tape — bias caused partly by that quote and partly by what we think is a singularly stupid gimmick. The Mother of Us All couldn't live up to advance billing like that, and Marilyn Horne, good as she is, doesn't, either. The ginmick here is an attempt to recreate the programs favored by two singers of the past—in this case, Pauline Viardot and Maria Malibran. How many Americans will care that these two sisters won renown in the early 19th century (or will even have heard of them)?

Once you get past the ballyhoo and the gimmick. you find a recital of music—some of it, such as the Willow Song from Rossini's Othello, rather rare—beautifully sung and rather well recorded. Her husband, Henry Lewis, gives her rather better support than Joan Sutherland's husband, conductor Richard Benynge, usually provides.

Obviously, London has found this gimmick of recreating recitals by long-dead performers commercially successful (Joan Sutherland first tried it several years ago). We find it interferes with our enjoyment of an otherwise outstanding vocal recital by one of today's better singers.

—R.A.

Guy Lombardo

The Lombardo Touch contains Yesterday, Glow Worm, Canadian Capers, Perfidia, Sleepy Time Gal, Bells Are

Ringing, Thunderball, A Taste of Honey, Dear Heart and 14 others. Guy Lombardo and his Royal Canadians, Capitol Y2T 2516, 334 ips. \$9.98.

> Music Performance Recording

If you're an avid Lombardo fan, you'll want this tape no matter what. It features the old master in a 56-minute program composed equally of oldies and recent hits, done in the style his audiences have come to expect over the years. That's just the trouble, The Lombardo style works with such tunes as Frenesi and Fascination, but with the new tunes, it simply sounds tired and corny. May the Bird of Paradise Fly Up Your Nose was a cute number, and is well sung here by Kenny Gardner, But Lombardo's 1930s style doesn't match. And so it goes, with Thunderball, with Alley Cat, and with a number of other recent tunes.

Recording quality is typical of that afforded by Capitol or any other major label to a group like Lombardo's—which is to say quite good and free of the

gimmickry which goes on with some pops albums these days. —R.A.

Lombardo

Guy Lombardo and His Royal Canadians: A Musical Biography, 1949-1954 includes Dangerous Dan McGrew, Hop Scotch Polka, Enjoy Yourself, Third Man Theme, Blue Tango, 1001 Nights, 111d Lang Sync and others Decca ST74-4529, 7½ ips, \$7.95.

Music Performance Recording •••

Decca has dipped into its archives to come up with a collection of favorites designed to please any Lombardo fan. These recordings date from the five-year period which saw the end of the Big Bands, the emergence of rock 'n' roll and the control of the Top Ten pass from young adults into the hands of teenagers. There are some good numbers here, performed in the best Lombardo style. We do think, though, that Decca has a nerve marketing mono oldies such as these at 7½ ips and charging full price for the package.

—R.A.

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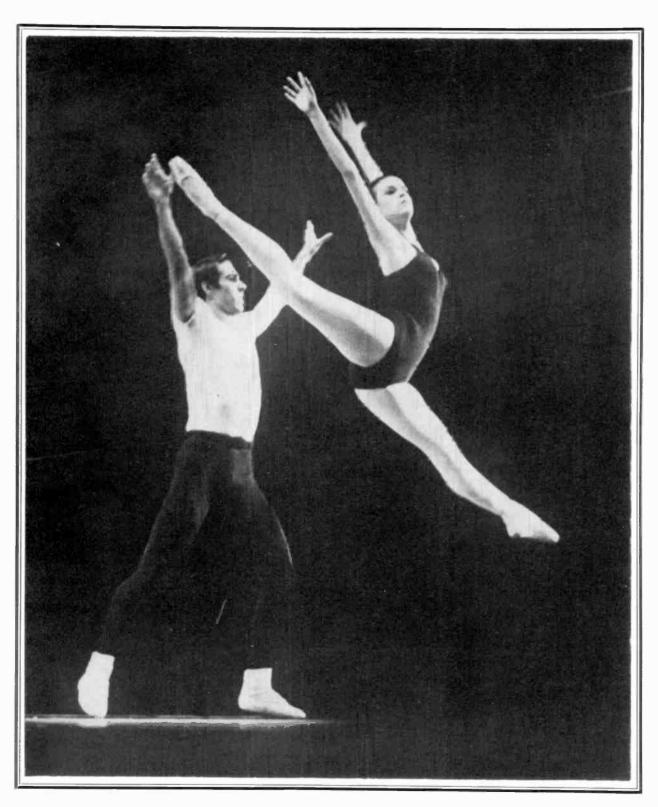
For all these reasons, the only choice today for the perfectionist rests with either the world-renowned DUAL 1009, or the even more advanced DUAL 1019. Just some of the design and operating features of both models are presented here, to help you decide which one best meets your own requirements. If you had been considering anything but a Dual, we suggest you bring this guide with you to your authorized United Audio dealer. There you will find the comparison even more enlightening.



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The Basic Tape Library Ballet Music

by Earl Carroll



There is a story about a man who is dragged to the ballet for the first time by his wife. After watching the girls of the corps de ballet dance on their toes for the entire evening, he turns to his wife and says: "Instead of making them dance on their toes, why don't they just get taller

girls?"

The grain of truth in this story is that it pretty well sums up the amount of sophistication shown toward ballet until quite recently. The idea of ballet has generally conjured up images of swans dying, businessmen sleeping, girls in flufty white skirts and men in embarrasingly tight pants. Long an esoteric art form far removed from the mainstream of life, in recent years ballet has become a contemporary art form, commenting on life as experienced in the present as well as maintaining the heritage of the past. The status of the dancer has changed just as radically as that of the ballet itself. Whereas the great ballerina of the past might have a winter and a summer palace, jewels from her admirers, and possibly even a Czar as a lover, today's ballerina may shop in discount houses, frug at a discoteque, and live pretty much as any other young woman her age. The male dancer has experienced an even more radical change, although his position in today's dance world is not yet so clearly defined as his female counterpart. Long subjugated to the role of partner and physical support of the ballerina, showing his abilities only during a few selected moments, today's male dancer is developing a new identity as an equal to the female dancer, both in terms of technical ability and emotional expressiveness. This new quality for the male has culminated in the development of a large group of contemporary male dancers rich in technical ability, virile in their approach to the art of dance, and proud of the profession rather than uncomfortable with it.

The modern world has in many ways been responsible for this change, The mass media of communications has probably played the largest part, specifically television and secondarily, the movies. Dance performances on major network shows and in movie houses are now seen by people never before having the opportunity to see dances of this type. This exposure has had a manifold effect, It has reached a mass audience new to the ballet and at the same time forced the need to say something meaningful and contemporary to an audience not bound by traditions of the past.

The ballet companies themselves have felt a kind of schizophrenic call of duty. On one hand, the performance of ballet is very much tied up in the heritage of the past The repertoire, music and even language of dance movement have been

... today's ballerina may shop in discount houses, frug at a discoteque, and live pretty much as any other young woman her age.



Ballet Music

handed down from generation to generation with an unspoken but understood knowledge that it is the duty of the present to preserve and cherish the past. The familiar "Swan Lake," "Sleeping Beauty" and "Nutcracker" ballets come from this heritage and their popularity seems to remain constant over the years. On the other hand, a contemporary, fast-changing world demands, both realistically and by the nature of creativity, that something meaningful be said of and by our present generation. To varying degree, today's great ballet companies are trying to satisfy both these goals, with success not yet established, but with a healthy direction set.

The Language Of The Ballet

In performance, movement may be used to express emotion, joy or sorrow are two of the obvious extremes of tempo (fast dancing as compared to slow dancing) or any other dimensions of life. But the audience is, or should be, aware only of the performance and the feelings it evokes. But to create the performance, some way of organizing the movement has had to be created. Thus, as in any other form of expression, ballet has a language. It is a language describing movement in which every movement has been given a name.

Through a series of historical circumstances, the movements of ballet are named in French. (It seems that no attempt has ever been made to translate this terminology into English or any other language. As a result, in any ballet class in the world today, the same French terms are used to describe the same movements. In defense, it may be said that this gives ballet an international language, allowing the exchange of choreographers and teachers from one country to another, but more likely, a bit of snobbery, and our predecessors' concept of ballet as a "noble, aristocratic" art form have played a major part in the retention of French as the language of ballet.

The Creation Of Dance

This organization and labelling of movement has given ballet a tight structure. In fact, it is this structure that some modern dance movements are trying to break away from, claiming that its rigidity inhibits expression. But, as the harmonic structure of music allows for a wide range of composers, the structure of ballet allows for a wide range of choreographic expression.

It is the job of the choreographer to create dance from the movements available to him. He creates the dances either through demonstration or the use of ballet language. However, rather than starting from the movements, he usually has a picture in his mind of what the dance should look like, and then uses the movements available to make this



A Midsummer Night's Dream.



Swan Lake.



Brahms-Schoenberg Quartet.

image come to life. It is this mental picture of what the dance should look like that is the key to creativity in ballet. This is where the choreographer "talks" about something. The choice of what the choreographer "talks" about determines how meaningful his ballet will be; whether it will follow the path of uninteresting repetition or attempt to say something meaningful. He is of course limited by his own talent and by the purpose of his creation, but the infinite combinations of movement possible in ballet allow him as much freedom as necessary to express any range of human experience.

Music And The Ballet

Music, of course, goes hand in hand with ballet. Technically, music can be said to be the structure of rhythm, tempo and melody upon which the movement is based. Emotionally, it is much more than that. It complements the dance in setting up an emotional atmosphere and helps communicate the meaning of the dance to the audience.

There are several ways in which the choreographer can approach music in terms of the ballet. First, in the case of classics such as "Swan Lake' and "Sleeping Beauty," he must work with an established musical score and in addition, a completely developed set of movements or choreography, that has been passed down from generation to generation in an approximation of its original form. In this case, the choreographer is really only a re-creator and has little opportunity to comment on the subject. In some cases, a choreographer may be presented with a musical score and only a story line meant to be used with that score. In this case, he has freedom of choice in choosing movements and arranging dances, but usually has some limitations in that he has to remain faithful to the period of the story and must avoid using movements that might look anachronistic. The more creative choreographer may have a story in mind, or may want to express a certain subjective experience of his own. He will then either have a composer write music to fit the idea, in which case he exercises a large influence, or he may search out among existing music that work which will fit the spirit of his subject. In many cases, the experience of hearing a certain piece of music may stimulate a choreographer to create a ballet which expresses his vision or reaction to the music. This last approach to choreography usually results in ballets that suggest moods or feelings, rather than telling a specific story. This seems to be the approach to choreography most favored in the West today. Strangely enough, older societies, particularly the Soviet Union with its tremendous orientation toward ballet, find it necessary to have ballets in which the characters and situation are immediately recognizable to the audience. It's been interesting to note that when American dance companies tour these countries, it is the ballets that we consider the most old-fashioned, with obvious story lines and characters, that are the most successful, while the more abstract ballets expressing a subtler range of human experience find less favor with these audiences.

A Basic Tape Library of Ballet Music

Included in the following list are works

composed specifically for the ballet theatre. The list does not include symphonies, concerti grossi or other works which have been choreographed, or ballet movements from operas or other stage works. WORKS FROM THE CLASSICAL BALLET Vienna Philharmonic Orch. Adam—Giselle cond. Von Karajan London LCL 80107 Chopin—Les Sylphides Paris Conservatory Orch. cond. Maag London LCL 80059 Delibes-Coppelia, Sylvia highlights Philadelphia Orch. cond. Ormandy Columbia MQ 595 Falla—Three-Cornered Hat Philharmonic Orch. cond. Burgos Angel ZS-36235 Parisienne Ballet Francaise Offenbach-Gaite Parisienne cond. Montiel Audio Spectrum AST 302 Minneapolis Sym. Orch. Schubert—Rosenmunde cond. Dorati Mercury ST 90218 London Philharmonic Tchaikovsky-Nutcracker Orch. cond. Rodzinkski Westminster WTP 138 Tchaikovsky—Sleeping Beauty: Highlights Phila. Orch. cond. Ormandy Columbia MQ 421 Tchaikovsky—Swan Lake: Highlights Boston Pops cond. Fiedler RCA Victor FTC 2153 CONTEMPORARAY BALLET London Sym. Orch. Antill-Corroboree Goosens Everett T4-3003 Bernstein-Fancy Free New York Philharmonic cond. Bernstein Columbia MQ 698 London Symphony Copland—Appalachian Spring Orch. cond. Susskind Everest T4-3002
Copland—Billy the Kid; Rodea Utah Sym. cond.
Abravanel Westminster WTC 121 Kabalevsky—The Comedians—RCA Victor Symphony cond. Kondrashin RCA Victor FTC 2028 Khachaturian—Gayne Suite London Symphony Orch. cord. Fistoulari Everest T4-3052 Milhaud—Creation of the World Utah Sym. cond. Abravanel Vanguard VTP 1651 Prokofiey - Romes and Juliet - Orchestra de la Suisse Romande cond. Ansermet London LCK80098 Ravel—Daphnis et Chloe Paris Conservatory Orch. Cluytens Angel ZS36109 Stravinksy-Firebird Suite, Cleveland Orch. cond. Szell Epic EC-841 Stravinsky-Petrouchka Suite Cento Soli Orch. cond. Albert Encore E 302 Stravinsky-Rite of Spring Columbia Sym. cond. Stravinsky Columbia MQ 481 Vaughan Williams—Job London Symphony Orch. cond. Boult Everest T4-3019

The Tape Generation

by Sid Frank and Ralph Stein

Dere Daddx Pleese bring me a set of trains a new bike a bases but and a tape recorder all you can record my favorit stories for me. YOUR SON, John R. Williams

Tape may be one of the greatest media of entertainment yet discovered. But, if you're a junior citizen—under the age of, say, nine, you've been getting pretty short shrift from the manufacturers of prerecorded tapes and tape cartridges. Nor do adults, as a rule, let you mess around with their equipment. This seems to us to be a shame because tape can open some new horizons for children.

• The normal handling of a record by a child can do much more serious damage than to a tape. Yet children need the feeling of "doing it themselves" and the experience of putting their own disc (or

tape) on the player.

• Tape cartridges for children can be the perfect answer for quieting the noise from the back seat on long family automobile trips.

• Tape's longer playing time makes it a much

more flexible medium for telling a story.

• The do-it-yourself aspects of tape recording make it possible for every creative parent to tailor recordings to his own children's needs and tastes.

If tape is such a great medium for entertaining and educating children, why haven't the recording companies gotten around to it? The answer is economics. Obviously, most children don't own tape recorders of their own (although with the advent of the \$9.95 "toy" recorder, this is no longer as true as it once was), and hence don't buy prerecorded tapes. Adults can justify spending 99 cents for a 12-inch LP (or even \$1.98 for some titles), but they're reluctant to spend \$7.95 for a stereo tape or cartridge for children. Because the tape companies don't see any big sales potential, they've been reluctant to issue successful disc material on tape. The coming of the car cartridge player, however, may change some of this thinking.

player, however, may change some of this thinking. As producers of recorded entertainment for children, we've always found ourselves handicapped by the mechanical limits of recording. On the average children's record, you have only 15 (or 30) minutes in which to tell a story—a story which may be as simple as The Three Little Pigs or as

Sid Frank probably has written more scripts for children's records than just about any freelancer in the business. With two youngsters of his own, he's an experienced storyteller whose works have appeared on Panda, Cricket, Playhour and other records. His scripts have been produced for records by Ralph Stein, who is perhaps better known within the record industry as an arranger, organist and artistic director of Connoisseur Records.

complete as Alice in Wonderland. You can't just read the story—you should add sound effects and music to heighten the effect, to provide added enjoyment. This means that you have a bare 10 minutes (20 at the most) in which to read a 192-page book like Alice. Not only can't you cover anything like the whole plot in that amount of time, you can't begin to give the flavor of Lewis Carroll's style. In fairness, however, it should be said that children are much more likely to pay attention throughout a 10- or 20-minute storytelling session.

It would be uneconomical to produce Alice in Wonderland in its entirety for tape alone (although it has been done on records). But anybody can do it at home in installments, with the kids taking part. The exact length of each installment depends on your child's attention span. To get some excitement into the tape, you may want to add sound effects, and you'll almost certainly want to have other members of the family read the lines of the various characters. The same can be done with all of the great children's classics—The Wizard of Oz. Treasure Island, Heidi, Gullicer's Travels, and so forth.

These homemade tapes serve two functionswhen the child takes part in the original recording he has a chance to express himself creatively by play-acting. He may even have an opportunity to manipulate the controls of the recorder. When the tape is played back at a later date, it provides entertainment enhanced by the fact that he is taking part. Adults get somewhat the same thrill when they hear themselves acting a role for the first time. Best of all, the children get a wonderful introduction to the classics they can get in no other way. An important thing about taping material for children at home is the individuality and personality of each child. Adults tend to forget that children are people. Each child has his own interests and attention span. These days, television and current events make children worldly wise much earlier than in the past. As a result, it's no longer possible in the children's record business to specify that a disc is for ages 9-11 or grades 1-2, as used to be the practice a generation ago. Discs are produced for children in general these days, and the covers designed accurately to depict the contents. If a child finds the album cover attractive, chances are he'll enjoy the contents. Today, some eight-year-olds are still enjoying the Wizard of Oz while others are reading biographies of Willie Mays or the adventures of Sherlock Holmes. When you do it yourself, you can select material which will be of interest to your child and record it in a manner which will be of special interest to him. This is of particular benefit to the so-called gifted child, whose interests seldom are catered to

Tape Generation

commercially.

Commercial children's recordings—at least some of the better ones—attempt to be educational as well as entertaining. They can introduce new words into the child's vocabulary, can teach coordination, history, even music appreciation. But when you're editing a script down to fit on one side of an LP, educational sidelights are one of the first things to go. Here again, tape has the recording time to accommodate footnotes explaining what an almshouse is, or where the grand banks are. One thing we've found highly successful with our own kids is to tell the story of a grand opera, inserting the major arias and choruses in the appropriate places. Somehow, the quartet for Rigoletto takes on more meaning for a child when he can visualize the Duke of Mantua in a sleazy inn with the innkeeper's sister while the hunchback Rigoletto and his daughter eavesdrop outside.

Why go to the bother of dong all this on tape, instead of doing it once live? There are any number of reasons—The Hounds of the Baskervilles can be serialized most effectively over 10 nights by father on tape. Then, when he has to go on a business trip a few days after the series has started, there is no interruption. Tape can be saved and handed down from one child to the next just like a good pair of pants or a baby carriage. It's much easier on parents to prepare tapes in advance when they feel like it, then play them or have the baby-sitter play them when they don't feel up to reading or have to go out. A recorded version enables the child to hear his favorites as often as he likes without wearing Dad or Mom out.

How long should taped entertainment be? It was once held in the record business that a child's attention span was seldom more than five or at the most 10 minutes, and kiddie entertainment was cut to fit one or two sides of a 78 rpm disc. Yet at one time, many of today's adults cheerfully sat down to listen every afternoon to Little Orphan Annie, followed by Don Winslow, followed by Jack Armstrong, followed by Captain Midnight, followed by dinner and the Lone Ranger.

When the LP came along, the record industry discovered that children would hold still for up to 30 minutes to hear a particularly well-told story. As we've noted above, it's our view that kids' attention spans vary as much as adults' do—if you're holding their interest, they'll listen to you read a good adventure tale all afternoon. But if your material is dull, you'll lose them right away.

To solve the problem of attention span, some children's record manufacturers program a number of short selections, particularly for younger children, on one side of an LP. The assortment may include a short story like Jack and Jill, followed by

a participation song. Then comes another story, followed perhaps by a counting song. Then the LP side may close with a march. If you're programming your own tapes to help while away a rainy afternoon or a long automobile trip: or you're planning on entertaining a youngster sick in bed, you may wish to follow the same formula. The first thing to remember is to gauge your audience accurately. What are their interests? How long will they sit still for a specific type of entertainment?

Next, select the elements which will make up your program—for vounger children, those used by the LP manufacturer may be your building blocks, and you may be well advised to dub some of the better LPs onto tape rather than trying to produce your own. Remember that one story after another would be disastrous on an LI'; it's equally disastrous to program repetitively on tape. A story should be followed by a song; a listening song or a participation song. And rather than program sheer entertainment all afternoon, a bit of education won't hurt. In the case of older children, the adventures of Natty Bumppo or the Bobbsey Twins should be broken up with music-whether it's fun songs from Gilbert & Sullivan, Peter and the Wolf, or something else.

Children's imaginations are more vivid than most adults realize. The truly imaginative child can get more of a scare out of the picture of the Hound of the Baskervilles he creates in his mind's eye than anything television can show him.

Many of the things we've said about programming an all-afternoon tape apply to the selection of kiddie tape cartridges for long trips. At the time this article was prepared, the number of kiddie cartridges was only slightly larger than the handful of kiddie prerecorded tapes. But there are indications that the recording industry realizes the need for catalogs of children's tapes for cars. Here again, the need for varying material and even length is important to bear in mind. It has been said that playing nothing but kiddie tapes on a fivehour trip would be enough to drive even the most devoted parent out of his mind, That depends on the tapes. Some of the better children's recordings are at least as entertaining to adults as they are to children. Panda's "The Emperor's New Clothes," which uses chamber music by Telemann, "Till Eulenspiegel," which tells the story to a symphonic performance of Strauss' music, and, Riverside's complete Alice in Wonderland with Cyril Ritchard are just three cases of tastefully done albums which can be as entertaining for adults as for children. None of these at the moment are on tape or in cartridge, but all would be particularly satisfactory for the motoring family.

Just as our generation was the phonograph gen-

eration, so the current generation may become the tape generation. The advent of cheaper tape recorders may make it feasible for parents to replace today's kiddie phonographs with tape players costing from \$15 to \$50. With the best intentions in the world, most children can't keep their records in listenable condition for more than a year or so; but tape, handled with the same care, can last for years. Children brought up with tape recorders

have no more difficulty operating them than most of us do a console phonograph.

Tape has features which are both drawbacks and assets when it comes to children—its extra cost, its longer life, its long playing time and simplicity (or complication) of operation, its flexibility and intimacy. When used imaginatively, however, it can widen the horizons of any child lucky enough to be exposed to it.



Pop Sounds by Richard Ekstract

"POW!" "BAM!" "ZONK!" "ZAM!"

Is it the neighbors brawling again or is it Batman, the latest "Pop Culture" denizen to invade our homes via the TV screen? Maybe it's a new hit record. Or, could it be James Bond fighting a Spectre agent?

Could you tell?

Pop Culture is everywhere these days: in our galleries and museums, in newspaper and magazine ads, in discotheques and even in movies and on television. Comic book and movie heroes of the past are the new cultural heroes of today. The most expensive Broadway musical in history is the forth-coming, "It's a Bird, It's a Plane. . . It's Superman!" And with all this, there are sounds. But is anybody listening to the sounds of America today? Do they mean anything?

Some observers feel Pop Culture was spawned by the Pop Art movement. Some say Pop Art was a revolution against the limitations of the abstract expressionist movement in art. Some say it is just a grand spoof. Others say it's a serious attempt at social commentary on the vulgarities of our materialistic society. Some say that's what folk-rock is all about, too. . .and much of our present literature and poetry.

TAPE RECORDING readers, your moment is at hand. You, too, can Rebel if you like. Produce art, if you can. How? Join the new Pop move-

'The trouble with many people these days is they don't really listen to so many of the sounds that we live with every day," says Henry Geld-zelder, Associate Curator of the Metropolitan Museum of Art and one of the most important figures in the art world today. "We have to tune in on many sounds such as the honking of a horn or the ring of a telephone or a doorbell at home but a murder could be happening in the street outside and many people would be completely tuned out. It's just not part of their world-so they don't listen. It's a pity that we haven't learned to really listen to more of the important sounds that surround us because there's much that's fascinating—even beautiful."

Yes, there is art in the sounds we hear just as there is in all of nature. Mr. Geldzelder agrees and so do many of the nation's most prominent artists, some of whom are currently experiment-

Editor's Note: Film makers have film festivals, amateur photographers have contests for prize photos, artists compete in public exhibitions and even writers compete for prizes with their work. In the belief that sound recording is an art form, the editors of TAPE RECORDING offer herewith a new competition to tape recordists. We tried to make this contest a little off-beat and interesting. Without doubt, this is the biggest tape recording contest ever held anywhere. See details at left:

ing with sound. A few are adding sound to works of art and sculpture. Others are exploring tape recording as a new medium of communication. We now invite you to do the same.

We're calling the new movement, "Pop Sounds." You could also call it, "The Sounds of America Today." What we're after is a new medium of self-expression that will mirror present day society. All you need for this new art is a tape

recorder and a little editing ability.

Perhaps you're interested in social commentary. Fine, make a "Pop Sound" tape. Perhaps you'd like to comment on the sounds that many of us take for granted such as the roar of a dishwasher or the whack of a bowling ball hitting ten pins or the jangle of a garbage truck. Television and radio commercials can be the basis for interesting "Pop Sound" tapes. In fact, we recently experimented with a sound-activated recorder placed next to a television receiver's speaker with a certain volume level required to activate the recorder. We got some interesting results.

Perhaps you'd like to spoof it all, be funny, far out or satirical. Welcome. You might like to tape children. They say some very revealing things about us. You could experiment with speeding up a tape or slowing one down. Or, did you ever play a talk or music tape backwards? We don't want to suggest too many possibilities or directions because we don't want to restrict your thinking. You can make "Pop Sounds" alone or with a group. You could even have a

"Pop Sounds" party at home.

We're offering over \$10,000 worth of prizes for the best "Pop Sounds" tapes plus a public listening of your tape at a prominent art gallery in New York late next fall along with tapes made by some of the most prominent people in the art and entertainment world today. Contest entries will be judged by a panel consisting of many of the nation's foremost artists, including Andy Warhol and Marisol.

Sound like fun? That's what we want it to be. It's the easiest contest ever. Nothing to buy. No boxtops. The only limitations we suggest are tapes of a minimum length of 20 seconds and a maximum of three minutes—so that judging won't be too difficult. And since many people associate "Pop Sounds" with popular music—no music tapes, please. That's all. No other restrictions. Identify your work. Submit tapes on three inch reels, if possible. Tapes cannot be returned and all entries become the property of TAPE RE-CORDING magazine. Now, for a list of the many prizes, see award list at right. Enter as many times as you like. A list of the award winners will be published. Contest closes Sept. 15, 1966.

"POP SOUNDS" AWARD LIST

Approximate Value				
1st Award—AMPEX home videotape recorder and camera\$ 2000				
2nd Award—VIKING 880 tape recorder\$	440			
3rd Award-OKI 555 tape recorder\$	350			
4th Award-UNIVERSITY matched pair of Model 1000 professional, dynamic cardioid microphones\$	248			
5th Award-CIPHER VI tape recorder\$	240			
6th Award-ELECTRO-VOICE matched pair of gold-plated 676 dynamic cardioid microphones\$	220			
7th, 8th, 9th, 10th Awards CONCERTONE Cosmopolitans\$	200	each		
11th Award—ELECTRO-VOICE "Entertainer" home entertainment system\$	199			
12th Award—SHURE Unidyne III matched microphones\$	170			
13th Award-VIKING 807 tape deck\$	125			
14th-to-38th Awards 25 NORELCO "Carry-Corder" recorders\$	100	each		
39th Award-MARTEL tape recorder\$	60			
40th-to-51st Awards 12 TELEX Serenata stereo headphones	60	each		
52nd to 63rd Awards 12 KOSS "PRO" stereo headphones\$	45	each .		
64th to 75 th Awards 25 CONCORD F-85 portable recorders\$	40	each		
76th to 88th Awards 12 KOSS SP3 stereo headphones\$	25	each		
89th to 100 Awards 12 TELEX Adjustatone stereo headphones\$	15.95	each		
101 to 150th Awards 50 CAPITOL pre-recorded tapes\$	8	each		
151 to 200 Awards 50 RCA pre-recorded tapes\$	8	each		
201 to 250th Awards 50 REPRISE pre-recorded tapes \$	6	each		
251 to 350th Awards 100 7" Reels AUDIO DEVICES 1251—High Performance recording tape	3.5 0	each		

\$6.00 Wireless Microphone

by Walter Salm



Our \$6.00 price tag assumes that you have a good microphone lying around the house unused. A wireless microphone for only six dollars? Impossible! Revolutionary! Can it be done! It'll never work, they told us. So we did it. And it works.

The wireless microphone has a number of applications for amateur tape recording, but until now, its high price tag—\$40 and up—has ruled it out as a tool for the casual hobbyist. A wireless microphone lends flexibility to your recording efforts—you can combine the fidelity of a good cord recorder with the ability to move about freely in

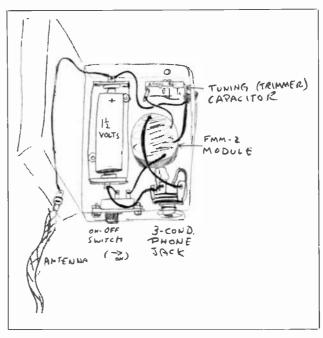
a crowd, or to record on locations such as at a parade, in a railroad yard or elsewhere. You can put interviewees at their ease by having both the microphone and the recorder out of sight. Because the recorder and the microphone don't have to be connected by cable, you can use the wireless microphone for just about any application which normally would require lots of cable, and which could result in hum pickup and loss of high frequencies — applications like recording wedding ceremonies, theatrical productions, church choirs, and the like.

As we've mentioned, the least expensive readymade wireless microphone costs \$40. It uses a crystal microphone, which leaves a lot to be desired from the standpoint of fidelity. If you want something better, you'd better be prepared to spend several hundred dollars for a ready-made unit. Or you can build your own using readily available components. Our \$6 price tag assumes that you have a good microphone lying around the house unused. If you don't, or if you want a better mike than those you have on hand, you'll have to add the price of the mike to the cost of the other parts—the total bill still will be well under that for a pre-assembled unit.

The heart of such a system is a preassembled and prepackaged circuit module made by Carl Cordover Co. (104 Liberty Avenue, Mineola, New York). This company makes two similar modules—the FMM-1 for high-impedance microphones, and the FMM-2 for low-impedances. Both are physically the same and have the same electrical connections externally. Both are priced at \$3.50. Since most recorder microphone inputs are high impedance, most microphones designed for home recording are high impedance and the FMM-1 is the usual choice. However, if you already have a low impedance microphone, you'll need the FMM-2.

The transistorized module is a black plastic cylinder slightly less than an inch in diameter and about ½ inch deep. Compactness of this sort lends itself to extreme miniaturization and with a little imagination, such a device could easily be turned into a "bug" for eavesdropping purposes. However, the use covered here will be strictly for recording and public address applications.

Actually, as we've noted, you can use any microphone you have on hand. If you're planning on buying one, however, we'd suggest a dynamic cardioid like the Amercan D55, the Astatic 77 series, the Electro-Voice 664, Norelco D-119ES, Shure 545, Turner 500 or University Attache or a dynamic omnidirectional like the American D-12, Astatic 788, Electro-Voice 647A, Shure 560, Turner 58 or University 2000.



Author's sketch of \$6.00 wireless transmitter.

If you're not aiming for ultraminiaturization, you can put together a wireless microphone package in a plastic box that measures 3" x 2½" x 1½" plus a length of flexible antenna lead. This little package will accommodate any microphone that is fitted with a standard phone plug, whether it has two- or three-conductor cable.

The normally long microphone cord should be cut to a length of 36 inches, since anything longer than this would probably get tangled in the performer's feet. This length is just right for reaching from a lavalier position to the wireless microphone transmitter package carried in a jacket or pocket.

Basically a wireless microphone is nothing more than a low-powered FM transmitter that radiates in the normal FM broadcast band. Any FM timer or radio can be used as the receiver. In portable recording applications, it's most convenient to use a transistor FM portable radio with a special output jack wired into its first audio stage. This provides a tape output for direct recording both with the wireless mike and for regularly received broadcasts. On the other hand, if you can use an FM timer to feed your recorder, you'll gain the extra fidelity of which the timer is capable.

To maintain flexibility in the type of mike used, a standard three-conductor phone jack should be used in the plastic case. The jack is wired so that it shorts one of the two mike conductors to the shield

\$6.00 Wireless Mike

(ground) lead. With this arrangement, microphones with two- and three- conductor plugs can be used interchangeably.

Power is provided by a single 1.5 volt penlite battery held in place by a standard battery holder. Other parts used are a slide-type on-off switch and a mica trimmer capacitor with a range of 2 to 30 picofarads. This capacitor is used for adjusting the unit's transmitting frequency. A greater range of adjustment is possible by using a 4-80 picofarad capacitor instead. These units are identical in size and appearance, and are very easy to use with a screwdriver-slot adjustment.

A hole drilled in the plastic case provides access to the screwdriver slot. When adjusting the capacitor, be sure to use a plastic TV technician's alignment tool. This is necessary since the metal in an ordinary screwdriver blade would change the unit's delicate overail resonance and would cause a false frequency shift, while in contact with the screw, or even near the black plastic moule.

The module itself is quite sensitive to nearby objects, especially metal and the human body placed near the FM module. The instruction sheet packed with the module indicates that the transmitting frequency can be raised by placing a small object such as a penny next to the smooth surface of the black cylinder. The frequency can be lowered by adding some wire length to the "antenna" lead—really a part of the device's tuned circuit.

In working with a breadboard layout, we found that these methods of tuning worked well, but were difficult to control precisely, especially in areas such as New York City, where the EM broadcast band is so jam-packed with radio stations. These coarse frequency adjusting techniques almost never seem to land the module's output frequency exactly between stations—a must for proper operation, since any station's signal will interfere with performance. The trimmer capacitor was found to be the best way of setting the unit's frequency precisely and easily.

The normal capacitance of the human body is enough to change the unit's frequency. Body contact and proximity is a rather chancy thing, so rather than try to compensate for it, it's best to keep the module itself as far away from the body as possible. A distance of one inch or more is actually sufficient. For this reason, the plastic case should not be used in shirt or pants pockets where it is not only close to the body, but also possibly close to metal objects as well.

Best place to "wear" the wireless mike package is in a jacket pocket. In the parts layout shown, there is additional air space in the plastic case—about ½ inch of it—between one side of the case—and the module. This is the side that should be

turned toward the user's body to increase the distance that much more.

The antenna lead is a length of flat braided grounding strap, connected to the positive terminal of the battery. This can hang out of the jacket pocket, and used this way, it does quite an effective job. The loose end should be soldered to prevent it from fraying and unraveling.

In the model we built, the antenna was 27 inches long, although this length is arbitrary and can be made somewhat longer for slightly greater transmitting range.

When testing the wireless microphone, the trimmer capacitor should be detuned by turning the screw counterclockwise as far as it will go. This brings the radiated frequency to the approximate point inherent in the design of the module. With the unit turned on the user talks into the mike held close to the mouth while tuning an FM receiver through the broadcast band until the user's voice is heard. A pair of headphones comes in very handy for this, since they prevent feedback.

The frequency is somewhere between 93 and 95 megacycles. The next step is to tune the FM receiver to a clear spot between stations at at *lower* frequency than the one first received from the wireless mike. Then with the TV alignment tool, the trimmer capacitor must be adjusted by turning the screw clockwise while continuing to talk into the microphone. When the user's voice comes in loud and clear on the earphones, the transmitter is properly adjusted.

There's no further need to change the wireless mike's frequency, unless it is used in a different geographical location where there might be other FM stations on the dial that could create interference problems. Also bear in mind that since this is a transmitter, other people can pick up its radiation within a radius of 100 feet or so.

Ideally, this unit should be able to cover a distance of 75 to 100 feet without any trouble. Greater distances will mean distortion, loss of fidelity, and a degraded signal-to-noise ratio.

A couple of things to bear in mind when preparing the plastic case: use the piece of styrene foam packed with the FM module by cutting it to fit snugly into the case. This will take up the strain from an electric drill and help prevent the plastic case from cracking or shattering.

A small size low-voltage soldering iron is always preferable in projects such as this, to avert any heat damage to transistors within the module and possibly from overheating and melting the plastic case. Standard 4-40 hardware was used for mounting all components in the plastic case. Total cost, not counting the microphone—less than \$6.00!

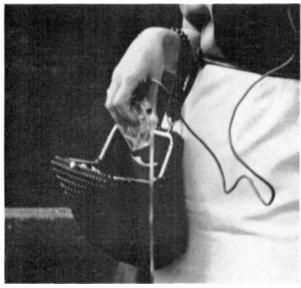
Recording station on the go comprises FAI portable radio (by Sylvania) and Norelco 150 battery tape recorder. Recorder is patched into radio's earphone jack, but direct connection to radio's audio transistors can be made if preferred.

Technically, any wireless microphone such as the one outlined here must be submitted to the Federal Communications Commission for type approval by the manufacturer—and the FCC holds that each individual builder is a separate manufacturer. Part 15 of the Commissions' rules apply to wireless microphones and other low-power communications devices and are designed to protect the public and broadcasters from stray radiation. As a practical matter, however, the author feels that since this particular wireless microphone rarely radiates more than 100 feet, that it cannot interfere with commercial broadcasts and is unlikely to affect reception by your neighbors. If you're in doubt about using such a microphone in your community, or if you want to apply for FCC type approval, you may wish to contact your local office of the Federal Communications Commission.—Ed.

Some Additional Tips



Test reception before doing any actual recording. FM signals are highly directional and reception will depend on orientation of antennas at both the receiver and the transmitter. Experiment for optimum results.



A couple of 'don'ts—don't hold the FM transmitter package and don't put it in a handbay unless all of the metal objects have been removed. Either of these will throw the output frequency off, requiring retuning and possible loss of signal-to-noise ratio,

Fire Buffs Record the Action

by Dale Magee



#2. Los Angeles fire buff Fred S. Allen records the sounds of a response of Engine Company 57, L. A. F. D.

Bright red police flares reflect their light on the wet pavement as cold dawn begins to break. Sootcovered firemen begin their long "overhauling" or clean-up operations in the burned-out industrial plant and the throb of the powerful pumping engine fills the acrid-smelling air. Near the battalion chief's car a group of three or four men stand, one of whom is operating a small, portable tape recorder.

These men are fire buffs, men who hold a deep, technical interest in the operations of the fire department, and, as one city chief once stated, "No fire of any consequence is complete without them." Fire buffing is as old as colonial America, but tape recording at the fire scene by the buffs is relatively new

However, for nearly 20 years now, the Los Angeles Fire Department has been utilizing tape recording in its never ending program of fire prevention. Pioneering in the field of tape recording at actual fire scenes, Captain Robert Patterson of that department's fire prevention and public information bureau has developed a number of techniques unique to the annals of sound recording. Long before the advent of small, compact, transistorized recording equipment, Captain Patterson was recording fire scene action for use on his department's daily fire prevention radio programs.

Equipping a fire engine quartered in a busy downtown engine house with a power supply designed to convert its 12 volt direct current ignition system to 110 volt alternating current. Patterson mounted a standard model Ekotape recorder on the apparatus. When the alarm bells sounded, he would climb aboard the fire engine, and ride through the snarl of city traffic to the scene of the emergency. As he "rolled" with the company, he was taping all of the sounds—the roar of the heavy motors, the shrill scream of the sirens, and the staccato commands of the fire frequency radio, all the while giving his listeners a graphic, verbal description of just what a real fire engine response was like.

When the apparatus arrived at the fire scene, Patterson would enter the burning structure right with the firemen, using a microphone mounted at the end of a hundred feet of cord to tape the action. His non-portable tape recorder stayed on the "rig." Patterson would interview fire victims, talk with firemen, and chat with the ever present spectators, taping all of the sounds of the excitement, tension, and oftentimes—tragedy.

Later, back at the fire station, Captain Patterson would spend hours in editing his material for the fire department's 15 minute radio program which was aired locally, and later nationally. Λ great deal



of editing was neceessary at first for, in those days. Patterson was not yet equipped with an on-off switch for his mike at the end of the hundred foot cord. He did design and build a novel arrangement for his microphone, however, giving it a directional mike effect now recognized as being so necessary in recording on-the-scene commentary and interviews by the working radio and television necessasters.

Fire buffs, not being officially connected with the fire department, are seldom fortunate enough to be able to ride the responding fire apparatus to the scene of a fire. And this is as it should be, for fire fighting is indeed a very serious business. However, by monitoring local short-wave fire frequencies, buffs manage to arrive at the fire scene in reasonably good time. The recording of a fire response may often begin before arrival at the scene of action, however. Some fire buffs tape record fire radio transmissions by use of sound-actuated equipment, and have taped records of the initial dispatching as well as the first radioed reports from the fire by the "first due" fire companies. Actually, some of the fire buffs never leave their radios to attend fires at all, but rather make a practice of collecting tapes of major alarms while remaining right at home.

A word of caution is in order here. Section 605 of the United States Regulations of Communications Law reads in part. "... and no person not being authorized by the sender shall intercept any communication and divulge or publish the existence, contents, substance, purport, effect, or meaning of such intercepted communication to any person. ." Therefore, it is mandatory that anyone who wishes to tape record official emergency radio transmissions have the permission of the fire department.

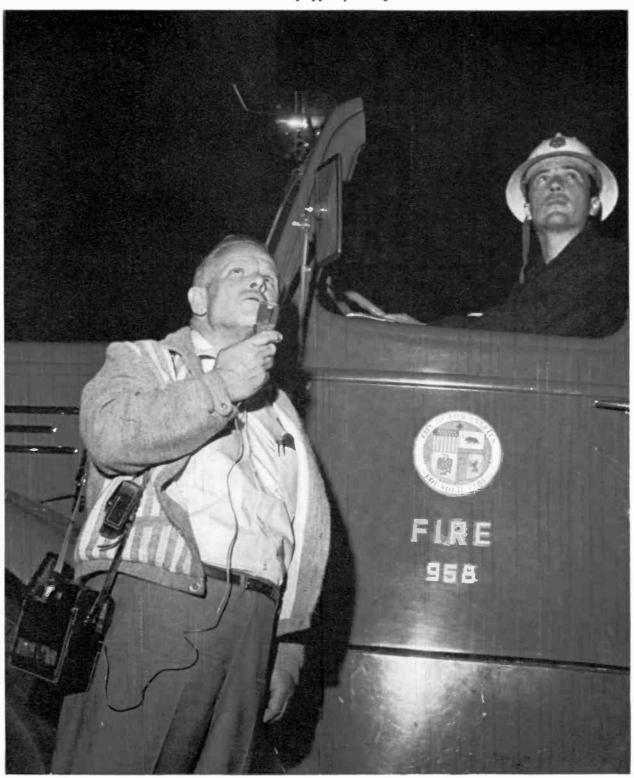
Official radio transmissions are of such importance to the fire buff that, in the field, he is usually careful to locate himself near a chief officer's vehicle or near a piece of radio-equipped fire apparatus, thus enabling him to capture the various reports on the fire as they are transmitted.

Additionally, the tape recording fire buff will generally give a running account of what is going on at the scene, including such items of importance as location, type of occupancy, extent of involvement of the structure, positioning of fire apparatus, and numbers of fire companies on the scene.

Many fire buffs are well acquainted with the city fire department's officers, and by taping conversations with these men, a better insight into the operations at the fire scene may be obtained. Timing is important here, and the best (and perhaps only logical) time for any sort of interviewing is well

Fire Buffs Record The Action

Fred S. Allen, Box 15 Club of Los Angeles, fire buff, records the action at a night alarm, as Fireman L. Ross Rauh of Squad 57 stands by on his radio equipped fire engine.



after the fire is out ("knocked down" as the buffs and fire fighters say it), and the final overhauling operations are well underway. The experienced fire buff will know just how to move about the fire grounds without getting in the way, and who to talk with—and when, in order not to be a nuisance, and, in fact, whether an on-the-spot interview is feasible at all.

An entirely different use is made of tape recording equipment by the Los Angeles Fire Department. Whenever a telephone alarm is received in any one of the four dispatching offices, the conversation is automatically recorded on tape. Frequently the citizen reporting an emergency to the fire department is understandably excited, and sometimes is actually in dire distress, thus making the report almost unintelligible. Fire dispatchers try to keep these people on the phone long enough to obtain a valid address, but now and then the connection is prematurely broken, Dispatchers will then replay the tape of the conversation, listening —and relistening for that important clue that will allow them to send help on its way. And more often than not they are successful, thanks to the tape recording.

Much of the action that is of special interest to the firebuff occurs right within the fire station. A number of buffs have managed to capture on magnetic tape the sounds of the clanging alarm bells, the roar of starting motors, and the hustle, excitement and noise of fire engines responding from the apparatus floor. To be present in a fire house when an alarm is received is, to many buffs, the acme of experiences. And to record this on tape is even better.

Exciting as on-the-scene recording can be, much of the tape recording done by fire buffs is strictly correspondence. Similar in most respects to general taped letters, fire buffs exchange data on a regular basis. The buffs have various means of contacting one another throughout the United States and Canada. Many are members of fire buff organizations and are in communication with other club memberships. Other fans are "loners," and contact those with similar firemanic interests through the columns of any one of several fire department and fire buff publications. A surprisingly large number of fire buffs are also radio "hams."

Most fire departments have their own particular way of dispatching, and specialized pieces of fire equipment, and unique ways of operation. This is the center of conversation and interest of the buffs, who want to know how it is done in Los Angeles, or in New York City, or in Philadelphia. Many

Captain Robert Patterson (left) records onthe-scene interview with Division Commander Ronald T. Robertson.



fire buffs feel that taped correspondence is rapidly becoming one of the more popular aspects of their hobby today.

"Things can be described much better on tape than is possible in a letter," says Idaho Falls, Idaho, Fire Chief Les Corcoran. "Because of this, I feel that tape correspondence is by far the best," concludes Chief Corcoran, himself a fire buff.

Sometimes 8mm color movies or 35mm color slides of fire and fire equipment are exchanged along with a tape commentary. The buffs find this to be most informative, for what could be better than to listen to an on-the-scene description of a big, three alarm blaze—and view color movies or slides of the fire at the same time!

"I wish that they had tape recorders back in the 'old days,' when the steamers pulled by horses were in general use," says Dr. Norman Zaffater, a Shreveport, Louisiana dentist, avid fire buff, and radio "ham" operator K5TAD. "From the way the 'old timers' talk about the way the engines came clanging down the street—horses hoofs pounding against the pavement, steam whistles shreiking, it would have made any fire buff's eyes light up to have a recording of those sounds now.

"But I guess we can't complain," added Dr. Zaffater, "our new fire engines with sirens, air horns and bells still offer plenty of exicting action for tape recordists."

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VINCENT DUGGAN, 83-12 267 Street,

Floral Park, N.Y. Owns a Lafayette four track, two speed, mono recorder (1%). Language major at college. Inter-

ested in all foreign languages. Rev. CHARLES E. OLEWINE, 24 Flower al.ne, Levittown, Pa. 19055. Owns Wollensak, mono (3% & 7½). Likes organ and piano music. Lists photography as hobby.

J. BORREGO, 1370 North Ave. 57, Los Angeles, Calif. Owns Roberts 400-X and Sony 250-A, mono and stereo (3% & 7½). Interested in historical opera per-172). Interested in historical opera performances. Will answer all tapespondents. ROBERT STARRETT, 5225 Lexington Ave., Hollywood, Calif. 90029. Owns Tandberg 6 and Uher 8000, mono and stereo (176, 334 and 7½). Has large collection of old Al Jolson and Judy Garland radio recordings, in addition to many old radio recordings dating back to 1930. Interested in acquiring more of same . . . perhaps by trading with a tapespondent.

RAY KOPP, 850 Knollcrest Drive, Marion, Iowa. Owns Sony mono (3% & 7½). Interested in CB radio, Would like to trade adventure tales with fellow trailer vacationers.

GEORGE LILLIE, 112 - 29th St., N.E., Cedar Rapids, Iowa. Operates sound recording service (has many different type recorders). Interested in tapes of old radio shows. Would like to add to already extensive library of these tapes by trading with a tapespondent with similar interest. Will answer all tapes, BEVERLY HUGHES, 1965 West 44th

St., Cleveland, Ohio 44113. Enjoys all types of music except jazz. Hobbies are people, discussions and collecting cookbooks, earrings and salt and pepper

shakers, Will answer all tapes. KEN PLANT, 1137 Walpert St., Hayward, Calif. 94541. Owns Ampex Model 2061 4 track 3 speed stereo plus Sony 800 A.C. Battery portable (up to 5" reel) 2 track mono. Interested in music and photography. Will answer all tapes on any subject.

Mrs. E. L. MORROW, 7235 Beech Avenue, Hammond, Indiana 46324, owns Webcor 2 track. Prefers stereo 3³⁴ tapes. LARRY K. PRAGER, 4671 Van Dyke Ave., San Diego, Calif. 92116, 28 years

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old-married-graduate law student. Interested in old time radio and mysteries, science fiction, general tapesponding. Owns Uher SR1 and VM 754—both 4 track stereo/mono and 1% — 3% — 7½

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