

amateur TAPE RECORDING

Incorporating Practical Tape Recording and the Recordist

Vol. 1. No. 10

MAY, 1960

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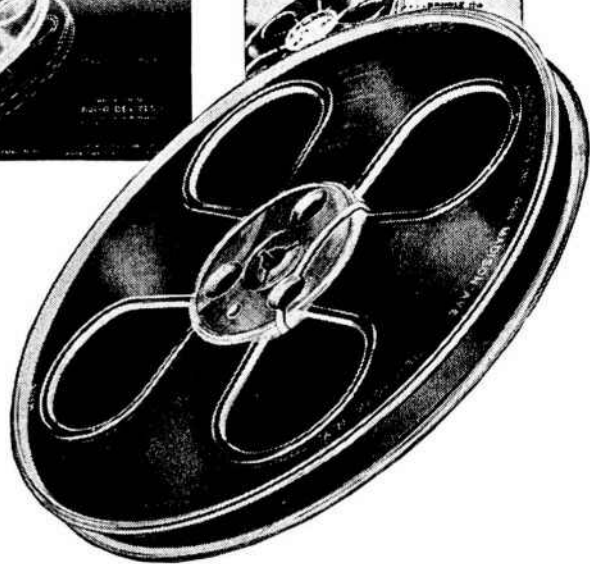
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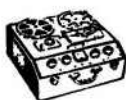
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Amateur Tape Recording

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FULL MEMBERSHIP 21/- PER ANNUM	ASSOCIATE MEMBERSHIP 5/- PER ANNUM
<p>To: THE SECRETARY, THE BRITISH RECORDING CLUB, 145 FLEET STREET, LONDON, E.C.4.</p> <p>Dear Sir, I wish to become a member of The British Recording Club. I enclose my membership fee of one guinea (21/-), which includes my annual subscription to the "Amateur Tape Recording" magazine.</p> <p>Name</p> <p>Address</p> <p>.....</p> <p>Date.....</p> <p>Type of Recorder used.....</p>	<p>To: THE SECRETARY, THE BRITISH RECORDING CLUB, 145 FLEET STREET, LONDON, E.C.4.</p> <p>Dear Sir, I wish to become an associate member of The British Recording Club. I enclose my annual subscription fee of five shillings (5/-).</p> <p>Name</p> <p>Address</p> <p>.....</p> <p>Date.....</p> <p>Type of Recorder used.....</p> <p><small>Associate Members DO NOT receive "Amateur Tape Recording" magazine, but are entitled to participate in the Club's Tapesponding activities and any other services which become available.</small></p>

MEMBERS WISHING TO "TAPESPOND" ARE REQUESTED TO COMPLETE THE FORM BELOW

I would like to Tapespond and agree to my name and address being published.

Name..... Age if under 21.....

Address

BLOCK LETTERS PLEASE

Interests..... Club Number.....

Taste in Music.....

Type of Machine Used..... Size of Spool.....

Tape speed(s)..... Occupation.....

With what part of the world do you wish to Tapespond?.....

THE AIMS OF THE BRITISH RECORDING CLUB

- (1) To act as a central organisation for enthusiasts wishing to Tapespond throughout the world.
- (2) To assist in every way possible the advancement and enjoyment of Tape Recording and its many facets.
- (3) To act as a liaison link between Manufacturers, Dealers and enthusiasts.
- (4) To advise and answer member's queries.
- (5) To keep readers abreast of the times with new ideas and equipment in the fields of Tape Recording, Hi-Fi, Stereo and Recordings.

AMATEUR TAPE RECORDING

amateur TAPE RECORDING

Incorporating Practical Tape Recording and The Recordist

THE OFFICIAL MAGAZINE OF THE BRITISH RECORDING CLUB (INCORPORATING THE BRITISH TAPE RECORDING SOCIETY.)

Club, Editorial and Advertisement Offices:

145 Fleet Street, London, E.C.4.

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MAY, 1960

HIGHER and HIGHER

1960'S AUDIO FAIR with its 74 exhibitors is expected to beat all attendance records. Our own annual Fair, designed exclusively for all who are interested in recording and recorded sound was inaugurated in 1956 and can now boast of a total attendance figure of 250,000 people, to date.

This is a truly impressive figure and shows the extent to which tape recording and good listening has captured the public imagination. Tape recording has grown, in the last ten years, from a pastime confined to a handful of enthusiasts to an established hobby with over three-quarters of a million devotees listening to fidelity reproduction of sounds, once limited to "those in the business" is now the every-day experience of millions.

The Fair offers manufacturers and suppliers of equipment a unique opportunity to study public taste and to gather information and opinion which will influence design trends for the future. That is why the Fair occupies such an important place in the Trade Calendar; that, and the fact that over 40,000 people who are thinking about taking up the exciting new hobbies of recording and listening to sound will visit London's Russell Hotel between 21st and 24th of April.

Why is the Audio Fair always held in a hotel? For the simple and very sensible reason that each person who attends wants to see how the equipment works in conditions as near as possible to those which he will find in his own home. Hotel suites are of a size and furnished in similar style to the normal sitting room. Equipment must look right in the sitting room, and it must sound right—how better to judge its value than in "sitting room" conditions?

A.T.R. is looking forward to the Audio Fair—we want to meet you, our readers, whose opinions and experiences are most important to us. We intend to give the Fair the most comprehensive cover ever given it by any periodical. This is how it can be done. Call at Stand No. 67 at some time during your visit, and tell our staff through their "tape recorder" notebooks exactly what you have seen that appeals to you and what you don't like.

Remember, if we are to have the Audio Fair "taped" properly we must "tape" you !

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Round the World of Tape

THE AUTHOR AND TAPED CONTRIBUTIONS

This was the title of an article in our March issue regarding the reluctance of publishers to accept taped tales from authors. However, if you are the author of "Borstal Boy" and "The Hostage," and you go by the name of Brendan Behan, you have no such trouble. In fact, they send a lady with a tape recorder from over there to Dublin for you to talk and talk to. This seems to have been a very successful idea, as the lady in question, Mrs. Rae Jeffs, Hutchinson's publicity manager, returned with eight hours of material on tape, and Mr. Behan himself is said to have been inspired by the tape recorder to start work on a new play after having lain fallow for some time.

The publishers are considering marketing parts of the tape on L.P.s to coincide with the publication of the taped material in book form.

THE WORD SPREADS

In Japan, the English language daily newspaper "The Mainichi" tells its readers about the British Recording Club and its activities, which is flattering, but also a sign of the times. For the Japanese are now becoming active producers of tape recorders and may soon cause an upheaval similar to that created by their large-scale entry into the photographic field.



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Round the World of Tape

HERE AND THERE

The reader in "Garden News" who wanted to tapespond with other gardeners is in luck, as their latest issue tells him of an existing Tape Circle of gardeners.

"Pottery Gazette" mentions tape recordings being made of sounds typical of the Stoke-on-Trent area.

Moving on to the House of Commons, we hear the following:

Wireless and Television (Tape-recorded Lessons)

Mr. Woodburn asked the Minister of Education whether he will arrange with the television and broadcasting agencies for the supply of tape recordings of suitable lessons for use in closed circuits within schools; and what study is being made of the potentialities of this as an aid to teaching.

Sir D. Eccles: "The schools are already making a great deal of use of direct sound and television broadcasts, among other teaching aids. I am not aware of any demand to add to these the tape recordings mentioned by the right hon. Member, which I understand would—in the case of television, at any rate—involve considerable technical difficulties.

The "Dar-es-Salaam Sunday News" advises its readers on what to do if they receive a tape recording made at 1½ i.p.s. and have a machine which only plays 3½ i.p.s. What would you do?



"I can't fathom where that hiss is coming from!"

MAY, 1960

A TAPE-RECORDER WITH A PEDIGREE

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- Genuine hi-fi 4 watt amplifier.
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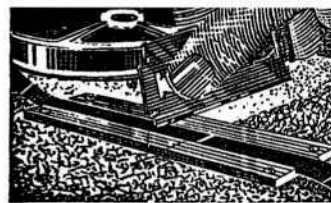
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TAPES-IN-LAW

Lord Thomson overruled the objections to the admission as evidence of a tape recording in a trial in the High Court, Glasgow, of two men accused of blackmail. Both police evidence on what had been heard of a conversation between the blackmailer and the victim, relayed by radio via a microphone and

miniature transmitting set carried by Mr. X, and the tape recording taken therefrom were ruled admissible.

Lord Thomson said: "Evidence given by the person who overhears a conversation in these circumstances is competent evidence, and can be properly admitted. It is, of course, for the jury to assess its value.

"Once that is established, the only point left is whether the evidence to be led in this case is rendered incompetent because, instead of being heard directly by the witness's natural hearing, it has been conveyed to him by a scientific instrument.

"I cannot see," continued Lord Thomson, "that this feature makes the slightest difference to the competency of the evidence. No doubt it makes what the police have staged much more elaborate, but it does not seem to me to affect the principle of it.

The Way to Look at It

"New techniques and new devices are resorted to all the time. I cannot conceive, for example, the evidence of a ship's captain as to what he observed being turned down as inadmissible because he had used a telescope, any more than the evidence of what the ordinary person sees with his eyes is incompetent because he was wearing spectacles."

A.K.G., Politechna (London) Ltd.—We regret that owing to a printing error, the address was incorrectly shown in last month's A.T.R. as 457 Euston Rd. Their correct address is, 36 Percy St., London, W.1



No Interest?

Our glamorous young lady may not interest you!!! But our tremendous range of tape recorders most certainly will.

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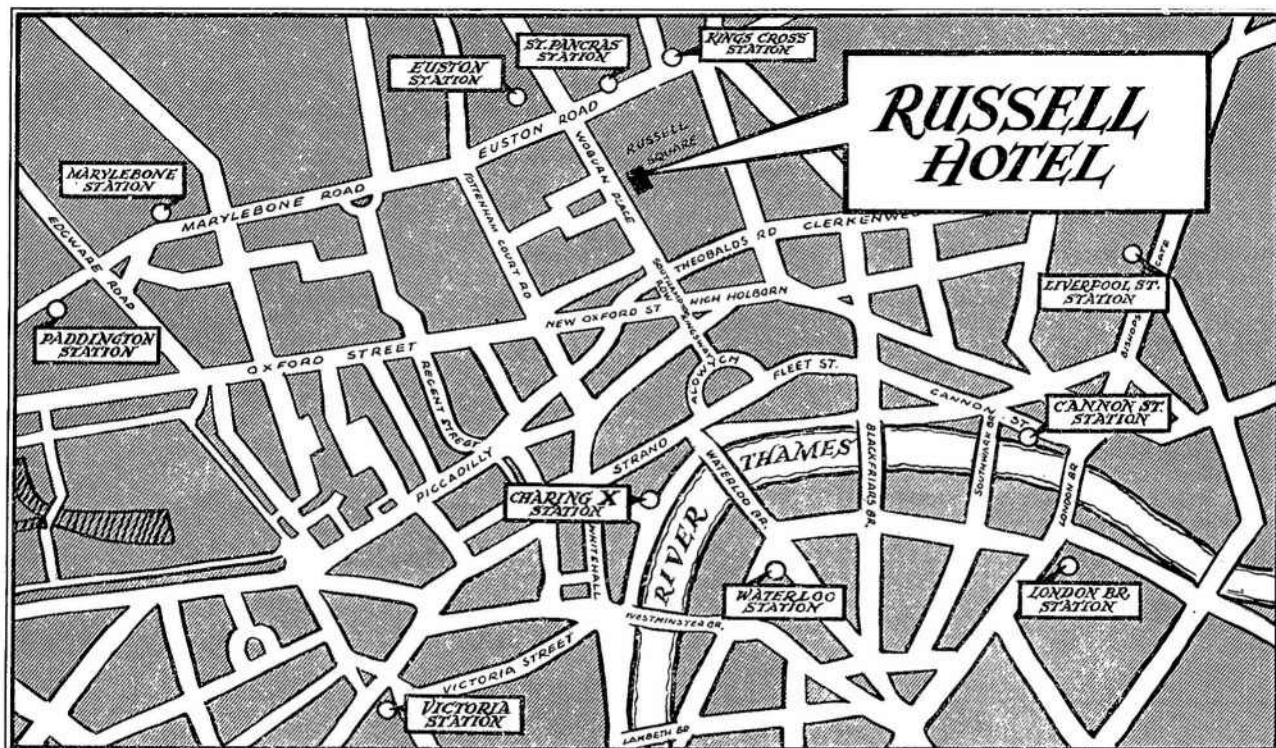
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Bus Routes : Weekdays Nos. 68, 77, 77A. Sundays Nos. 77B, 77C, 188, 196.

Nearest Car Park : Bloomsbury Square.

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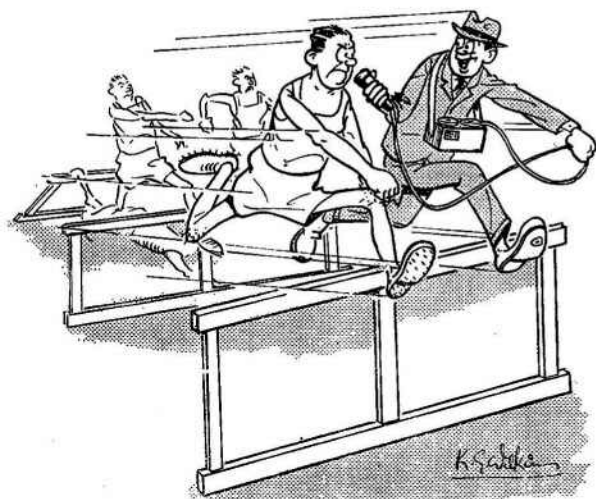
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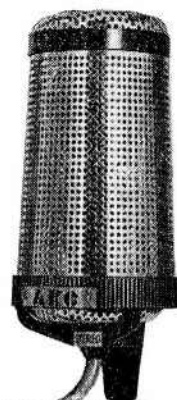
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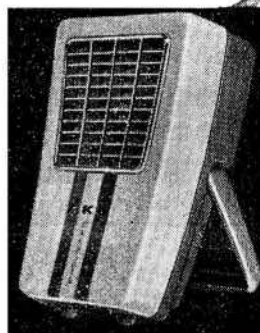
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Our reporter, Jan Phillips, visited the Seymour Hall, London, for the finals of the Challenge Martini International Epée Competition.

BEHIND THE SCENES INTERNATIONAL FENCING

International Fencing

In the last few years, British fencers have come to the forefront in International fencing competitions, especially at foil and épée, and it is because of this that the first annual Challenge Martini International Epée Competition was being held in London. Our record at fencing must surely make it our most successful sport. Our mens' foil team beat France to take third place in the Rome World Championships, 1955; Miss Gillian Sheen won a Gold Medal at Melbourne in 1956; our épée team were fourth in the 1956 Olympic Games and third in the Paris World Championships in 1957; Bill Hoskyns won the World Epée competition at Philadelphia in 1958; Alan Jay won the World Foil championship at Budapest in 1959 and was second at Epée, losing the fight by one hit to a Russian.

The competition attracted competitors from many countries to the Seymour Hall, London. They had gathered for the sole purpose of doing battle with each other, but despite this were extremely friendly, one's first impression on entering the Hall notwithstanding. For this impression is of a collection of darting, twisting figures savagely attacking each other with their Epées to the accompaniment of gasps, cries and the clash of steel meeting steel.

The Epée is the duelling sword, and comes between the foil and the sabre. Unlike the foil, some brute strength is required in épée fighting, and so this was a competition for men only. And what a glorious

assortment of men there were. Russians, French, Belgians, Spanish, Italians,—especially Italians; for at one point I almost disappeared in a crowd of them showing great interest—in my recorder, and enquiring if I was “journalista?” French is the International fencing language, and I managed to communicate to a certain degree with most of these continentals by calling to mind long forgotten “handy phrases.” But alas with the Russians, who only spoke Russian, my one Russian word “Niet” (No) did not get me far at all. The Italians all seemed to be fluent speakers of French and one competitor who did not quite agree with a decision of the French President in charge of his match, was able to tell him so very clearly. The Frenchman obviously thought that this good effort demanded an appropriate response—and so he kicked him in the pants.

However friendliness prevailed, helped by the electric scoring apparatus which registers a hit automatically and so leaves no room for discussion. Hits are scored with the point only of this weapon, but the target includes every part of the fencer and his equipment, except the Epée itself.

We were watching the world's best fencers, and the quarter finalists (last eight) were considered to have amongst them the next Olympics Epée Champion.

These were:

MARINI (Italian) v. JAY (British); PECHEUX (French) v. DELFINO (Italian); BREDA (Italian) v.

TCHENIKOV (U.S.S.R.); KOSTAVA (U.S.S.R.) v. HOSKYNS (British).

So we had three Italians, two British, two Russians and a Frenchman in the last eight. Our hopes were naturally pinned on Alan Jay and Bill Hoskyns, and after these quarter finals had been played off, both were still in, together with Delfino and Tchenikov. Two British, one Italian, one Russian : JAY v. DELFINO and HOSKYNS v. TCHENIKOV.

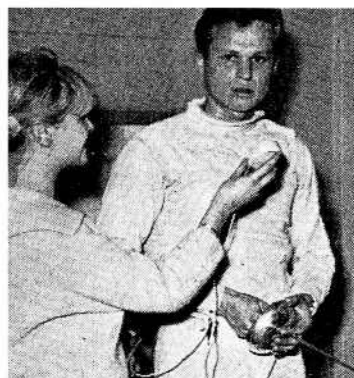
Both matches were thrilling to watch, but alas both dealt a blow to the British hopes and left Delfino and Tchenikov to meet in the final.

But before the final took place, an exhibition of fencing with the foil was given by Miss Gillian Sheen and her coach, Professor Cav : Léon Bertrand. Miss Sheen will soon be defending her Olympic Foil title (our only Gold Medallist at the 1956 Olympics) and I am sure takes all our good wishes with her to Rome.

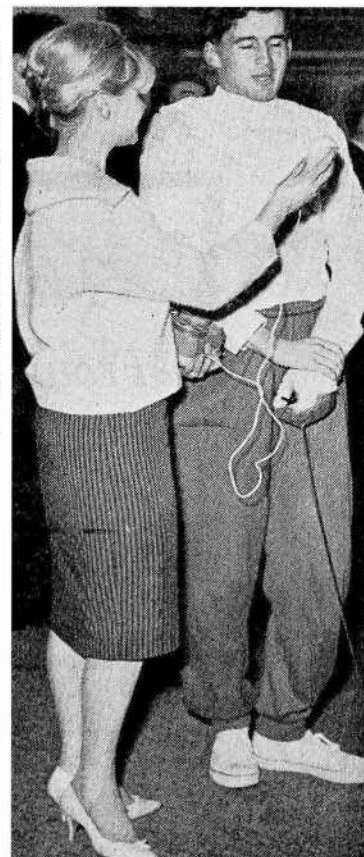
After this an exhibition of modern sabre exercises was given, followed by a demonstration with sabres of "how they do it on the films" without masks or jackets. This was wonderful swashbuckling stuff ending with one duellist being "run through" to the great delight of the audience (bloodthirsty lot!).

Then came the final and the most exciting match of all. I noticed that the President in charge of this, Monsieur Charles Debeur from Belgium, a world-famous referee, controlled the contest by using a button microphone connected via a miniature transmitter to the loudspeakers.

From the start, the fair-haired young Russian Tchenikov was on top against his Italian opponent. Then, gradually, Delfino crept up until he had levelled the score at 10 all. The first one to get the next hit would be the winner—of the fabulous trophy—of



Above. Jan meets the Russian Champion, Tchenikov.



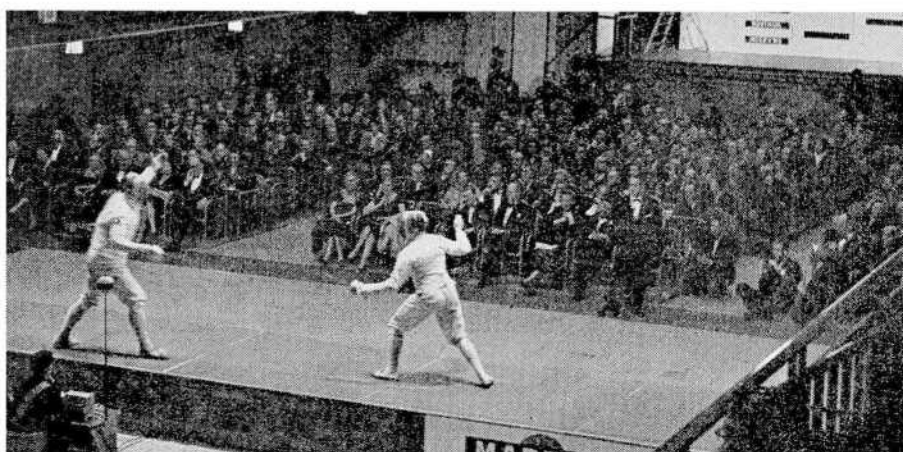
Right. Jan has a word with Bill Hoskyns, World Epée Champion, 1958.

an engraved silver cigarette casket—and of all the honour and glory.

The trophy was a cup in the form of a silver épée guard supported by three gilded heraldic lions each holding the emblem of the Amateur Fencing Association. On the base appeared the tudor rose granted to the fencing association by King Edward VII, because it was a Tudor King, Henry VIII, who founded the first association for fencing masters in Great Britain before 1540. The trophy has been recognised by the Council of Industrial Design as a work of art—and I loved it too.

Who got that last vital hit? Guiseppe Delfino. VENI, VIDI, VICI.

Marini (Italy) versus Alan Jay (Britain).



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"L" Hath no Fury

By LORNA GULSTON

It was a source of the greatest distress to me that I was born too late to get into the War.

Consequently, in 1951, as a belated gesture, I joined a mixed Ack-Ack Regiment of the Territorial Army, and with more effectual bangs helped to shoot down harmless target sleeves trailed at a canny distance behind planes whose pilots were, I believe, paid substantial danger money! In 1955, when the Great White Chiefs disbanded Anti-Aircraft Command, there was I, a discarded Plotting/Radar Training Officer with a collection of some 60 girls, all rearing to Do Our Bit, and with no Bit to Do. So, to bind up this severed artery of patriotism, the War Office de-mothballed two lorries which were obsolescent and expendable, and lo! overnight we were a W.R.A.C. Motor Transport Company.

Now, all of this may appear irritatingly irrelevant as far as tape recording goes, but in fact it's leading up to the revelation that that is why one chilly Sunday morning at the tag-end of winter I was sitting in the passenger seat of a Bedford three-ton truck balancing a Fi-Cord on my knee.

Incidentally, I crave pardon for insinuating so much of ME into these articles, but you'll appreciate that even the most ingenious of recorders requires a little human assistance and so, alas, a certain modicum of autobiographical detail is bound to creep in.

Commentary Drive

Anyhow, that particular Sabbath the recorder and I were serving our country to the best of our amateur ability by instructing on a Commentary Drive—a procedure designed to improve the Powers of Concentration and Observation, consisting of a spoken description of every move which the person at the wheel is making or anticipates ought soon to be made. My idea was to record the commentaries of my Recruit Drivers and use them to add interest to driver-training lectures when (and if) we returned to Camp. The public were protected from us by foot-high "L" plates front and rear, and bolted to the tailboard (for the benefit of the super-clot) a notice threatening "CAUTION—LEARNER DRIVER."

The Private who now sat tensely beside me clutching the steering-wheel as if it had hinted at eloping to Gretna, spent the five days of her civilian week wiggling sausages into their skins, but on Sundays

she fulfilled her dreams of Adventure, and she very much wanted to make good.

"I am now going into first gear," she announced. Breathing hard, she heaved on the gear lever. "And I now let out the clutch smoothly and gradually..."

Like a cougar pouncing on its prey the truck hurtled forward, the engine stalled, and with a lucky snatch I rescued the Fi-Cord from the brink of eternity. We tried again, less violently, and soon we were, in official phraseology, "proceeding in an orderly fashion" along the road from the Camp gates. Pte. Smith, warming to the sound of her own voice, chattered on, with ironic accuracy describing as "invasive action"—a breathtaking dart between a parked milk-van and an oncoming Hillman Minx, which left the Hillman halfway up the kerb with a white, stunned expression on the face of its driver.

"I am now approaching a main road," droned Pte. Smith, "so I give my slowing-down signal, look in my mirror, and halt at the white line." The signal was given, the mirror was glanced in. "I am now stopping at the white line," announced my pupil firmly. But at that moment there was a shrill scream from the footpath:

"Cooee—Joanie—hey, Joanie! Look, Willy, it's Auntie Joanie in a big soldier-lorry. Hey, our Joanie!" Our Joanie, quite carried away, yelled, "Oh, it's me sister and her Youngest." "Never mind—STOP," I barked.

Before I could save us, Pte. Smith's foot, in confusion, skidded from the footbrake to the accelerator, and like Moses dividing the Red Sea, we cleaved a channel through the stream of traffic on the major road, creating hysterical chaos. Horns blared, brakes screeched, indignant gestures were made, a parson wobbled helplessly and fell off his bicycle, but trusting that he would do the noble thing and turn the other cheek, we blundered on behind the shield of our "L" plates and scuttled up a side road, where I delivered a caustic refresher course on the Highway Code.

"I'm sorry, M'am," sighed Pte. Smith, "I think maybe it's just not my day."

The Next Victim

Fortunately, Pte. Black, the next victim, was in less lethal form, if a trifle ham-handed. The Fi-Cord sopped up a babble of hesitant commentary, my exhortations to caution, and the tortured shrieks of the gearbox as it lost more teeth with every change. The makers of Hollywood epics could probably have used the tape as a soundtrack for Christians being

dismembered in the Lions' Den, or Caesar dragging beneath his chariot wheels prisoners from those interminable Gallic Wars. Still, we made progress, and only broke down twice (through overheating), which was rather good considering that no amount of loving maintenance could counteract the frail senility of our poor old truck, which after a hard war, might have expected to spend the autumn of its days in less gruelling and ignominious pursuits.

In due course, the city thoroughfares gave way to the spaciousness of the countryside, with a splendid turkey gobbling defiance from his farmyard lane adding a pleasant pastoral flavour to my recording. But it was then, when it seemed the Sword of Damocles had temporarily retired to its scabbard, that Nemesis, with a dirty giggle, skipped unto our rear axle. At a particularly narrow stretch of road there was a corner where on our nearside stood a pretty whitewashed cottage with a pretty whitewashed stone wall bounding its neat garden. Pte. Black approached this bend at a decorous pace, tucked well in to the left — which is why the motorcyclist lived.

He appeared from nowhere, head down, throttle wide open, engine snarling, taking up all his own side of the road and most of ours as well. With a shocked squeak, Pte. Black wrenched at the steering-wheel. There was a dull crumping bang; I reached the handbrake and we shuddered to a stop.

"Oh, M'am!" wailed Pte. Black, wringing her hands, convinced that the truck was a total write-off and her cronies in the back maimed or dead.

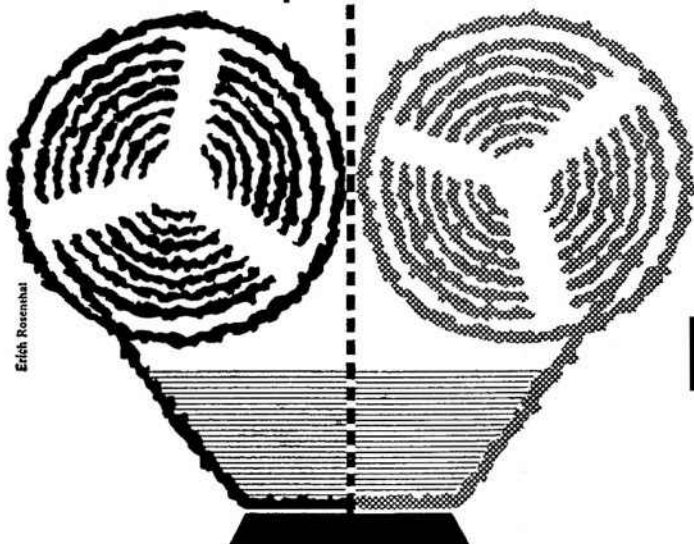
In fact, we had fared much better than I dared to hope. The Bedford had lost only a few feet of paint and a sliver of wood, all of which could be subtly camouflaged later, and the supposed "corpses" were hanging over the tailboard, very much alive and agog with excitement. Indeed, the situation was heartening in the extreme.

A Snag

There was, though, one snag — the pretty white-washed wall of the neat garden of the pretty white-washed cottage had suffered a radical alteration, and as I inspected the mournful heap of demolished masonry the door of the cottage flew open and the largest man I had ever seen stormed out. It seemed that he must creep about his diminutive dwelling on all fours, because it looked quite inadequate to hold such a giant, but I had no time to pursue this speculation, for he arrived in an aura of outrage, accompanied by a spaniel which set up banshee howls.

"Look at my wall," roared the large man, "so-and-so women drivers, playing at soldiers — shouldn't be allowed out on a scooter, let alone a thing *that* size. It took me weeks to build that wall, and look at it — just *look* at it."

what goes on
in tape?



Edith Rosenthal

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"I'm very sorry," I began, aware that, like the Voice of the Turtle when Sharks were around, mine had a timid and tremulous sound. "But, you see, it was the motorcyclist, on his wrong side—it was him or your wall, and I'm afraid my driver chose the wall."

"Ha, she did that. And she can pay for it, too, or the Army can—can well afford it, buyin' missiles and suchlike. And what's more, that wee madam ought to be prosecuted for careless driving."

The "wee madame" stood behind me, doe-eyed and acquiescent, her expression indicating that all was well, Captain Gulston would fix it, and three other faces full of trust regarded me from the back of the lorry. But Captain Gulston was making a singularly impotent oracle. What defence could one offer to a belligerent Hadrian of the Wall who was determined to make trouble, and who hadn't even seen the motorcycle?

"I'll fill in an Accident Report form and the matter will be dealt with through the appropriate channels," I said, drawing the shreds of my dignity round me.

"Aye, dealt with ten years from now," sneered the giant. "Oh, no, we'll see about it a bit sooner than . . ." He paused, and following his gaze I saw the hindquarters of the spaniel wriggling about in the cab of the truck, and in a moment it slithered on to the running board, dragging the Fi-Cord by the strap. With an anguished cry I bounded to the rescue and the dog relinquished its prize, baulked and growling.

Anxiously I opened the machine to check that it was undamaged, and then a voice boomed in my ear, "Och, is that a wee recorder?" "It's a portable Fi-Cord," I said automatically, and for a second it didn't dawn on me that the voice belonged to Hadrian of the Wall in person—but a Hadrian transformed. His beefy face glowed, and his eyes—good heavens! They were almost friendly!

"Ah, a Fi-Cord? I was readin' about that in one of the magazines, and I was thinkin' of buying one, but I couldn't get any first-hand details. I have a Ferrograph, you know, but I was wantin' something that runs on batteries. Now maybe you could give me a bit of advice?"

I gaped at him, totally demoralised. A tape enthusiast in the wilds, with a *Ferrograph*, at that! I just stared and stared, struck dumb. It couldn't be true.

All's well . . .

But it was. In a twinkling we were somehow all in the cottage, drinking tea and eating home-baked scones and being sociable, while I coveted Hadrian's Ferrograph and he investigated my Fi-Cord and we talked tape ten-to-the-dozen and the drivers toasted their toes at the fire and made friends with Hadrian's wife, and it was only when I insisted that we must be on our way back to camp that we were allowed to

leave, with invitations to "drop in" any time we were passing.

Outside in the garden, realisation returned, and with a sinking apprehension, I said "About that wall . . ."

"Och, never mind about *that*. I'll have it up again in a day or two. The cement was all dried and crumblin' and it was ready for comin' down anyway. It's grand that these wee girls give up their Sundays to do somethin' useful, and I wouldn't be the means of gettin' the one that hit it into a row, for sure, she couldn't help it."

"But the Accident Report—"

"Never worry. If your lorry's all right, forget it."

"With pleasure," I said, "thanks awfully."

"Not at all. Thank you, miss. I've wanted to see a portable recorder for ages, and there you are, you see, you can never tell when somethin' will turn up just at the right moment."

And, by the Magic Eye of the Little Grey Fi-Cord, you darned well never can!

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THOSE of us who know little about decibels and flat frequency responses might not raise our eyebrows at the facts and figures describing the much-talked-about new WyndSOR "Victor" portable. Those who are genned up to translating the specification into words and music are not surprised that the "Victor" sounds better than some tape recorders nearly twice the price. But make no mistake if you are about to plunge: the WyndSOR "Victor" is a quality-all-the-way portable, so beautifully designed and executed as to bring professional-sounding recordings within the reach of the most non-technically-minded amongst us.

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If history is anything to go by, widely publicising the "Victor" would overwhelm the WyndSOR factory. WyndSOR policy is never to sacrifice quality for quantity and the fact is that there were never enough of the "Victor's" predecessor, the "Viscount", to satisfy the demand. So now is the time for all good enthusiasts to inquire at WyndSOR dealers or to send postcards (clean variety still preferred) to the modestly proud makers for the names of nearest stockists. There is nothing more annoying than hearing a WyndSOR just after buying an ordinary tape recorder.



The new WYNDSOR "VICTOR" complete with crystal microphone, 1,200 feet of tape, and spare jackplug, is only 45 guineas.

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The tape recorder is one of the teacher's newest training aids. No matter what the course of instruction, in schools, in industry, adult education or in helping with the homework, the tape recorder is the ideal instrument for driving home the lesson and for judging just how much the class has learnt.

TAPE is a practical, convenient and inexpensive medium for sharing a wealth of material with large groups of people and the tape recorder makes teaching interesting. After all we often learn best through listening.

At first the novelty and fun of using the recorder encourages children to cultivate listening habits. Later its use provides experience in concentration and the opportunity to appreciate and interpret oral presentation of a subject.

Both teachers and their pupils gain from the tape recorder in the classroom in many ways. Because it provides the practical opportunity for self-expression and self-analysis, lessons become more than just "cramming" sessions—they help to overcome timidity and nervousness if everyone has a chance to talk into the "mike" and before long there is a noticeable improvement in speech, and the expression of ideas.

Because the recorder is so easy to use and a reel of tape can be used over and over again—and what is important—the quality of reproduction is so good these days, radio and television sound tracks of educational programmes can be stored and used when they will be most effective in the curriculum, at minimum cost and effort.

Preparing to use the Tape Recorder

No two classrooms are the same, so at best only

general principles can be laid down for "setting the scene" for the teacher's star assistant.

The tape recorder's job is to record sounds and reproduce them, so therefore competing sounds must be eliminated as far as possible. This can be done by closing all doors and windows and planning the tape sessions when loud noises in other classrooms or traffic noises are at a minimum. A notice outside the door often helps to ensure quiet in the corridors.

Many classrooms are acoustically "hard" and plaster walls and ceilings, wood floors, blackboards, big windows cause echoes to be magnified on tape. Ideally the ceiling should be covered with acoustic tiles, windows should be curtained and there should be a cloth backdrop behind the microphone, but it is rarely possible to provide all these aids to good recording. We must compromise—for instance, if the microphone is on a stand it should be placed on a soft rug, or a table microphone should stand on a soft cloth or a woollen scarf. That ensures recording without reverberations. Reproduction can also be improved by placing the loudspeaker off the ground on a table or stand so that it is approximately level with the listeners' ears.

Students should all face the loudspeaker so that they can feel the presence of the recorded voice. On the other hand, with small groups, headphones are often effective. In this case they should sit in a circle facing away from each other—then each is alone with the voice and there are no distractions.

Recording

When recording a discussion, drama, or other activity for a small group each member should be at an equal distance from the microphone. With larger groups it is best for each to step forward to the mike when the cue is given.

The tape recorder is perhaps at its best in a music class but great care must be taken not to overdo the acoustic treatment of the room. Too many curtains give a "dead" sound and for true music reproduction a slight echo is necessary.

The teacher can make learning through tape very effective so long as the class is comfortable and relaxed. The recorder should be a friend, not a task-master.

Good microphone technique requires a basic knowledge of microphones and their characteristics. Most microphones supplied to schools are inexpensive, high impedance, crystal, uni-directional instruments. A uni-directional mike picks up sounds from one side only, a bi-directional mike picks up sounds from two sides, and an omni-directional from all sides.

The high impedance mike is adequate provided the lead is no longer than 25 feet; in general the longer the lead the greater is the loss in volume and increase in background noise. If the lead must be more than 25 feet long a low impedance mike should be used. With this type the line may be extended almost indefinitely without serious loss of sound.

Best results are achieved if the mike is not handled—it can be placed on a stand or table, suspended from the ceiling, or even pinned to a speaker's clothing but it should not be passed from hand to hand.

The desirable quality of "presence" can be achieved if the speaker is "on mike." He should be

between 6 and 18 inches away to record speech. If he is closer he should direct the voice at an angle across the mike to reduce breathing noises and sibilants. And—if the mike must be moved between speakers, static can be avoided by pausing until it is in place. If the effect of distance is required do not lower the record level, but let the noise come from a distance "off mike" at the same record level as for the "on mike" sounds.

In recording music the best results are obtained by placing the mike at a point where all the sounds merge. Sometimes two mikes are used and the sound enters the recorder through a mixer. The best arrangement can only be determined by experiment.

Reels, Speeds and Tapes

Before the recording session it is necessary to choose a reel size and tape length corresponding to the estimated time of recording. The length of the tape will be governed by the tape speed. For example, a seven-inch reel contains 1,200 feet of standard base tape and will play approximately one hour at $3\frac{1}{2}$ inches per second. Other sizes range from three to 14 inches and contain tapes from 150 to 7,200 feet long. The standard speeds are from 15 inches per second—the speeds used in professional recording—to $7\frac{1}{2}$ i.p.s. or $3\frac{1}{2}$ i.p.s., the speeds most commonly used in schools. In general the faster the tape speed the greater the fidelity of the recording.

The tapes themselves vary. The standard thickness

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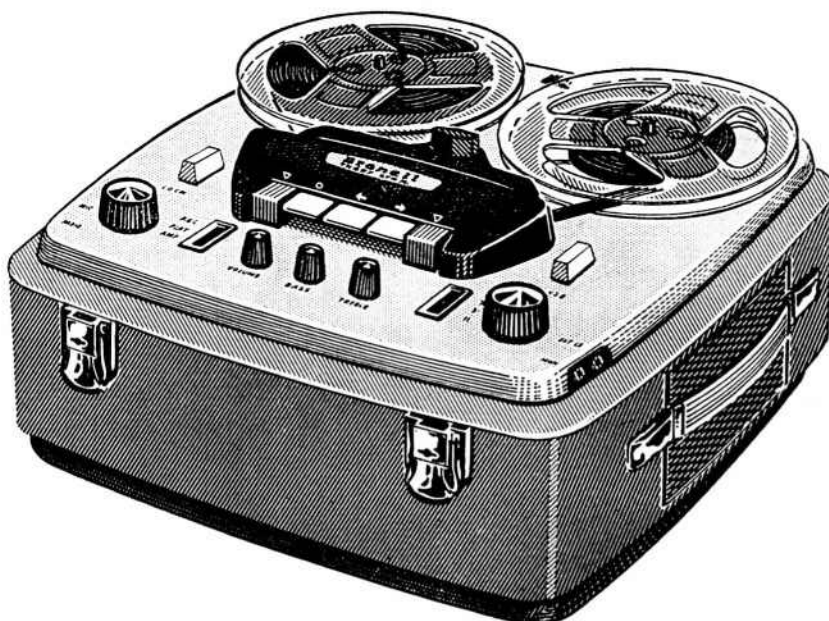
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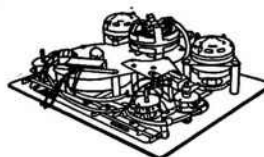
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TAPE TIPS

by T. P. GOLDINGHAM

Most tape recording enthusiasts have at some time or other thought of trying their hand at composing a sound picture on tape—whether it be a holiday album, a description of their home-town, or perhaps some more surrealistic piece of montage. There is no dearth of advice both on the selection of material and the detailed process of tape splicing: what I hope to do in this article is to give some more general tips from my experience, which may save some fellow amateurs the disappointment of missing a “scoop” recording.

I do not propose to say much about the recorder itself, since most readers will already have acquired a machine. Obviously, a battery portable is ideal for the sort of work I have in mind; but a great deal can still be done with a mains machine, provided that it is not too cumbersome. Portability is definitely more important here than the highest hi-fi; and it is worth noting that many small recorders are capable of producing recordings to which their internal speakers cannot do full justice.

Plugs and Adaptors

If our machine is to be really portable, we must be able to plug it in anywhere. This may seem obvious; but it is surprising how many chances are missed because of it. My own machine uses a two-pin plug, so I have fitted it with an ingenious adaptor, bought for 3/- at Woolworth's, which has two retractable pins, and so can be plugged into either a lamp (bayonet) or a 5-amp two-pin socket—the two commonest types. Then you will need to be able to deal with three-pin sockets. There are of course the standard adaptors, but I prefer to use one with moveable pins which will at a pinch cope with both five and 15-amp, and also with 15-amp two-pin. Alternatively, the special rubber plug fitted to Hoover cleaners is very versatile. There only remains the flat pin ring-main type, for which you can use one of the special adaptors sold for electric razors, or manufacture your own adaptor with a plug, two-pin connector socket and a short length of flex: it is well worth doing this at leisure, rather than messing about with matchsticks and bare wires at the last moment! Remember too, if you take your machine abroad, that Continental plugs are of different sizes from British, and that lamps generally have a screw fitting—a full range of adaptors should be one of your first purchases. A mains test screwdriver is also useful: it is very frustrating to get everything set up only to find that a socket is dead—or to plunge 200 people into darkness as I once did by trying to use a plug that was faulty!

How long is a microphone lead?

What if the mains supply is too far away? One can of course use a car battery with a converter; but it is often simpler to use a long flex, and so I always carry one in my gadget box. The alternative is a long microphone lead, which will probably involve the purchase of a new microphone, since the crystal supplied with many tape recorders will not give good results if fitted with a longer lead than the one supplied. A low impedance mic. is needed, with a transformer to be placed as near the recorder as possible: mine cost £6 for the two items. A stand

for the mic. is also useful, and can often be bought quite cheaply if appearance is not the main consideration.

Finally, I do recommend a carrying case. Not only does this help to keep your recorder in showroom condition (always a good thing when you come to trade it in for the latest model) but, still more important, it makes it less conspicuous. Often the unrehearsed atmosphere of a recording is spoilt if too many people spot the machine before you start.

Editing Effects

So much then for the equipment: you are now ready to start recording. Probably many of your recordings will consist of sound effects, in which case you will be using only a few seconds of a very much longer recording—you might, for instance, record a full game of tennis to get one good rally. So in order to economise in tape you will need to cut out the required portion as soon as possible, and store it on a separate spool. You can then splice the original tape and use it again for something else. Here it is very helpful to have a splicer actually mounted on the tape deck; and you will of course need a reel of special splicing tape. The recordings you are keeping can be joined together with “Arrowtabs,” tacky labels exactly $\frac{1}{4}$ ” wide: these enable you to label each recording, and can be peeled off again when it is wanted. Take care to put the strips of tape in the right way round—it is easy to confuse track one and track two on a piece only 3” long!

Commentary

When you have collected all your recordings, which should be numbered and indexed, you will probably want to link them together with a spoken commentary. It is best to write a script for this, and to record it all at the same time, so that you have the same tone of voice, rate of speaking and recording level throughout: it is surprising how much these can vary. Leave pauses for the insertion of your other recordings, marking the script with the numbers of the items which fit in them—you will have to judge the timing so that it is not too difficult to cut the commentary between phrases, while at the same time avoiding any excessive gaps. When you piece the whole together, start at one end of your spool of short sections, disconnect the first length, find its place in the commentary, splice it in, and go on to the next recorded item—which may fit in at the other end of the commentary. If you try to work in the order of the commentary you will have to take recordings from the middle of your collection, which will then have to be joined again if you are to avoid a litter of short lengths of tape.

And so after perhaps several hours of creative work, your recording will be finished. A final plea, then: put a clear label on the spool. You will never forgive yourself if you erase it by mistake!

The Tape Reading Circle for the Blind is urgently in need of readers to extend the work of this Service. Club Members with good speaking voices resident in the London area are requested to assist in programme production. Please write to Blind Reader Service, J. Hunter, Programme Organiser c/o A.T.R. Magazine, 145 Fleet Street, London, E.C.4.

TAPE TERMS

by HUNT

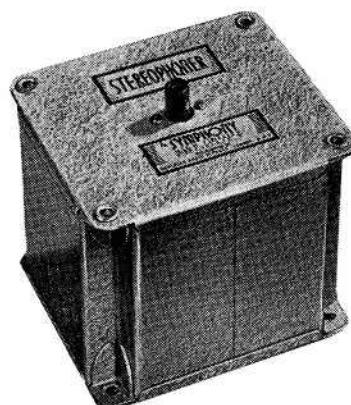
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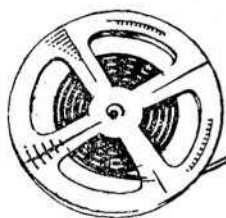
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PROFILE...

The Men and Women
behind the "MIKE"

Margaret Northwood



I had been interested in tape recorders for some time when I bought a Winston Thoroughbred last year. It has brought me many new friends already in the six months that I have had it. At first I enthusiastically taped music and then branched out to something more daring! With the help of a friend, I recorded a two and a half hour show put on by the Guides and Brownies. Then I joined the recently formed amateur dramatic society in my village and along went my recorder, with which I recorded the sound effects for their first production.

Another new interest since having my recorder was joining the Staffordshire Tape Recorder Society and starting to tapespond.

My idea when putting my name in the listing in the "Amateur Tape Recording Magazine" for a tapespondent was to have a few in Britain and a few abroad. I certainly wasn't prepared for the numerous replies that I have had from young men in Britain! I have had 25 replies and up to the time of writing for the last few days I have been receiving one a day regularly. I should like to take this opportunity of thanking everyone who has written to me. I cannot possibly manage to tapespond with you all, but I am trying to reply to everyone, whether the answer is yes or no. If you haven't heard from me by the time you read this article, you will know that I have been snowed under with more replies.

Since I have had my recorder I have heard a voice that I have longed to hear. It is the voice of

my pen-friend in Glasgow, to whom I have been writing for ten years. She and I have never met. More voices that were welcome were those of my relatives in New Zealand. An uncle of mine emigrated 35 years ago from his native Wales. He returned for the first time nine years ago and two years ago his daughter came over to meet the relations she had never seen. As a Christmas surprise I took my recorder with me when I visited my relatives and people she had met and sent them a tape of "voices from home." We have heard that their reply will be made when they gather together for my cousin's wedding next month. So we are looking forward to hearing the voices of our family over there.

Many uses for Tapes

Before one of my driving lessons, while looking at my driving instructor's Grundig Cub, we hit on the idea of using it as an introduction for the first tape to one of my tapespondents. So we taped a driving lesson. The result was a little startling!

I enjoy meeting people and see many new faces in my job. I live in the village of Penkridge, which is situated between Stafford and Wolverhampton. My parents bought the local chemist shop and the family moved here from North Wales seven years ago. I took over the cosmetic side of the business, and soon after I started at the shop, took a training course in beauty culture in a salon in Bond Street. In addition to advising my customers, I now give beauty demonstrations and lec-

tures at the youth club I am connected with and various youth clubs with whose leaders I am friendly.

Among my interests, as you may have gathered, is youth work. I am an adult helper in the Penkridge Youth Club, which is a mixed one and has 98 members, meeting twice a week. One evening when I took my recorder to the club, we had a hilarious evening and I discovered some hidden talent! I am Captain of Penkridge Guides Company, which I started five years ago. A year after we started—needing money in the bank—we planned a small impromptu concert for parents and friends. But our idea and plans grew and, before we knew where we were, we were putting on a full-scale concert to a packed house for two nights. Now we do an annual show, and, as I mentioned earlier, I put the last one on tape.

Spastics

Another organisation I am connected with is the Stafford and District Spastic Association, which I am especially interested in. We meet once a month and arrange various efforts to raise money, annual ones being a flag day, whist drives and a Hallowe'en ball.

I am also a correspondent for a newspaper in Stafford, and this proves very interesting at times as I am able to visit anything that goes on in the village. I'm usually connected with it anyway!

My activities don't leave me much spare time, but what I have goes to my new hobby—tape recording.



Members of the Huddersfield Tape Recording Society.



Joyce is of the opinion that most women would find tape recording a worthwhile hobby, but, unfortunately most women appear to be afraid of technical apparatus ! Mrs. Tasker is seen at her machine with her baby daughter, Susan.

(Photo by courtesy of The Staffordshire Advertiser & Chronicle).

CLUB PICTORIAL

by ALBERT GREENWAY



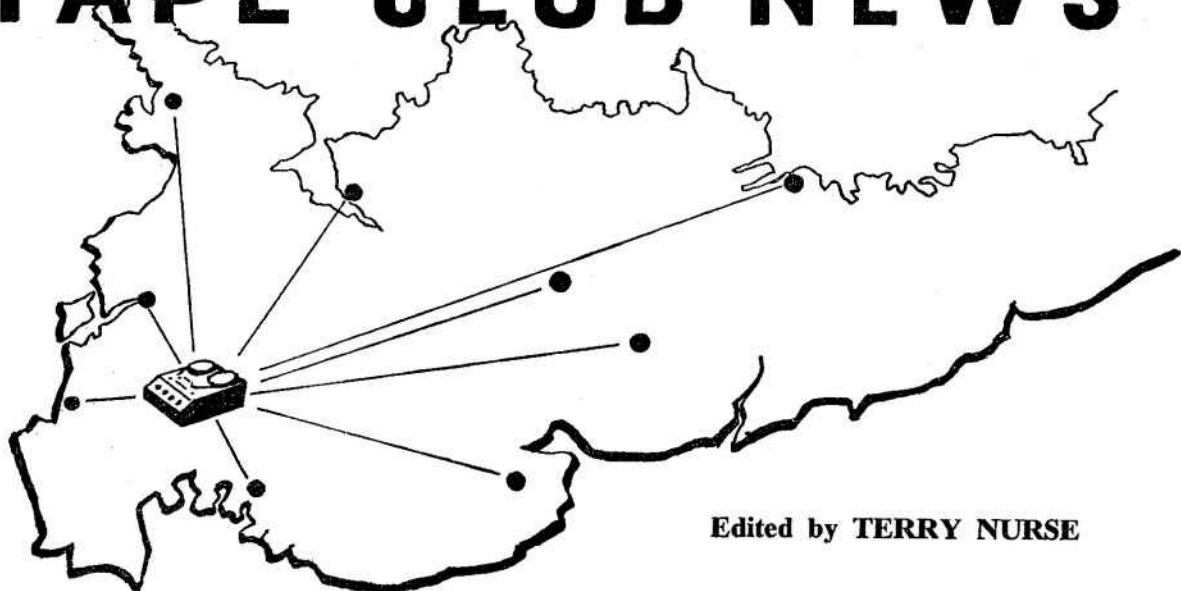
Chris Barnacle (right) interviews one of the footsore competitors at the Riverside Youth Centre's "Marathon jive session."



The only sound that Neil Harrison, George Parks, and Jack Shaw (l. to r.) could get out of this recorder was "Home Cooking," but it tasted Grand !

(Photo by courtesy of The Huddersfield Examiner).

TAPE CLUB NEWS



Edited by TERRY NURSE

ANNOUNCEMENT

Will Club Secretaries continue to send news to:—
TERRY NURSE,
161 Stuart's Road,
Birmingham 33,
not later than the 26th of the month. Send plenty
of news in because **THIS IS YOUR JOURNAL**.
Interesting photographs are also invited.

THE Coventry Tape Recording Club has succeeded in winning recognition from the local Corporation—quite an achievement in such a sizeable town. Permission has been granted for them to record events in the new Lord Mayor's year of office commencing in May.



Meanwhile, the club has been tracking down important visitors to the city to get their views on its rebuilding. The interviews have included one with four Cuban journalists, and another with the City Architect, Mr. Arthur Ling. They plan to interview other prominent officials as time goes by.

"We feel that there are so many varied and exciting things going on in this city of ours that we have a civic responsibility to keep a permanent record of them," said Chairman Roy Penfold, outlining his club's policy.

The club's first assignment for the Corporation was at the opening of the Herbert Art Gallery and Museum on March 9th, where they enjoyed facilities equal to those given to the Press and television networks, who also covered the event.

Apart from these civic activities, the club recently

demonstrated tape recorders to the city Boy Scout movement. This was so successful that they intend to visit many of the 600 different associations, clubs and societies which the city boasts, from the Coventry Canal Society to the Coventry Aero Club. Although it will take years to get round them all, at least a start has been made, and the visits may lead to all kinds of interesting activities—from recording journeys on canal barges to flying over the city in aircraft!

MAY I SUGGEST . . .

The tape club movement is at present mushrooming. The increasing number of clubs being formed each week and ambitious plans like Coventry's tell us this, and make us ask: "As the national voice of the movement, what can we do to stimulate fresh ideas and promote the creative interests of our hobby?"

The answer might well be in our observation that the two most popular activities amongst clubs are outside documentary and hospital service work. With the long light evenings approaching again, opportunity for weekday documentary-making begins, and we become increasingly conscious of those in hospital who cannot be out and about with us, joining in the joys of spring.

Here, then, is the chance for us to combine our two most popular activities, and take the "outdoors" indoors. Now is the time to go into your town and bring back to patients the sounds beyond the confines of their hospital wards. Go to the fun-fairs, swimming pools, cricket matches. Tape the town clock chiming or the church bells pealing. If you live in a market town, tape pigs squealing on market day!

Take the material to the clubroom, and at the next meeting edit it, add a commentary, and aim for

a finished tape running, say, 30 minutes. If you have already started a hospital service, you can then go ahead and broadcast the programme. But if your club hasn't such a service, do not despair! Instead, send the tape along to the B.R.C. Hospital Broadcasting Service, and we will make it available to dozens of hospitals with thousands of listeners.

MARATHON JIVE SESSION



Tape recording is almost magic! Admittance is gained by the mystic phrase "I own a tape recorder," to social events which might otherwise be beyond your reach. The Warwick and Leamington Club found this out when they were invited to tape the Leamington Riverside Youth Centre's "Marathon Jive Session," at which various twosomes of teenagers set out to jive for 24 hectic hours. Amongst the distinguished spectators were Trevor Phillpot and Slim Hewitt, of the B.B.C. "Tonight" programme, and reporters from the national dailies. Chris Barnacle, of the Warwick and Leamington A.T.R.S., was able to secure interviews with them on his Stuzzi. He also taped the comments of an uncountable number of competitors. The tape of the event has now been edited, and a disc transcription will soon be presented to the six-month-old youth centre.

As a direct result of this session a small recording group is in formation within the youth centre itself. Their aim will be to record the various activities of the centre for future reference.

Meanwhile, members of the W. & L.A.T.R.S. recently joined forces with the Lillington Ciné Group, and advanced *en masse* towards Birmingham. They were heading for Birmingham Commercial Films Ltd. in Erdington, where most of the T.V. commercials for Midlands viewing are made. Members were taken round the studios, processing laboratory, and editing rooms.

THEY TAKE THE CAKE



"The Huddersfield Club has recently been going ahead by leaps and bounds," reports Club Secretary George R. Parks. "Five new members signed on at the last meeting alone, thanks largely to 'Tape Club News' publicity."

I don't wonder members are enrolling so fast after looking at recent society reports. A month or so ago the club held a social evening and invited members of the Manchester Club—including Secretary Joe Kerrs—to visit them. Things went with such a swing that Joe missed his train back home, but a member managed to fix him up for a 25-mile lift, so no harm was done.

Featured at the social was a cake made by Mr. Parks' wife, Pat, in the form of a tape recorder. Joe Kerrs had the pleasure of cutting it, and everyone the pleasure of disposing of it.

On March 1st members contacted Britain's ace vocal group, "The Kingpins," who have appeared in "6.5 Special" and "Drumbeat." They were able to let the Huddersfield members know a little of the "ins" and "outs" of show business, and provided

some useful data regarding studio acoustics and echo effects.

WE'VE NO FAITH

Bill Tilcock and Mike Brown, of Rugby Society, went backstage at the Granada Theatre last month with the hope of interviewing star of stage, television and juke-box Adam Faith, but his agent would not agree. So instead they stayed the other side of the footlights and gained a close impression of how the show goes on. Mr. Brown tells me that the stars "rushed around with water pistols shooting those on stage, and all having a good time!"

FAMILY CIRCLE PROGRESS

"The Family Circle," Dennis Osborne's tapespondence group for tape-happy families, will soon be in full swing, according to what he told me recently. Mr. Osborne is hoping to obtain a large hall for his headquarters, and canteen facilities will be available.

"All families interested in tape will receive instruction by experts," I was told. "Tapespondence contacts throughout the world will be available."

The Osborne family consists of Dennis, his wife Anna, and children George (14), Maria (12½), and Veronica (5).

DIAL FOR MERRIMENT

Three new members were enrolled at a fortnightly meeting of the Gravesend Club, making a total of 14 thus far. Members discussed affiliating to the B.R.C. and voted in favour of joining as soon as funds allowed. It was suggested that it would be interesting to make a recording of the play published in our February issue, "Dial 3½, 3½, 3½." "Not only will the recording provide some humour," says Secretary E. P. Herbert, "it will also show the extent of our resources and abilities."

R.A.F.-TYPES MAKE R.A.F. TAPES



Cpl. P. J. Rogers is the new secretary of the Royal Air Force Tape Recording Society at Waterbeach, Cambridge. Since the society was founded early in 1959, membership has grown to nearly 50, some of them as far away as Australia and Singapore.

Membership is open to all serving ranks in the R.A.F. and Commonwealth and N.A.T.O. Air Forces, as well as ex-members of the R.A.F. At present there is no membership subscription.

A Junior Members' Club, open to members' children, was started at the suggestion of Chris Jacob, who is at R.A.A.F., Butterworth, Malaya.

Another member, Mike Beville, owns a small printing press and a professional disc-cutting machine. He has offered both services to other members, and several have already taken advantage of his very kind offer.

In the very near future the club hopes to start its own hospital service, and later to tie-up with other societies doing the same worthwhile work.

MRS. TASKER HAS THE JOB "WELL TAPED"

(Story and photo by courtesy of "Staffordshire Advertiser and Chronicle.")

Stafford housewife, Mrs. Joyce Tasker, of 7 Creswell Grove, has her job taped from start to finish.

(continued on page 39)



The Club suggests that in all instances it is advisable to first contact a prospective tapespondent by letter on the following lines:—

I am a member of the B.T.R. Club and I would like to "Tape spond" with you.

I own a X machine and use X" spools playing at X i.p.s.

My interests are as follows:—

Dear Mr. X,

Yours sincerely,

For ease of reading, particulars of Tapespondents are printed in the following order—name, occupation, address, interests, taste in music, type of machine and area of Tapesponding.

JOHN ANTHONY CLEARY, Baker and Confectioner, 20 Shaws Road, Altrincham, Cheshire. Chess, motor cycling, tape recording. Any kind but rock-n-roll. Grundig TK.20, 5½ in., 3½ only. Any part.

JAMES BERTRAM BRIERLEY, JNR., Telephonist, 39 Northland Road, Blackley, Manchester, 9, Lancs. Reading, dramatics, recording. Classical, light and pops. Grundig TK 8, Walter 101 and also 125, 2 in., 7 in., 5 in., 2 at 7½ and 3½, 1 at 3½. Sweden.

LEONARD G. LEE, Accountant/Secretary, 2 Victoria Street, East Bundaberg, Queensland, Australia. Any interesting subject except mechanical or technical subjects. All kinds except classical. Elcon, up to 7in., 3½ and 7½ i.p.s. Anywhere at all.

JOHN ROBERT BIRD, Laboratory Assistant (Chemical), 15, Conway Road, Redcar, Yorks. Jazz, amateur radio (G3LBW), Ravel and jazz (Parker, Rollins, Condon, Lyttleton, Turner). Argyll, 5½ in., 3½ per sec. No preference.

DONALD L. MILLER, Scholar, currently in Service (U.S.), 96 Broom Road, Teddington, Middlesex, England. Chess, philosophy, psychology, music, anthropology, archaeology, sociology, science fiction, maths, travel, etc. Classical, ethnic folk, opera, chamber, semi-classical. Telefunken 85KL, 7 ins. downwards, 3½ or 7½. Anywhere.

DR. W. F. LUKE FAVER, Medical, Military Hospital, B.F.P.O. 24, Wireless, photography, travel. Good. Wyndor Regent, 7 in., 3½, 7½. European, U.S.A. Languages: English, Italian, French.

J. S. BRANT, R.A.F., No. 3 Cordingley Close, Churchdown, Glos. Fishing, motoring, amateur radio,

8 mm. cine. All except traditional jazz. Regentone RT 50, 7 in., 7½, 3½ and 1½. Anywhere.

OWEN B. ELLIOTT, Manager, Electronic Computer Centre, 306 Shadowlawn Avenue, Dayton 19, Ohio, U.S.A. Skiing, hi-fi stereo, 8 mm. movies, music. Classical, opera, piano, jazz (progressive). Pentron TM.56 deck, P-4 "VU" Pre-amp, 7 in., 3½, 7½ i.p.s. Any part of the world.

LEONARD F. THOMPSON, Sales Director, 3 Stanhope Gardens, N.4. Football, music. Light classics, swing but not jazz. Spectone, 7 in., 7½ i.p.s. England.

SGT. L. A. DAVIES, General Fitter, Sgt.s Mess, R.A.F. Ballykelly, Limavady, Co. Londonderry, N.I. Music, motoring, shooting. Classical and brass band. Philips 8108G, up to 7 in., 1½, 3½ and 7½. Germany and Denmark.

WILLIAM GIBBS, Manager, Domestic Electrical Appliances, 47 Rye Road, Peckham, London, S.E. 15. Cine, music, stamps, films. All types, wide taste and knowledge. Elizabethan 56, 7in., 7½, 3½. Anywhere, little French spoken.

PETER MITCHELL, Royal Navy, Village Stores, Lower Upnor, Rochester, Kent. Anything of general interest and languages. Anything other than highbrow. Grundig Cub, 3½ and 3 in., 3½ i.p.s. Anywhere (French and Italian spoken and am learning Spanish).

P. CHILDS, Local Government Officer (visual aids to Schools), 25 Brattleby Crescent, Ermine Estate, Lincoln. Rollei photography, cinematography (16 mm, magnetic sound), hi-fi, car mechanics. Pops, light, film music, big band jazz, modern groups, goon type. Grundig TK.5, Stuzzi Magnette, 3 in., 4 in., 5½ in., 1½, 3½. Any part.

JOHN NICHOLAS, Regular Soldier, 19 Palm Avenue, Footscray, Sidcup, Kent. Many and varied. Modern jazz, classical, Frank Sinatra, Sarah Vaughan.

Wyndors Viscount, 7 in., 3½, 7½, 15. Holland, Germany, Far East, U.K.

S/SGT. B. E. RIVETT, Pilot in British Army, 18 Liaison Flight A.A.C., British Forces Post Office 15 (Germany). Bullfighting, Spanish travel and language, flying, gliding, reading, Spanish customs. Flamenco, Spanish guitar, traditional and cool jazz, ballet, some opera. Grundig TK 25 and NIKI, 9.5 and 4.75 cm. sec. Spain, Spanish speaking countries with view to improving Spanish in return for improving tape-spondent's English.

F. McNALLY, Electronic Technician, 258 Kingston Road, New Malden, Surrey. Travel, sport, general. Mixed modern. Ferrograph 3 A/N, 3½, 7½. Australia, New Zealand, U.S.A., Canada, India.

LEE SHAO PAO, Merchant, c/o Fair Trading Co., 64 French Bank Building, Queen's Road, C, Hong Kong. Drama, movies, literature. Jazz. American V-M No. 710, 7 ins., 7½ and 3½ i.p.s. English and Canada.

ANTHONY GEORGE CORNAH, Law Student, Stephenson Hall, Oakholme Road, Sheffield, 10. Sport, photography, travel and science fiction. Pops, dance music and classical, especially the latter. Philips AG.8108, up to 7 in., 1½, 3½, 7½ i.p.s. U.K., Commonwealth and U.S.A. Preferably someone with a girl friend who is willing to talk to my girl friend on the tapes.

HAROLD FARNDLELL, Upholsterer, 7 All Saints' Close, Springfield, Chelmsford, Essex, England. Books, chess, most things in general. Anything except jazz and rock-n-roll. Elizabethan de luxe, 7 in., 3½, 7½, 15. Anywhere (but only speak English).

CLIVE EDWARD MANNING, Chartered Accountancy Student, "Invadorn," Upper Moors Road, Brambridge, Nr. Eastleigh, Hants. Fromology (cheese label collecting), travel and general. Traditional jazz and some popular. Grundig TK. 5, max. 5½ in. (3 in. for taping), 3½ i.p.s. Any.

HARRY WRIGHT, Aircraft Pipe Cleaner, 60 Queensdale Road, London, W.11. Sound effects, stereo or mono. Light and electronic organ, tapes. Tandberg "Stereo", up to 7 in., 1½, 3½, 7½ i.p.s. Jersey, C.I., or U.S.A. Have also Spectone 161 and can edit and dub, etc.

F/O. L. J. S. SPICER, Air Navigator, Officers' Mess, R.A.F., Khormasur, B.F.P.O. 69. Cine and still photography, show business, weight lifting. Anything from Barber and Brubeck to Bach and Bartok. Telefunken 85, up to and including 7 in., 3½ and 7½. Any, particularly U.S.A.

MISS JEAN WILLIS, Secretary, 6 Powell House, Lower Clapton Road, London, E.5. Walking, cycling, dancing. Light classical, pop music, folk music. Spectone Type 161, up to 7 in., 3½, 7½, 15. Any part of the world, especially Germany (I am learning German) or U.S.A. No need to write first. All tapes replied to.

STAN ABNETT, Personal Chauffeur, 71 Grosvenor Road, Langley Vale, Epsom, Surrey. General. Light, pops, piano, Hammond organ, etc. Grundig TK.8, 7 in., 3.75, 7.5. Holland, Germany, America. Anywhere on the continent with good organ and dance music.

FRANK THOMPSON, Grocer, 35 Henry Street, Northampton. Most sport car rallies. Light music, rock-n-roll. Grundig TK.8, 3 in.-7 in., 3.75, 7.5. Anywhere English speaking.

PATRICK JAMES MARSHALL, Packer, 173 Heathfield Road, Birkdale, Southport, Lancs. (England). Short wave radio (listening), people and places. Music from the films. Grundig TK.5, 5½ ins., 3½. Germany, Portugal, S. America.

JOHN COURTNEY, Quantity Surveyor, 9 Latimer Road, Cropston, Leicestershire. Radio, model railway.

driving, astronomy (elementary). Light, classical, a little chamber. Philips EL.3527, 5 in., 3½. Anywhere English speaking.

KENNETH J. ILSLEY, Civil Service Draughtsman (the younger sort), 8 Fairfield Walk, Leckhampton, Cheltenham, Glos. Various, in particular motor scooters, films, sport and art. Anything from pops to light opera. Philips EL.3527, 3½ in. to 5 in., 3½ i.p.s. Anywhere at all. No need to write first.

ERIC ROBERTS, Stock Clerk/Load Planner, 14, Ffordd Elidir, Caernarvon, N. Wales. Motor cycling, sport, science fiction. Light music, jazz. Stella ST.451. 5 in., 3½ i.p.s. America, Australia, New Zealand, Europe.

P. KEEPIN, Postal and Telegraph Officer, 70 Wiverton Road, Sydenham, S.E.26. Bing Crosby. Light musicals and good bands (Armstrong), Miller, Goodman, etc. Wyndors Viscount, 7 in., 3½, 7½, U.S.A., Canada, India.

KENNETH JAMES ALLEN, age 18, Assistant Medical Photographer, 52 Weston Road, Chiswick, London, W.4. Photography, records, radio constructing, Spanish languages including Spanish American. Popular, jazz, light classics. Wyndors Viscount, up to 7 in., 3½, 7½. America, Spain, France.

ALEC TAYLOR, Progress Chaser (aircraft), 28 Watling View, St. Albans, Herts, England. Reading, pop, music in general. Cinema, television, records and tape recording. Telefunken 9.5 and 4.75, 5 in. Australia or New Zealand. Male or Female.

D. L. K. COPPENDALE, Sales Office Manager, 55 Marlowe Avenue, Walcot, Swindon, Wiltshire. Radio amateur, music, travel. Pop and light classical. RGD. Mk. 103, 7 in., 7½, 3½, 1½. Twin track. India, U.S.A., Holland.

R. HANMER-STRUDWICK, Civil Servant, 16 Treve Avenue, Harrow, Middlesex. Colour photography, 35 mm., amateur dramatics. Classical, operatic, the late Al Jolson (records). Philips, 5 in., 3½ i.p.s. France, Canada, U.S.A.

MISS OLIVE MONCHAR, Drapery Business, 210 Chester Road, Wrexham, Denbs., North Wales. Colour photography, motoring, travel. Light classical, ballet, light opera. Telefunken 85, 7 in., 3½, 7½. Anywhere abroad.

CHAS. E. MANLEY, Mill Foreman (Furniture Works), 17 Hornsey Rise, London, N.19. Colour photography and children. Latin American, Spanish, popular and operatic. Grundig TK/35, 7 in., 1½, 3½ and 7½. U.S.A., Canada, Australia, etc.

MICHAEL E. RENSHAW, age 16½, Secretarial Trainee, 6 St. Vincent's Close, Girton, Cambridge. Music, tape, writing, typing, photography. General. Wyndors Viscount, up to 7 in. (inc.), 3½, 7½, 15 i.p.s. I wish to tapespond anywhere English is spoken.

ERIC BISHOP, Milk Roundsman, 31 Chiltern Road, Orford, Warrington, Lancs. Family tapesponding, ballroom dancing. General. Grundig TK.25, 5½ in., 1½ and 3½. U.S.A., Canada or anywhere.

DAVID B. HARRIS, age 19, Local Government Officer (Salvage), 172 Ash Road, Alum Rock, Birmingham, 8. "Westernology," logging 50 states, and archery, cigarette packet collecting. Catholic, but definitely C. Barber, E. Kitt, J. London. Regentone, 3 to 7 in., 1½, 3½, 7½. Anywhere generally, but Tuscon, Arizona particularly. An historical event occurred 25 years ago in which the principal characters may be still alive. I must contact them.

WILLIAM T. SMITH, Fitter, 97 Great Arthur House, Golden Lane, London, E.C.1. Tape recording to U.S.A., Commonwealth. Pop, semi-classical, dance music and light orchestral. Telefunken Mag. 85 and Grundig TK.25, 7 in. 3½, 1½ in. Commonwealth, U.S.A., Denmark, Sweden.

E. RAYSON, Engineering Inspector, 9 Holly Avenue, Flixton, Nr. Manchester, Lancs. Cine photography (8 mm.), radio, motoring, general. Light classics, pop numbers. Grundig TK.12. 5½ in., 3½ and 7½. Victoria, Australia.

T/22300640 CPL. KELLY, J. R., Air Despatcher, 138 Air Supply Platoon (A.D.), R.A.S.C., B.F.P.O. 53, Cyprus. Scooters, flying, world travel. Popular classics, piano popular, show music. Grundig TK.20, 5½ in., 3½ i.p.s. Italy, Germany, Austria.

FRANK WILKINSON, Progress Tool Setter/Operator, 19 Freeland Road, Ealing, London, W.5. Photography, radio, library on tape. Everything from jazz, highbrow. Perth Saja, 5½ in., 3½. All parts (English only spoken).

STANLEY CRUICKSHANK, H.M. Forces, Sgts. Mess, 17 Rear Veh. Depot, B.F.P.O. 40. Photography. Pop. Up to 7 in., 3½ and 7½. Anywhere.

MRS. ELSIE GOODING, Journalist, Idaho, 30 Chantry Road, Alford, Lincolnshire. Writing songs, poetry, etc. Light. Sound 444, 3½, 7½, 15. Anywhere.

BERNARD W. CLOAD, Clerk, Wholesale Electric Trade, 36 Kelmscott Gardens, Askew Road, London, W.12. Colour photography, walking the world in general. Serious orchestral but can stand other types as well. Wyndor Viscount, up to 7 in., 15, 7½, 3½. Anywhere.

TREVOR TAYLOR, Welder, 116 New Road, Aston Fields, Bromsgrove, Worcs. Radio and T.V. constructing, films. Pop music, Hawaiian, Billy Vaughn, C. Porter, Rodgers and Hart, etc. Philips EL.3527. 5 in., 3½. U.S.A. or Australia preferably. Either male or female about same age as myself, 26.

E. G. (SANDY) POWELL, Radio Operator, C.T.S. Block D, Bletchley Park, Bletchley, Bucks. Travel, literature, amateur radio. Light classical, jazz, dance and some pops, musical comedy. Fidelity Argyll, up to 5½ in., 3½ only. Anywhere and everywhere.

W. AINSFORTH, Writer, 96 Grasmere Road, Blackpool, Lancs. Evangelism. Elizabethan Princess, 7 in., 1½, 3½, 7½. Anywhere (in English).

MICHAEL LAMBERT, Porter, Mackworth Hotel, High Street, Swansea. Photography, guitar. Skiffle, calypso, guitar music. Fidelity Argyll, 5½, 3½. Spain or Mexico.

D. L. A. BAILEY, Engineer (Mech.), Swn-y-Wylan, Borthygest, Portmadoc, Caerns. Bird-watching, fishing, gardening. Classical, Gilbert and Sullivan, opera. Reflectograph 570, up to 8½ in., var. between 8 and 3½ i.p.s. Anywhere.

GEORGE DEARDEN, age 16, Coal Mining Trainee, 75 Circular Drive, Renishaw, Nr. Sheffield. Swimming, cycling, snooker. Pops, Philips, 5 in., 3½ i.p.s. France preferred but any country. English speaking only.

LYNNE O. BEALL, Sr., Retired Ry. and Plant Protection, R.F.D. No. 1, Box 422, Atascosa, Bexar County, Texas, U.S.A. General interest, people, Ry. operation and sounds. Good Dixieland, good rock-n-roll, musical comedy, military bands, opera, semi-classical and classical monaural. Revere T.1100, 3, 4, 5, 5½, 7 in., 3½ and 7½ dual track. Any and all. Special interest: railway men and military musicians World War I of all countries (and present ones).

TERRY SLATER (GVA Recording Co.), Band Leader, Music Teacher, Recording Engineer, 54 Alvarado Street, San Francisco, California, U.S.A. Photography, travel, people. Modern jazz (play sax-clarinets) to classical. Have recording studio (Ampex, Bergant, etc.), all sizes to 10½ in., all except 1½. New Zealand, Australia, Europe. Studio now equipped to handle all kinds of high fidelity and stereo recording, tape or disc. Has also sound effects dept. and large echo chamber. Produce radio commercials, etc. (2

engineers, 1 producer, 1 secretary and studio asst. Wow !).

MICHAEL E. CONWAY, Camera Operator (litho), 1 Lytton Close, Northolt, Middx. Photography car rallies. Pops to light classics. Philips AG.8108, 7 in., 1½, 3½, 7½. Anywhere, though I only speak English. If possible Sweden or Australia.

PETER CLARK, Bank Clerk, LORNA (wife), Pianist Teacher, MARTIN (son, age 2), 43 St. Alban's Road, Darwen, Lancs. Music, photography, record collecting. All kinds, chiefly classical. Stellaphone ST. 450, 7 in., 1½, 3½, 7. Any part if English spoken.

HENRY B. HOPFINGER, Commercial and industrial photographer, 155 Anchorway Road, Green Lane, Coventry. Photography, travel, music. Classical, Mozart, Beethoven, etc. and pop. Telefunken KL.85, 7 in., 3½, 7½. U.S.A., Canada, Germany, Austria. Any part in the world.

J. WARNE, Machinist in Artificial Limb Factory, 38 Winchfield House, Highcliff Drive, Alton Estate, Roehampton, S.W.15. Radio construction, photography. Most types of music but would prefer chats on general subjects. Perth Saja Mk. 5, 5½ in., 7½. To as many places as possible.

THOMAS W. KYNASTON, Salesman, 19 Fairfax Road, Wallasey, Cheshire. Ballroom dancing. Pops, dance music, classical. Trixette Companion, 5½ in., 3½. Anywhere in the world.

MORWENNA MARGARET KENDALL, age 16 years, Student, Godwynnes, 2 Smith Lane, Thorney Island, Riding, overseas interests. Pops, rock-n-roll, ballet, Gilbert and Sullivan. Elizabethan Bandbox, 5 in., 3½ and 1½. Cyprus, Australia, Aden and U.K. (going overseas to Cyprus).

HARRY INNES, Bus Driver, 76 Morrison Street, Edinburgh, 3. Books, old West, chess, recording. Military bands, jazz, rare recordings, folk songs (Irish). Ferrograph 4 A/N, up to 8½ in., 3½ and 7½. Ireland, especially Dublin and Cobh. Also anyone who was in the old 227 Driving/Training Regiment stationed in Blackpool and Wales during the last war.

ROBIN GREGORY, Bricklayer, 30 Pinfold Estate, Tideswell, Nr. Buxton, Derbyshire. Sport and Films. All pop music (not stereo). Wyndor Viscount, 7 in., 3½, 7½, 15. All parts, male or female.

GATE EASTLEY, Cabaret Comper/Comedian, 229 Old Lodge Lane, Purley, Surrey. Tape recording and being as idle as possible. Opera and symphony, etc. Vortexion WV/A, up to 8½ in., 3½ and 7½. Absolutely anywhere, including Scunthorpe !

KEITH G. BELLAMY, Cook BR(M), 70 Butts Road, Wellingborough, Northants. Cycling, youth hostelling, photography, music. Pops, traditional jazz, unusual recordings. Grundig TK.20, up to 5½ in., 3½ i.p.s. Anywhere if English spoken.

BEVERLEY B. GARDINER, Business Man, Tudor House, 5 Whickham View, Newcastle-upon-Tyne, 5. Philately, 35 mm. photography and 16 mm. movies. Neapolitan and Western Folk Songs, Oriental, etc. Telefunken 85 KL, up to 7 in., 3½ and 7½ i.p.s. Italy and Eire (Italian spoken).

JACK L. JONES, Steelworker, 115 E. 1200 North, Orem, Utah, U.S.A. General Topics. Stereo, Folk, Western. Pentron NL3—S. 3", 5", 7". 3½ & 7½ i.p.s. Anyone speaking English.

Mrs. HILDA MALCOLM, Secretary, 44 Lucerne Road, Highbury, London, N.5. Amateur Dramatics, People and General Topics, Travel. Light classical, modern (not Rock 'n Roll) folk music. Philips EL. 3538. Up to 7", 1½, 3½ and 7½ i.p.s. Anywhere in the world, English speaking. Preferably contacts in 30/50 age group. No need for introduction; all tapes will be answered promptly and with pleasure.

PETER HOLLOWAY, Composer (Trade Printers), 29 Fishery Road, Boxmoor, Hemel Hempstead, Herts. Comedy, radio and T.V. programmes, soccer. We appreciate most, but mostly 1938 to 1950 — when we were young!! Elizabethan Princess, 7 in., 1½, 3½, 7½. Long Island, U.S.A., Melbourne. Also any part of U.S.A. Husband and wife team would be very acceptable.

MRS. HILDA (RUSTY) JOAN CHAPMAN, Housewife, 8 Woodhurst Road, Acton, London, W.3. American, Hammond organs, unusual types. Grundig TK/Saga, up to 7 in., 7½, 3½, 1½. Anyone, anywhere except Britain. No need to write—just send tapes.

ROBERT C. FRANKLIN, Business, 309 West 104th Street, New York 25, N.Y., U.S.A. Folk music, jazz, unusual sounds. Guitar, flamenco, zither, street music. Ampex 601 and Mohawk 500, 7 in., 3½ and 7½ i.p.s. England, Scandinavia, France, Germany.

DR. P. AGER, Ph.D., N.D., D.O., Osteopath and Psychotherapist, 27 York Road, Ilford, Essex. Hypnotherapy, photography (cine), psychotherapy. Light classics and ballet. Venus Veritone and Stuzzi, 7 in., 3½ and 7½. All English speaking.

RONALD ALEX WATT, Salesman, 44 Selborne Road, Umbilo, Durban, Natal, S.A. General. Light classics and vocal gems from operas. Grundig TK.819, max 7 in., 3½ or 7½ i.p.s. U.K., all counties.

DAVID E. LAZELL, Tutor/Organiser in Consumer Education, 4, Sparrow Hill, Loughborough, Leics. Adult education, community social work (was warden of a community centre), current affairs, literature, music, youth club activity, philosophy and "audio/visual aids." Wife, Anne, worked in a children's home, interested in child welfare. Perth-Saja Twin de Luxe, 5½ in. max., 3½ and 7½ i.p.s. All tapes returned promptly. We have no T.V.

STANLEY E. JACKSON, Caravan Distributor, Colin's Caravans, Bath Road, Aldermaston, Reading, Berks. Travel, caravans, Scouting, anything. Light. Grundig 25, 5 and 5½ in., 1½ and 3½. Anywhere. French spoken badly.

GORDON BOLDERSTON, Foreman Engineer, 98 Rosslyn Street, Aigburth, Liverpool, 17. Reading, radio, general. Church music, choral work, opera, light classics. Perth Saja Export Mk. 5, 5½ in., 3½ and 7½ i.p.s. Anywhere English is spoken.

REUBEN MUSIKER, Librarian, P.O. Box 3692, Johannesburg, South Africa. General. Light orchestral (Percy Faith, Paul Weston, Kostelanetz, Morton Gould, etc.). Korting Mk. 106, up to 7 in., 3½, 7½ i.p.s. Anywhere.

A. A. HANNAH, Guest House (Blackpool), 17 Blundell Street, Blackpool, Lancs., England. Views and news of other countries, woodwork. Electronic organ music and pops. Elizabethan Escort, up to and inc. 7 in., 3½-7½. Any part.

Miss AUDREY CORDINGLEY, Manageress (Drug Dept.), 4 Tichbourne Street, Bunkers Lane, Batley Yorks. Amateur dramatics, photography. Opera and light music. Elizabethan Bandbox, 3 in., 3½, 1½ i.p.s. America, Canada, Germany. Speak a little German.

DAVID H. RELPH, age 18, Architectural Student, 23, Parkdale Road, Bakersfields, Nottingham. Cycling (club secretary), architecture. Jazz, pop, light classical. Philips AG.8109, 5 in., 3½ i.p.s. Anywhere (little French spoken).

4010445, CPL. F. STAMP, M.T. Driver Operator, H.Q. 34 (LAA) Sqn., R.A.F., Nicosia, B.F.P.O. 53, Cyprus. Motoring, soccer. Show music, pops. Uher 195, 5½ in., 3½ and 7½ i.p.s. Any Commonwealth country.

BRIAN LEES WOODHEAD, Representative, 78 Cowlersley Lane, Cowlersley, Huddersfield, Yorks. General topics, stereo, humour. Pops, classics (some),

musical comedy, modern jazz (not rock). Philips EL. 3527, 5 in., 3½. Anywhere.

RAY MEDFORD, Representative, 21 Longmeadow Road, Orchard Hills, Walsall, Staffs. General, modern jazz in particular. Modern jazz (would like to hear from enthusiasts anywhere). Ferrograph 4 A/N, all up to 8½ in., 3½, 7½. U.S.A., Sweden, anywhere. Don't write, just send a tape. All answered.

CHARLES H. WYATT, Shop Assistant, 9 Montague Road, West Croydon, Surrey. Photography, ballroom dancing. Pop and light classical. Sound 444, up to 7 inch, 3½, 7½, 15. Anywhere where English is spoken.

Mrs. FRED A JUDD, Shorthand Typist-Secretary, 152 Maybank Road, South Woodford, E.18. Music, dramatics, recording. Light classics, jazz and "pop." Heper, 7in. spool.; 3½, 7½, 15 i.p.s.. Any housewife anywhere in the world.

INTER-TAPE NOTEBOOK

Tapesponding activities are by no means confined to general chit-chat about the weather, family, etc. Many tape pals pursue their special interests through this medium, covering such varied subjects as folk music, drama, story-telling and a hundred and one pet hobbies with others having the same interests. The major subjects gradually create a circle of devotees, who even produce sound magazines which circulate amongst them. John Barter (one such devotee, whose name will not be unfamiliar to regular readers) tapes to say that he has been asked to start the following magazines in sound:

1. "Make It Yourself Music." This would cover amateur and professional singing, piano, guitar, etc. All kinds of music and all standards of performance.

2. "Jazztape Magazine." Covering it all, from trad., through the blues, along mainstream into modern.

3. "Classical Magazine." From Bach to Bartok and back. Anyone interested in joining and/or contributing to these groups should contact John at 55 Shakespeare Road, Hanwell, London, W.7. The groups will be non-profit-making, apart from the enjoyment to be derived from such efforts by enthusiastic participants.

Mrs. Elsie Gooding, who is a journalist and songwriter, as well as being a tapespondent, informs us that she was sorry that Sally had left our cover and hoped that it didn't mean the end of feminine interest thereon. Mrs. Gooding also requests us to let it be known that, contrary to uninformed male opinion, women do *not* get in a hopeless mess with a tape recorder. As Mrs. Gooding has made recordings of people from all over the world and, in another "field," has had her recording of a nightingale accepted by A.T.V., it is certainly true in her case. Perhaps some other lady tapists would like to rally to the defence of their sex's skill in this direction.

Mr. Hans-Erland Larsson, Borgeby 17, Fladie, Sweden, informs us that he regrets that he does *not* require contacts in the U.K.

Roy Stroud, 48A Battersea Rise, London, S.W.1, is interested in tapesponding with a person in the U.S.A. who likes traditional jazz and any form of modern music. His machine is a Grundig TK 25, 3½ or 1½ i.p.s., 5½in. spools.

(continued from page 34)

She was, in fact, the first female secretary of any of the 60 tape recording societies that have sprung up in this country during the past few years.

A former Oxford University graduate with a degree in Botany, Mrs. Tasker was elected to the secretaryship of Staffordshire Tape Recording Society when she attended the inaugural meeting held last September.

A Gloucestershire woman by birth, Mrs. Tasker first took an interest in making her own recordings when her husband, Mr. Neil Tasker (he took a degree in History at Oxford, and is at present employed as Assistant Stock Controller with the Lotus concern) first bought a recording machine.

Despite household chores — she has a baby girl — Mrs. Tasker devoted a lot of time to her new-found hobby, and can now rattle off technical jargon on a par with the experts.

Other members of her family have machines, and she keeps a continuous exchange of message tapes with them.

MAKING A COMPARISON

The meeting on March 17th of the Friern Barnet Club was both interesting and instructive. A member had brought along his Philips, as well as separate speakers and amplifier. Besides demonstrating it, he was able to play several tapes which members had brought, and it was interesting to interchange reels and equipment, and hear how recordings sounded on different set-ups.

The meeting secured the largest attendance so far, and the proceedings went on till nearly midnight! "Tape Club News" publicity accounted for two new members being present.

Secretary Tony Andrews has recently been in contact with the new club at Northampton.

DO YOU TAPE THIS WOMAN TO BE . . .



The Ipswich Tape Recording Club recently gave demonstrations of two new recorders. Malcolm Wilding presented the Philips E.L. 3515, and J. O. Clover introduced the E.M.I. model L 2B/TA. Members showed considerable interest in both recorders.

A tape was played which had been received from the Brighton Club, and later a return message was made.

John Cooper recently travelled from Ipswich to Hammersmith Broadway, London, to record his brother's wedding service. Plans have been made to record a second wedding in the near future.

J. O. Clover will be one of those taking part in the Rose Bruford Training College course at Easter, and the E.M.I. recorder will be in attendance too.

Tapes are welcomed from readers of "Amateur Tape Recording" or any tape recording club.

NEW TAPE TERMINUS

Clacton Tape Recording Society, yet another new affiliate of the B.R.C., has moved its H.Q. to the Station Hotel, a much more convenient venue for members.

With this move has gone a change in meeting frequency. Fortnightly meetings are the new idea, not weekly, as previously announced. This is in

order to give members more time to prepare tapes between meetings.

A number of sound effects recorded by the society have been accepted by the Clacton Amateur Dramatic Group. They will be used in their next production at the Savoy Theatre.

Whilst the last meeting was progressing, Dennis Coe and Secretary A. C. Ings went outside to interview, amongst others, a C.I.D. officer and a constable on his beat.

NIGHT OUT



Recently the Walthamstow and District Tape Recording Society had a night out, during which members visited the Walthamstow Bus and Trolley Depot. They interviewed drivers, conductors and maintenance men about the changeover from trolleys to new Routemaster vehicles.

Those approached were most co-operative.

Recordings of the night out, together with others to be made on the day the transport system is changed, will be edited into a feature tape intended for the archives of the borough library.

DOWN UNDER



The Australian Tape Recordists' Association recently standardised its membership fees, owing to confusion arising over its term "Associate Member." As far as we in Britain are concerned, this means the subscription is now 16s. sterling, the first increase since the club's formation some six years ago.

A.T.R.A. is still Australia's only truly representative tape club. All others over there are merely local branches of overseas clubs.

Mr. Wallen has promised to keep us up-to-date with news from his club on the "other side of the world."

NO "TAPE" MESSAGES FOR PATIENTS

Permission to let the tape recording club in Swansea record music and voices of friends and relatives of patients in hospital, and then play it back to the patients, has been refused by the Glantawe Hospital Management Committee.

The object of the club was to help old, blind and infirm people who were in long-stay wards of the hospital to contact their friends and relatives.

The club were prepared to visit the homes of patients, and record the voices and play them back to the patients in hospital, using their own equipment.

After consideration it was resolved that the organisers be told that the committee "wished to thank them for their kind offer, but feels unable to give its consent."

*

The above story is reported by "The South Wales Evening Post," and is reprinted with their kind permission. We were surprised to learn of the Glantawe Hospital Management Committee's attitude towards the Swansea Club's good-intentioned offer of assistance. In every case known to us where a club has approached a hospital to offer their services, these have been most gratefully received, and

the authorities have been most co-operative, even allowing the use of their internal radio-relay systems. We certainly hope the Glantawe Hospital Management Committee's attitude will not become widespread. If it should, patients will be deprived of a most enjoyable, entertaining and useful service.

FOR AN EASTERN MAGNATE



The recently formed Stevenage Tape and Audio Club held its second meeting on March 2nd. There are now 20 enthusiasts on its membership register.

At the meeting a demonstration of a home-made recorder, now four years old, was given by member Graham Younger, who said it cost over £40 to build, but in comparison with the mass-produced recorders of the present day, recording and reproduction from it was poor. Some days later members visited Mr. Younger's home, and they saw the rest of his equipment: a record player (stereo), housed in two massive cabinets, each with separate pre-amps. and speakers. The outfit was specially made by E.M.I. for an Eastern magnate. Unfortunately, when it was finished he didn't want it!

A link-up with the Crawley Club has been made, and they have been very helpful sending ideas, as has "B" TRAC. Crawley is, like Stevenage, a "New Town," and a documentary has been prepared for Crawley telling of Stevenage's history and growth. Any other club wishing to hear it may do so. A letter to Secretary L. J. McGregor, 42 Marymead Drive, Stevenage, Herts., will bring it by return of post. Prospective members are also invited to contact Mr. McGregor at the same address.

CHAMPAGNE GLASS PRIZEWINNERS

Visiting members from the Coventry Club saw the presentations made in the Town Hall, Leamington, to prizewinners of the Warwick and Leamington Club's "Musique Concrete" competition. Had any of the "uninitiated" been present they might have thought they had wandered into another world with the strange and curious noises to be heard.

Six tapes were submitted, and the judge, Mr. Tyson, M.Brit.R.E., considered Terry Draper's tape to be the best, and he was awarded the society's silver cup (donated by Mr. T. Wells).

To make his prize-winning tape, Mr. Draper had combined sounds made by his two young children striking an empty vase and a champagne glass, with others of ticking clocks and a musical box. By using extracts from these and merging them into rhythmic repetitions, a pleasant musical sound was created.

The Coventry Club members took back with them some of the sounds re-recorded on two miniature portables. So no doubt the "space music" will hit earth again shortly—in Coventry!

NO RED TAPE FOR THE TAPE GROUPS!

A "club" without official rigmarole, without yakity-yak, without a committee. And, best of all, without *subscriptions*! That's the idea behind the new tape groups which are now springing up. Groups such as the Bedford T.R.G., which commenced operation last month, and intends to spend its time finding out about tape recording, not about verbal

fluency!

The idea is not entirely new. Groups on similar lines have been active in the ciné club world for a long while now, and they seem to get along fine. Activity, activity, activity, that's the secret of their success. They seize the chance to work on feature films, and maybe spend *two years* on a single production. But when it's finished it *is* a production. Will tape groups do the same with their medium? Produce epic tape features, with real polished editing, top-notch recording, and a professional style continuity-commentary. If so, then I am all for *tape groups*!

The Bedford Group will carry out all the normal functions associated with clubs, including the organisation of a hospital service. But already a plea has gone out for enthusiasts with variable speed machines and portables, so it looks as if I mightn't be far wrong about "epic" productions. All interested contact W. Summerfield-Turner, 131 London Road, Bedford.

WELCOME ALL!

We have news of three more new clubs this month, in West Herts, Northampton, and South Manchester.

The WEST HERTS TAPE RECORDING SOCIETY intends to hold meetings fortnightly, and these will alternate between Hemel Hempstead and Watford. They will provide programmes for blind and old people. Secretary is P. Holloway, 29 Fishery Road, Boxmoor, Hemel Hempstead, Herts.

In Northampton tape recording shares the honours with 8mm movies. The NORTHAMPTON TAPE AND 8MM CINE CLUB is currently adding sound to a holiday film, and they intend to make a film with taped commentary soon whilst on location.

It is interesting to note that not only are the number of recorders and ciné cameras owned by members about equally divided—around 20 in each case—but that those with recorders are thinking of buying ciné gear and *vice versa*! Secretary is John Harrison, 36 Spring Gardens, Northampton.

The SOUTH MANCHESTER CLUB will hold its meetings at the British Legion Club, Manchester, on alternate Thursdays from 7.15 p.m. Those interested are invited to pop in at a meeting, or write to the Acting Secretary, Mr. W. J. Lloyd, 13 Edge Lane, Chorlton-cum-Hardy, Manchester 21.

WE'RE NEXT

Intending to start clubs in their respective regions are the following:

Stan Moore, Bull Inn, Monmouth. (For all practical audio reproduction, including tape.)

Tom Sanders, 34 Lakeside, Taunton Road, Bridgewater, Somerset.

R. M. Stimpson, 769 Oxford Road, Reading, Berks. He wants to form a club to be called "The British Round Robin Club." Fees will be 7s. a year to cover cost of membership cards and letter sheets. All intending members must include a stamped, addressed envelope in this instance.

RECORDER THEFT

Wyndson "Victor" Tape Recorder, Serial No. 20334, was stolen from Messrs. N. Reder, Ltd. 223-225 Hackney Road, Shoreditch. London, E.3 on Saturday, 26th March

Dear Sir,



ANSWERS TO TECHNICAL QUERIES

The Panel of technical advisers of A.T.R. have been overwhelmed with letters and we apologise for any delay which may occur in replying. We feel sure that readers will appreciate that in a large number of instances it is necessary for the panel to acquire particular equipment in order to answer queries accurately and this of course takes time. Finally we would mention that due to the volume of correspondence we must now restrict this service to members of the B.R. Club and affiliated clubs only.

J. D. WILSON, of Carlisle, states in a letter:

"I see that Philips have brought out a four-track recorder No. 3542, which is similar to the two-track model 3538. I was thinking of buying one of these, and therefore I would like to know if it is possible to play tapes back on the 3542 which have been recorded on the 3538? Also is it possible to add another two tracks to these tapes?"

ANSWER.—You will be able to play your half track recording on the four-track machine. In practice the output level from the four-track tape head will be lower but can be compensated for by using a little more gain. You will not be able to add more tracks to your two-track recordings. You could erase them and use the tape on the four-track machine.

MR. FLANNERY, of Coventry, has a query. He tells us:

"I intend to build a tape recorder and use the Brenell Mk. 5 deck. I want to be able to tape monitor the recordings and also superimpose, using headphones. I believe that I will have to use two amplifiers and a pre-amplifier. Is this correct?"

"I would also be very thankful if you know of any firm that would give step by step instructions, practical circuits, lists of components, speaker, etc., for a very good quality hi-fi system. Amplifiers to have 10 watts undistorted output—provision for crystal and ribbon microphone, and input for radio.

"Lastly, would I be able to convert to stereo with the addition of an extra speaker and microphone."

ANSWER.—Mullard Limited publish a very excellent book which includes comprehensive instructions for recording stereo and hi-fi, also monaural amplifiers. The book is entitled "Circuits for Quality Amplifiers," and costs 8s. 6d. Available only from Mullard Limited, Mullard House, Torrington Place, W.C.1.

MR. A. S. FELDMAN, of Hendon, N.W.4, writes to say that he is plagued by "poltergeists" during playback.

"I was listening recently to a part of my tape when I came across a voice gabbling in an alien tongue, accompanied by a groaning accordion or something of the kind.

"This would not have disturbed me but for the positive fact that it was not recorded by myself or anybody else. In fact, I have never heard the voice or 'music' (?) before.

"Not only does my Telefunken 76K reproduce mysterious unrecorded sounds but it refuses to erase them, although it does erase ordinary recordings. My machine is not acting as a radio receiver as I can replay the jumble of sounds indefinitely. The quality is very poor, the volume erratic and low. The sound is disturbing, weird and unearthly, the duration being less than ten seconds. I would be exceedingly grateful if you would clear my problem up. I can assure you that I most certainly did not record the mysterious sounds."

ANSWER.—Your tape recorder is either haunted or some of Roger Moffatt's "Homing Custards" have decided to nest in it.

Seriously, though, there are one or two simple explanations. The recordings you are hearing may have been on the tape in the first place and most likely too heavily recorded to erase properly. What you are hearing, however, is recording going backwards. This leads to the possibility of the tape moving its position with respect to the tape-head gap, so that recording is taking place on the other half of the track. The recording would be reversed when the tape is run through on the second track. This points to a mechanical defect, but before getting the machine checked it might be worth making

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60-66 Wardour Street, London, W.1 Tel: Regent 7597

a test with an unused (brand new) tape. Make recordings all the way along both tracks and see if your alien ghost and his musical box appear. If so, there is every possibility that the tape is riding up and down the tape-head.

You can prove the "effect" by making a recording with the tape reversed, e.g., shiny side toward the head. When played the proper way round your recording will be reversed and your speech will sound like a foreign language.

Mr. B. ORD, of Jersey, Channel Islands, writes to say:

"I have just bought a Garrard single-player gramophone T.A. Mk. 11, which is wired for mono and stereo. How can I get the best recording from it, without all the background noises which occurred with my last model?

"I had trouble with my Grundig T.K.35 a short while ago with the rewind from right to left-hand spool, but managed to correct this. Now I find difficulty with the other rewind and cannot do a thing with it. Can you advise me? The tape continues to come through the drive spindle after the stop button has been pressed, and when started again, the slack tape is taken and pulled taut and I am afraid it might snap."

ANSWER.—Your first question is a difficult one to answer as you give no indication of what the background noises were. It is possible that you were operating the instrument with the gain control set too high; a faulty stylus on the pick-up would

cause high surface noise or a treble tone control would have much the same effect if turned too high. There is also the possibility of noise coming from the amplifier.

From your second question it would appear that adjustment is required to the capstan and pinch wheel mechanism, which is a job for a competent service engineer. There seems to be the possibility of slack driving belts and, again, our advice is to get a service man to check the recorder mechanism for you.

Mr. H. D. CROSS, of Maghull, Lancs, another "do-it-yourself" enthusiast, writes:

"Referring to the article by Mr. F. C. Judd, in the March edition, on page 49, there appears to be a discrepancy.

"Fig. 3 and Fig. 5 both contain condensers C1 and C2 which do not match up with each other—values and polarity!

"In Fig. 5 the C2 appears to be corrected, while C1 is still + to the live of the input and also is shown as 8μf.

"I look forward to being able to finish my microphone pre-amplifier and then I'll be able to get mixed up with Mr. Judd's mixer next month."

ANSWER.—Please accept our apologies for a draughtsman's error. The polarity of each capacitor C1 and C2 is correct but C1 should have been shown as 8mfd in the circuit of Fig. 3. The value is not critical, however, and a 25mfd capacitor could be used with equal results. In fact C2 could

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- ★ Provision for STEREO HEAD 2 or 4 Track
- ★ Mixing facilities.

MODELS:

R20 62 GNS. with magic eye record indicator.

R30 66 GNS. with meter record level indicator.

R40 70 GNS. as R30 but with push/pull sound.

TECHNICAL SPECIFICATION

The R.40. 1½ ips 70—4,500 ± 3dbs. 3½ ips 60—9,000 ± 3dbs. 7½ ips 50—15,000 ± 3dbs. 15 ips 40—20,000 ± 3dbs. (signal noise ratio at 7½ ips—47dbs.). Separate record amplifier. Push-pull bias erase oscillator for low tape hiss. Separate bass and treble controls ± 15dbs at 14 kc/s—15dbs at 40 c/s. Supplied complete with Acos 39/1 microphone,

Radio Record lead and 1,200' P.V.C. Tape.

FURTHER FACTS:

It is not generally known that the Tape Deck mechanism is virtually re-built in the REPS machines. It is standard procedure to remove all rubber wheels—i.e., re-wind, idle and pinch—and re-grind them to a closer tolerance. Also the Capstan is skimmed to less than ± 0.0001". This has resulted in a very low "wow" factor, especially at 3½ ips which has led to the logical introduction of 1½ ips in place of the 15 ips. The principal cause of "flutter" is due to the eccentricity of the three-step pulleys which control the tape speed. This eccentricity occurs when the pulley is locked to the motor shaft and is due to the off-setting action of the fixing screws. This difficulty has been overcome by manufacturing pulleys over-size and machining to the correct diameter when fitted to the motor shaft. By this method a total variation of less than 0.0001" has been achieved at 1½ ips. Initial measurement indicate total "flutter" content at 1½ ips to be of a lower order than previously associated with 3½ ips.

D. W. Aldous of 'GRAMOPHONE RECORD REVIEW' writes in March issue:

"The overall performance of this Repls R.30 recorder, coupled with its reliability and simplicity of operation, not to mention an attractive styling, must give it a wide appeal to tape recordists seeking an all-British machine of unusual quality."

Please send me without obligation full details of your range of Tape Recorders. I am particularly interested in

Model R.....

Mr.

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be a 25mfd capacitor also, but certainly not less than 8mfd, which was chosen on account of the small physical size of the capacitor.

If you wish, you could incorporate one or more of these pre-amplifiers with the simple mixer unit (April issue) but remember the pre-amplifier is for low impedance microphones only.

May we wish you success with your efforts.



"Are you replying to your African Tapespondent dear?"



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TWO TRACK	FOUR TRACK
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A tape recorder is only as good as its microphone.

If you cut a top note off in the mike, you can't

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If there's distortion at the start, there'll be

a din in the end. Give your recorder a fair chance.

Give it a balanced, wide-frequency input. Give it

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A crystal hand microphone of exceptionally attractive appearance. Extended frequency response; noise-free cable and die-cast liner to minimise hum and ensure excellent signal-to-noise ratio. Available with table-stands and floor stand adaptor. U.K. Retail price 3 gns. Other Acos microphones include the famous fold-away MIC 40, (35/-) the MIC 28 Lapel (50/-) Microphone and a superb new stereo microphone (£6.0.0)

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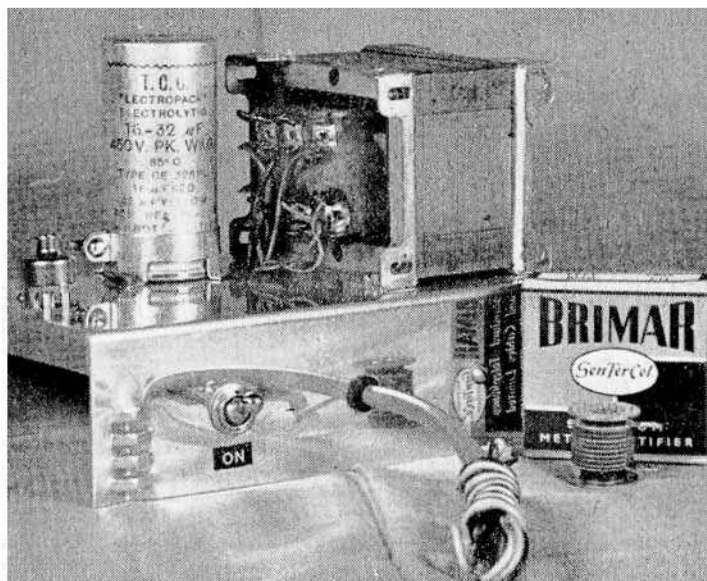
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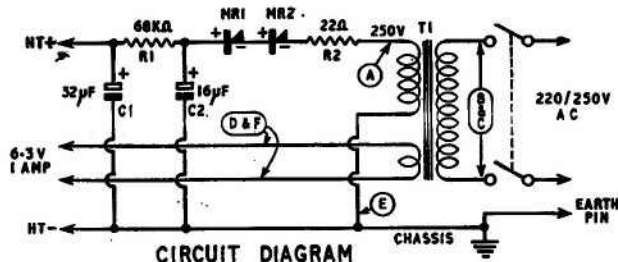


CONSTRUCTING YOUR OWN ACCESSORIES FOR TAPE RECORDING

With the exception of the simple three-channel mixer each of the constructional items already given in this series of articles have utilised semi-conductors, which, by the way, is the family name for transistors and crystal diodes. Since transistors operate from low voltage D.C. supplies, i.e., batteries, there has been no necessity to include details for power supplies, but when valves are used two sources of power must be provided; one for the filaments (battery valves) or the heaters (main valves) and one for the high tension. Dry batteries may, of course, be used for battery type valves but power for mains valves is normally derived from the domestic mains supply, although small mains-driven power supply units are sometimes used for battery valves.

The so-called mains type valves are generally "indirectly heated," which means they have a separate heater whose sole purpose is to heat the cathode from which electrons are emitted (see articles by "Fredericks," A.T.R., January 1960). The most common type of indirectly heated valve has a low voltage heater, usually for operation at 6.3v., which may be taken directly from an A.C. (alternating current) source. High tension is normally derived from a higher voltage A.C. source, which must first be rectified or changed into a D.C. (direct current) supply by means of a rectifier and finally smoothed to get rid of residual A.C. ripple. The rectifier may be a special diode valve, or a metal type which is composed of a number of oxidised plates and its purpose is to allow current to flow in one direction only.

The power supply described in this article is a simple one and will provide approximately 250v.



D.C. high tension at a maximum current of about 20 milli-amps and 6.3v. A.C. at 1 amp, which is quite sufficient for three valves with 0.3 amp heaters. A "half-wave" metal rectifier is used and made up from two Brimar Sen-Ter-Cet selenium units (type RMO). The power supply is quite suitable for a small pre-amplifier, a microphone mixer, using valves, a recording amplifier (not including the bias oscillator though), an AM or FM tuner, or in fact any electronic equipment requiring 250v. D.C. H.T. at up to 20mA and a 6.3v. 1 amp heater supply. Construction and wiring should only occupy a couple of hours, for the unit shown in the photograph took exactly 1½ hours to complete, starting with a blank chassis and the necessary components. Before going on with construction, which is quite clear from the diagrams, I should explain that the main reason for introducing the power supply is because future articles will describe equipment using valves. On the stocks at the moment are a multiple-channel microphone mixer using special low voltage battery valves (this is a rather complicated circuit, suitable for the more advanced construction). Then there are thoughts about a telephone pick-up adaptor, a complete recording amplifier, and I hope to cover rather

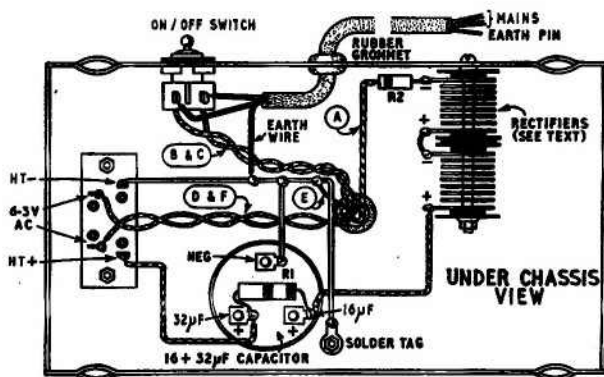


Fig. 1

Fig. 2

Power Pack

This is the third in a series of articles by A.T.R.'s Technical Editor written for the handyman.

soon the bewildering problem of "plugs and sockets" for hi-fi and recording equipment.

Incidentally, requests from readers will be welcome, but do please appreciate that special circuits usually require an awful amount of development work and may not be suitable as a constructional item that can be made at home with limited equipment.

Constructional Details for the Power Pack

The chassis may be obtained from Denco Limited, 357/9 Old Road, Clacton-on-Sea, Essex. Apart from the large hole for the electrolytic capacitor, which may be cut out by drilling all round and finishing off the hard way by filing, there is very little metal work. By the way, there are special tools for cutting large holes in chassis. These are sold under the trade name of "Q" Max cutters, and can be obtained in standard sizes for valve-holders, e.g., $\frac{1}{4}$ in., $\frac{1}{2}$ in., 1 in., 1 $\frac{1}{2}$ in. diameters, and so on. The mains transformer is a type readily available from radio component dealers, and its specification is: Common primary winding for 220-250v. A.C. mains with a single H.T. secondary winding for 250v. and a single L.T. secondary for 6.3v. 1 amp.

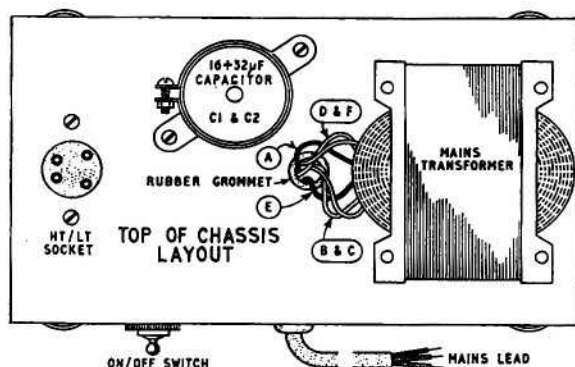


Fig. 3

MAY, 1960

The diagrams show assembly and wiring details (Figures 1, 2 and 3), but do take care over the wiring especially the mains connection, and don't forget the earth wire to the third pin on the mains plug. The metal rectifiers are both mounted on a single, long 4 BA screw and have been positioned to allow maximum air circulation, although they do run slightly warm when in operation. *On no account leave out the 22 ohm resistor R2.* This operates as a current limiting device and is there to protect the rectifier. With no load the H.T. supply will be about 300-325 volts, depending on the mains supply, but with a 10-15 m/A drain will drop to 200 volts or thereabouts, and although resistance smoothing is used, there is little or no A.C. ripple, providing the H.T. current rating is not exceeded.

Next month — something you can operate from the power supply — a pre-amplifier that can be used for a high impedance microphone or for a tape-head as it will include a frequency response correction network that can be switched in as required. Space permitting, I will describe how artificial echoes can be obtained by using an extra tape-head in conjunction with the pre-amplifier.

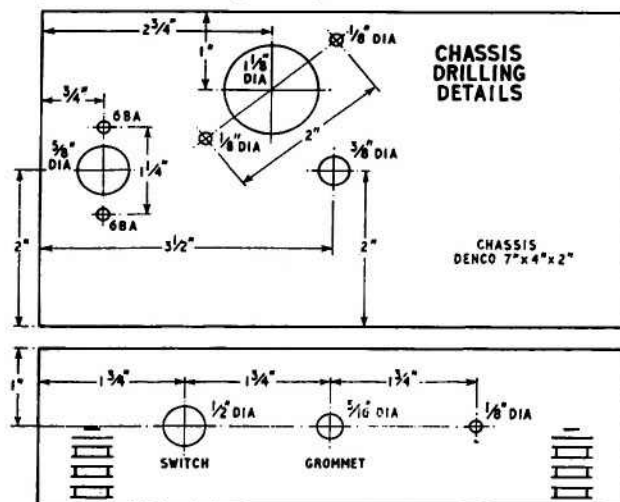


Fig. 4

A Tape Recorder

by **HMV**



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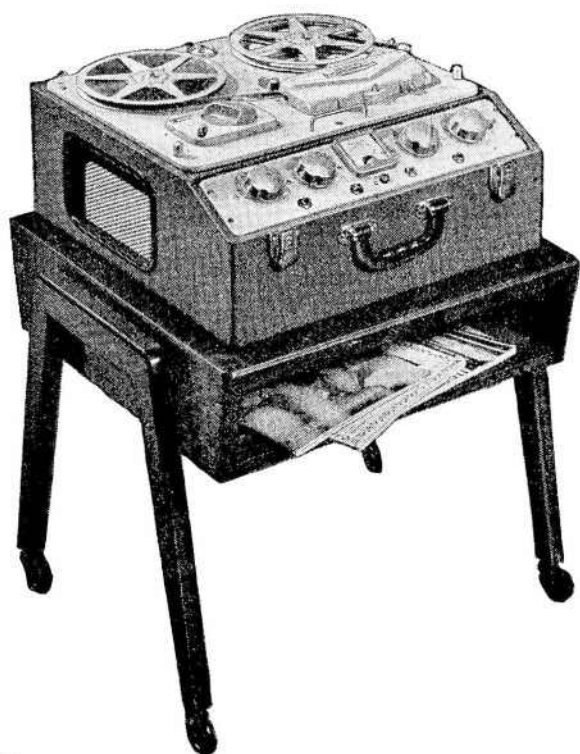
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Stereo 808

Two speeds $3\frac{1}{2}/7\frac{1}{2}$ i.p.s. For use with external Hi Fi amplifiers and Loud Speakers. The all-purpose machine for Monaural and Stereo Recording/Playback.
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TETE-A-TAPE

a topical column of tape talk for amateurs like David Lazell who writes it

Note for Nervous Speakers

RECENTLY I was invited to address the Rugby Amateur Tape Recording Society. Fortified by a large glass of grapefruit juice, I went into action, and although I did my best to conceal my lack of knowledge on the subject, I now await impartial reports so that I can ascertain to what extent I succeeded! You know, the art of public speaking demands a certain amount of preparation. Years ago I knew a town councillor who made a point of using lengthy words (that no one else understood) during his contributions to the discussion. In fact, I sometimes wondered if he looked up some new words in the dictionary before every meeting. Anyway, we all used to await this evening's new word at every meeting. When it came, we would all make a careful note of it, and refer to our own dictionaries later on. (I don't think that he ever had any tape-pals!)



The greatest obstacle to the public speaker is that of butterflies in the stomach, more commonly known as "self-imposed hyper-tension experienced during times of stress." I think I will prepare a tape recording of prolonged cheering and applause for those people who, like myself, find it difficult to face an audience with equilibrium. On the Big Night the public speaker places his tape recorder nearby, and plays back part of the canned cheers whenever he thinks it necessary. A pair of dark glasses also comes with this tape, so that you cannot see the expressions on the faces of the audience—or even if they are still there after the first few minutes. If you also write your own reports for the local paper (a comparatively simple affair), you can truthfully state that the speech was met by "prolonged cheering and applause." Just omit to say that this was on tape. Of course, you may not be invited again.

Once, in a Welsh chapel, I was speaking to a small group of people. They were situated at the rear of the building, and I was at the front. There was indeed "a great gulf" between the inexperienced Mr. Lazell and his audience. It was evening, and, as it grew darker, no one moved to put on the electric light. After a half hour or so, I had to conclude hastily, saying that the building was now shrouded in

such gloom that I was unsure whether my hearers were still in their seats. (Further memo to nervous speakers: Always take a hurricane lamp!)

Once I spoke—briefly—in a large and barren town hall, and to ensure that my voice was reaching the audience, I installed a bright young man in the rear of the balcony. I instructed him to raise his right arm whenever I should raise my voice. Later in the evening, when it was my turn to speak, I looked at Tony in the balcony—his right arm was raised. I spoke louder, but still he kept his arm up. So I spoke even louder. Tony did not change his position, and I attempted to shout. My speech ended hastily, as I felt my tonsils and general vocal apparatus in a state of severe strain. As I returned to my seat, I saw Tony beam at me. His arm was still raised in the air. Later, I discovered that he had very bad hearing, and had been rejected for National Service because of this.

News from Home

MY OBSERVANT brother sends an occasional tape, and tells me all the home news. It's usually better than the local newspaper, as far as personal interest is concerned. Last week, he told that an unsuspecting young man visited the circus, which had come to town. This unsuspecting young man, after reading an article in the April "A.T.R.," had journeyed to the ground in his bubble car, which he had left in the car park, whilst he "taped" the clowns and speciality acts. After the performance he returned to his bubble car, only to find it severely dented! He was informed that an elephant had inadvertently "sat" on it, but that the company would pay for the damage if a bill was submitted.

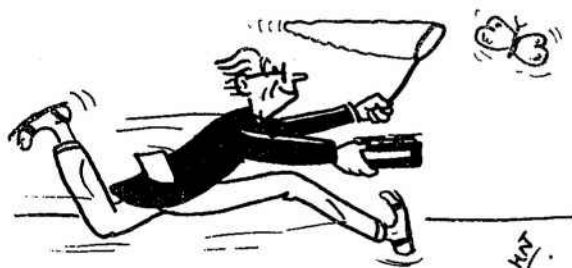
Thereupon, the unsuspecting young man gave thought to the task of getting this dented bubble car to a garage. He tried the motor, which was working quite normally, and, after manœuvring himself into the driver's seat, he set off for a garage. He had not him. This uniformed gentleman, conscientiously performing his duties, remarked that the bubble car did not look roadworthy, and enquired if it had been



involved in an accident. Our friend reported that an elephant had sat on it earlier in the afternoon. Needless to say, he was escorted to the police station, where he repeated the story. At first, the authorities looked rather disbelieving, but, again performing their proper duty, made enquiries. The unsuspecting young man, his story proved, was helped on his way. I thought it rather hard luck on the constable. All a question of mistaken identity on the part of an elephant, I suppose.

Is Hi-fi Subjective?

YEARS ago poets used to wander barefoot in the dew, listening to the birds in the spring-time and penning beautiful verse. Now, critical enthusiasts, armed with transistorised portables, take the bird song down on tape, murmuring that the thrushes



ought to watch their decibels! It will be a sad day when we deem our own reproduced sounds superior to the original.

The other day I visited a friend of mine who was eager to demonstrate the many virtues of a new model tape recorder. He explained that he was using an external 12in. loudspeaker for reproduction, as the machine's own speakers were rather small. He started to play a tape recording of some organ music, and, in order that I would readily hear the improvement wrought by the use of a larger loudspeaker, he alternately switched off the internal and external speakers. After this had been repeated a few times, and I was just beginning to share my friend's enthusiasm for the larger external speaker, his wife entered. Her face brightened. "Oh, yes," she said. "You certainly need that external speaker to get the quality of reproduction." This statement was something of a technical clanger, because she had entered at the time when only the recorder's own internal speakers were being used. The 12in. speaker was, in fact, mute! I went home a wiser man, and decided that I would, for the sake of posterity, produce a theory of high fidelity—namely, that the quality of reproduction enjoyed depends upon the general outlook on life possessed by the hearer. In other words, if you are really a happy man, withdraw from this highly complicated world and return to your fibred '78's.

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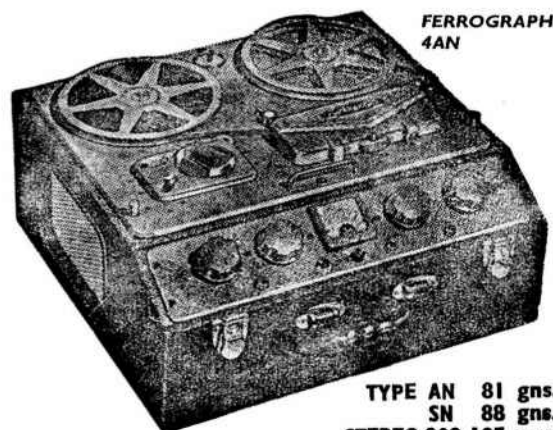
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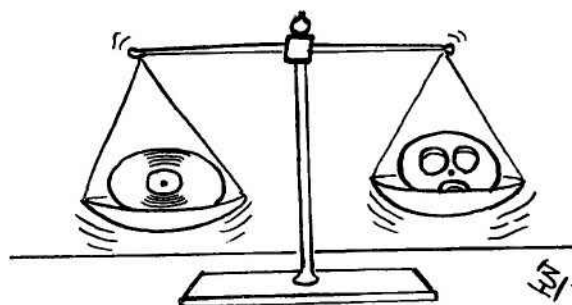
Consumers' Reports

A FRIEND of mine in New York has sent me some copies of "Consumers' Reports," the monthly review of goods and commodities issued by Consumers' Union. These publications reflect the large amount of spending on leisure goods in the U.S.A., and my copies include impartial reviews of movie camera, film splicers, as well as of hi-fi and stereo equipment and transistorised radio sets. Home radio kits are also reviewed. I understand that "Consumers' Reports" has already looked at tape recorders. I would be inclined to believe that potential purchasers need some guidance before buying all complicated equipment; most tape recorder manufacturers give a great deal of important information with their products, but some people (like me) might need a simplified version of this. Anyway, I believe that one of the British consumers' organisations is

going to look at tape recorders, and I will look forward to their findings. I must say that I have been very well satisfied with my machine, and in particular I have been very fortunate in after sales service. In fact, I think that the quality of "after sales service" will probably shape the fortunes of manufacturers and retailers alike.

Pre-recorded Tapes

I SEE that the "Tape Record Library" (79 Greenfield Avenue, Surbiton, Surrey) offers pre-recorded tapes on loan at 1s. 6d. per reel per week, plus postage. It's worth knowing! One manufacturer tells me that pre-recorded tapes are eclipsing the disc in the U.S.A. On the strength of this, I bought my first pre-recorded tape last week — orchestral selections from two West End shows. The selections last about 15 minutes each, and reproduction is, of course, good. However, at 35s., I wonder if some folks would not prefer to buy a 12in. L.P., which would give about twice as much music. Time will tell . . .



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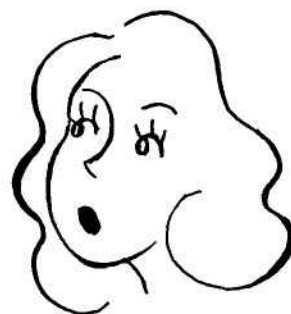
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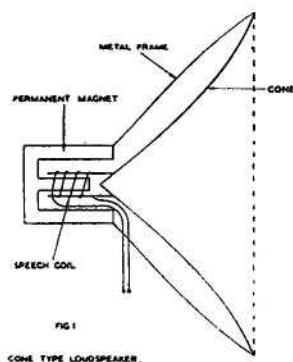
A Loudspeaker and Cross-Over Network.

By FREDERICKS



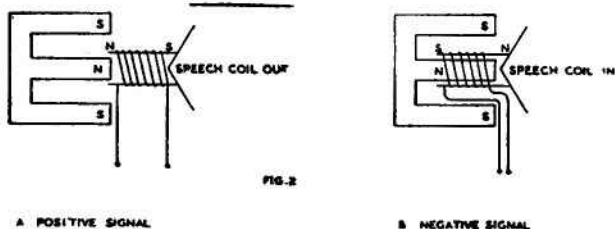
A loudspeaker is a device that converts electrical energy into acoustic or sound energy. We have a large electrical signal at the output of the power amplifier, but before we can hear the sound we need a device that will cause sound waves to be produced when we connect the amplifier signal to it, and loudspeakers are designed for this purpose. There are many different types of loudspeakers, but before we discuss them let us take a look at how a loudspeaker works. There are basically two different types one of which uses a speech coil fixed to a diaphragm. The other type is known as an electrostatic loudspeaker without a speech coil. Let us now go into more detail on these types and discuss their relative merits and applications.

The best known type of loudspeaker consists of a diaphragm shaped like a cone on to which is attached a stiff circular former, and on this former is wound a speech coil, with a permanent magnet fitted around the speech coil, as illustrated in figure 1.



A metal frame is used to support the magnet and outer edge of the cone. When we connect the output signal from the power amplifier to the speech coil

CONE TYPE LOUDSPEAKER



the loudspeaker will work as follows. The speech coil functions as an electromagnet and is attracted or repelled by the magnet of the loudspeaker. When the signal from the amplifier is positive the speech coil becomes an electromagnet with one end as a north pole and the other end as a south pole. Figure 2A illustrates this relationship. When the signal changes to negative, the polarity of the speech coil will reverse as shown in figure 2B. From experience we know that like poles of two magnets repel each other and unlike poles attract each other. In figure 2A we find that the speech coil will move away from the magnet and towards the magnet for figure 2B. The movement is governed by the function between our two magnets. The permanent magnet remains constant in magnetic strength but the electromagnet varies with the power of the signal voltage from the amplifier.

Therefore it will be seen that the speech coil moves in and out (like a piston). This in turn causes the diaphragm to move in and out in sympathy and the whole movement causes the diaphragm to move the air surrounding it, and this results in sound waves being generated by the diaphragm; therefore the stronger the electrical signal the greater the movement and the louder the sound. The diaphragm or cone of a loudspeaker vibrates at the rate that the signal voltage from the amplifier changes and this type of loudspeaker is known as a "Dynamic Loudspeaker." Most people, however, know them as moving coil loudspeakers.

Dynamic or moving coil loudspeakers are available in sizes ranging from about 1 inch to 15 inches in diameter. Note when we talk about diameter we usually refer to the size of the cone. The smaller sizes are normally referred to as tweeters since they will reproduce primarily the high frequencies, and the larger sizes are known as woofers or bass speakers because they primarily reproduce the low frequencies.

Loudspeakers with cone diameters of 5 to 8 inches are often referred to as mid-range loudspeakers, as this size primarily reproduces the middle part of the frequency range with loss of response at the low and high frequency part of the musical range. Cone type loudspeakers are also available with elliptical or rectangular shaped diaphragms, which result in improved reproduction over a wide range of frequencies, with certain limitations. Frequently engineers use two or three different sizes of loudspeaker with crossover or dividing networks. Each loudspeaker then reproduces part of the total frequency

range. Later in this article we will discuss this type of system. Other variations of dynamic loudspeakers will also be dealt with.

The second basic type is the electrostatic loudspeaker. Fundamentally it consists of two thin metal sheets (normally rectangular in shape), separated by an insulating material. (In some cases the insulating material is not used.) An H.T. (high tension) voltage is applied between the two metal sheets to maintain a steady attraction or potential difference between them, one sheet is earthed and the other is connected to H.T.+ (positive). We feed the signal voltage to the two sheets so that it will add to or subtract from the voltage across the metal sheets. This results in the potential difference between the metal sheets changing with the change in the signal voltage. Figure 3 shows a typical electrostatic loudspeaker.

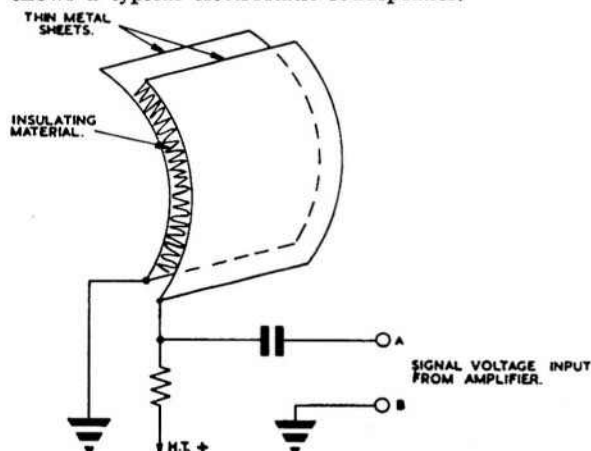


FIG. 3. TYPICAL ELECTROSTATIC LOUDSPEAKER.

When the signal voltage is positive it adds to the + H.T. and the attraction between the two plates increases. When the signal voltage is negative it subtracts, resulting in less attraction. This results in the thin metal sheets vibrating with a rate equal to the frequency of the signal voltage. The strength of the signal voltage will control the strength of the vibration. The larger size of electrostatic loudspeakers (area of metal plate of approximately 4 square feet or more) will reproduce the full frequency range that we hear. The small electrostatic loudspeakers are used as tweeters reproducing only the high frequencies (high notes), and the faces of the metal plates are curved to provide better distribution of sound as the high frequencies tend to be directional at right angles to the metal plate. The curved face of the electrostatic loudspeaker ensures that the high frequencies from different parts of the surface cover a wider area.

During the development of loudspeakers it was found that the high frequencies presented problems that could not be solved when using cone type units. The main problems were reproducing the high frequencies without distortion and elimination of the directional effect. This resulted in development of variations of the dynamic loudspeaker. One type of tweeter is known as a pressure device, see figure 4. The cone (paper or plastic) diaphragm is replaced by an aluminium diaphragm.

It will be seen that the throat of the horn is small and a phase correcting plug is used to ensure that all sound waves are in phase (in step) at this point as the distances from the throat to various points on the

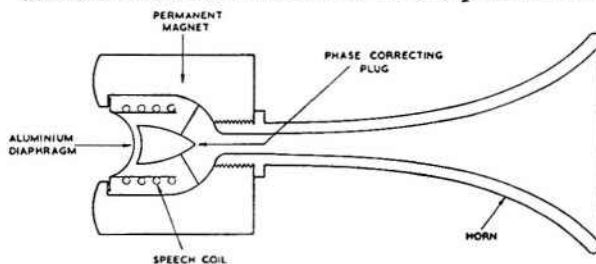


FIG. 4.

TYPICAL PRESSURE TWEETER.

diaphragm are of different lengths and phase distortion would result if this was not corrected. Phase distortion could cause loss of certain frequencies due to cancellation effects and peaks for other frequencies due to addition of sound waves. These tweeters normally are used for the frequency range of 2,000 to 20,000 cycles per second.

Some manufacturers have combined several sizes of loudspeaker into one unit. These are known as coaxial or duplex loudspeakers (two combined) or triaxial (three combined) loudspeakers. Figure 5 shows a cross-section of two types of coaxial or duplex loudspeakers. Figure 6 shows a triaxial loudspeaker. These loudspeakers, however, are expensive.

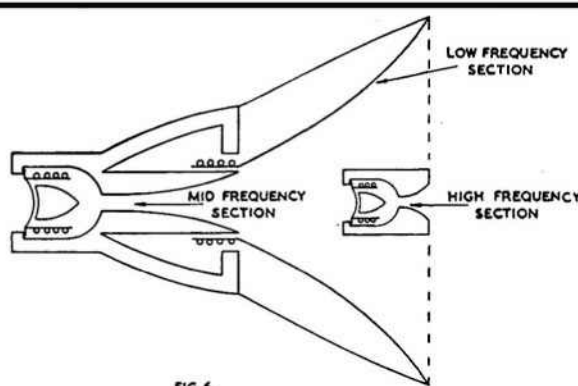
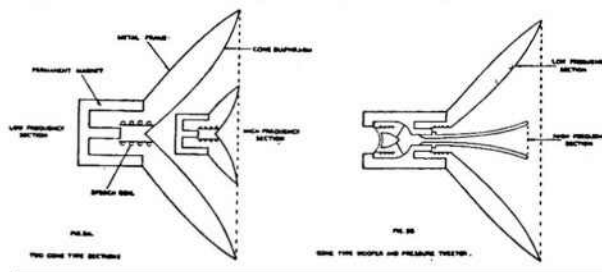


FIG. 6.

TRIAxIAL LOUDSPEAKER USING CONE WOOFER AND PRESSURE MID RANGE AND TWEETER UNITS.

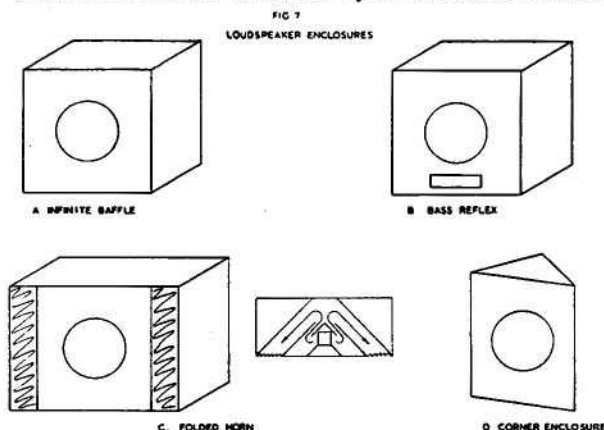
Triaxial loudspeakers using a bass cone woofer and pressure mid-range and tweeter units, however, give excellent results. Many loudspeaker cabinets are designed to use one of these units or two or more separate loudspeaker units.

There are many shapes and sizes of loudspeaker

enclosures, and naturally the internal and external appearance and construction differs. There are roughly four basic types. They are:

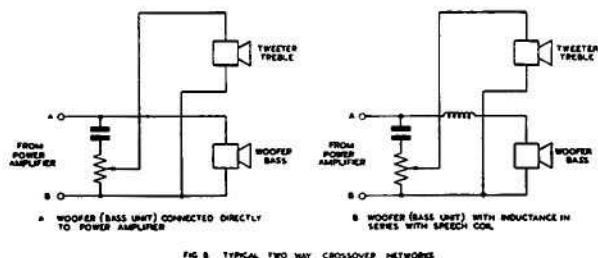
- The infinite baffle,
- The bass reflex,
- The folded horn, and
- The corner enclosure.

You may find two or more of the basic types combined into one enclosure by some manufacturers.



Fundamentally the types are as follows: The infinite baffle consists of a sealed box with the loudspeaker mounted on the front. The bass reflex is the same as the infinite baffle except that a slot of a carefully calculated size is cut below the loudspeaker unit. The folded horn is nothing more than a large horn folded within itself to make a compact assembly. And the corner enclosure is constructed with a triangular base so it fits into the corner of a room. Figure 7 illustrates the four types.

When you purchase a loudspeaker and then plan to put it into an enclosure you should carefully check the manufacturer's recommendations. The most popular types are the infinite baffle, because they can be small, and the bass reflex, which give good results for a lower cost. The small enclosures which are



often called bookshelf loudspeakers, are generally of the infinite baffle type, and one or more loudspeaker units can be mounted in them.

When more than one loudspeaker unit is used a crossover network is required so that each loudspeaker will operate over its correct part of the audio frequency range and not interfere with the other loudspeakers. These crossover networks are obtainable for two way or three way systems. That is two loudspeaker units or three loudspeaker units in one system or cabinet. The crossover networks are also obtainable for different crossover frequencies. Normally the lower the crossover frequency the

higher the cost.

A two-way system consists of a woofer (bass unit), a tweeter (treble unit) and a crossover network mounted in an enclosure. Figure 8 shows two types of typical two-way crossover networks. In figure 8A the bass woofer is connected directly to the power amplifier. The bass woofer will reproduce the full range of frequencies, with some reduction above the selected crossover frequencies. The tweeter will reproduce only the frequencies above the selected crossover frequency, which could vary between, say, 400 c.p.s. to 3,000 c.p.s. Normally, however, for purposes of economy, 2,000 cycles per second is used. The value of the capacitor is selected to determine the crossover frequency having regard to the impedance of the tweeter. The variable resistor is to match impedances and also to provide a level or loudness control for the tweeter. In figure 8B the inductance in series with the speech coil of the bass woofer reacts to pass only frequencies below the selected crossover frequency. The capacitor and variable

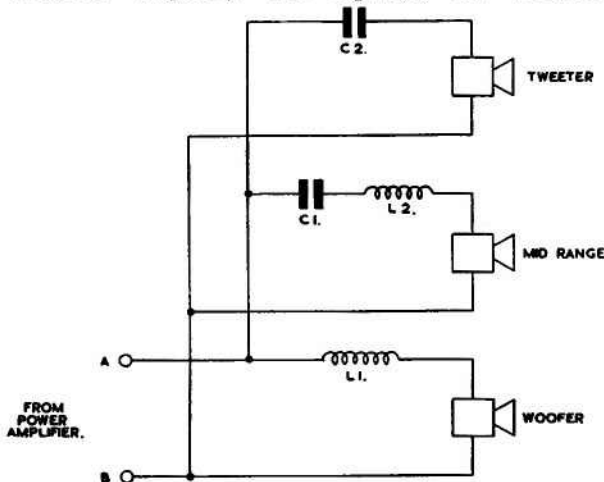


FIG.9. TYPICAL THREE WAY CROSSOVER NETWORK.

resistor operates the same as for figure 8A. There are many variations of these typical crossover networks available from different manufacturers.

A review of the previous article on compensating circuits in Volume 1, No. 7 (February 1960) issue will explain how capacitors and inductances react as high pass and low pass filters to provide the required crossover frequency.

A three-way system consists of a bass woofer, a mid-range loudspeaker, a tweeter and a crossover network mounted in an enclosure. Figure 9 is a typical three-way crossover network. Standard crossover frequencies for a three-way crossover network are 500 cycles per second and 5,000 cycles per second. The series inductance L1 is a low pass filter for the bass woofer, allowing only frequencies below 500 cycles per second to be reproduced. The capacitor C1 and inductance L2 passes the frequencies between 500 cycles per second and 5,000 cycles per second to the mid-range loudspeaker (band pass filter). Capacitor C2 passes only frequencies above 5,000 cycles per second to the tweeter. (High pass filter.)

resistors must be used to match the impedances. When selecting a crossover network for your loudspeaker system the following factors must be considered:

- Desired crossover frequency for bass woofer (500 cycles for three-way system and 2,000 cycles for two-way system).
- Desired crossover frequency for tweeter (normally 5,000 cycles per second).
- Frequency range of mid-range loudspeaker for three-way system.
- Impedance of speech coils of the loudspeakers to be used.
- Roll off rate desired at crossover frequencies. (Recommended 12 db per octave.)

Roll off rate at the crossover frequencies is another way of saying attenuation rate at the crossover frequency. Crossover networks are designed for attenuation rates of 6db, 12 db or 18 db per octave. This means, in simple words, the signal is one fourth the input signal for 6 db, one sixteenth for 12 db, and one sixty-fourth for 18 db. One musical octave above or below the crossover frequency. A decibel is the unit of measurement of power levels (see last month's issue). Any good electrical reference book will explain the decibel if you are interested. As a general rule an increase of 3 db doubles the power level and a decrease of 3 db halves the power level. The desired roll off is 12 db per octave; however, 6 db per octave is acceptable. When 18 db per octave is exceeded the losses within the crossover network are too large to give any advantage.

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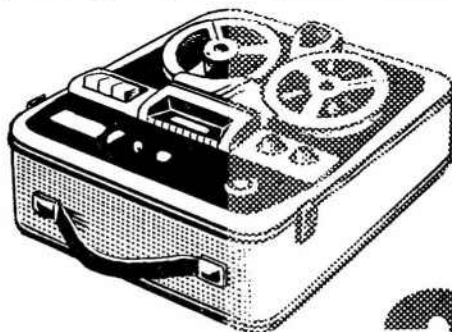
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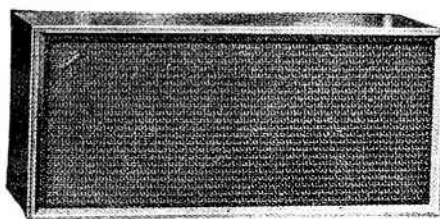
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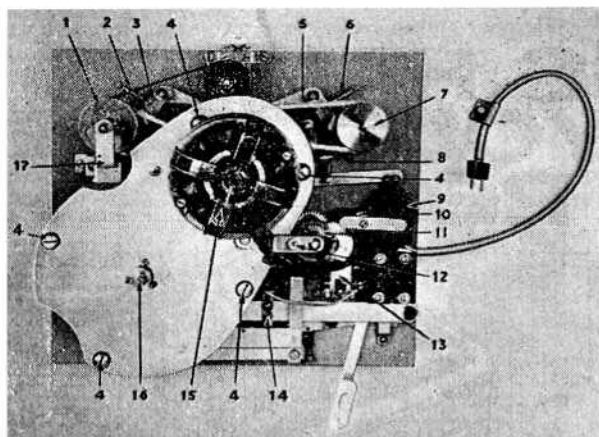
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- 12 Speed change cam roller
- 13 Record/Playback head shorting switch
- 14 Pinch wheel pressure adjustment
- 15 Main drive motor
- 16 Lower bearing of flywheel
- 17 Take-up pulley spring

Tape recorders are subject to the same kinds of trouble affecting other types of electronic apparatus. In addition, a recorder is a machine with moving parts built to exacting standards and requiring a certain amount of lubrication. It is necessary, therefore, to make ourselves familiar with the recorder in order to prevent major failures. In all cases where the following instructions differ from those issued by the manufacturer, follow the service manual; such differences arise from the special requirements of certain designs.

General Maintenance

The magnetic head surfaces, capstan, pinch wheel, guides and all points of tape contact during its transmission from one spool to the other should be kept meticulously clean; the importance of this cannot be too strongly emphasised. The oxide powder deposited on the record head, if allowed to accumulate, will prevent the recording of high frequencies at correct amplitude. It will also affect the reproducing and erase heads, the powder short circuiting the gap. There is also a marked increase in the noise level.

The capstan and pinch wheel should be kept free from oil and dirt. Ensure that good contact is made between them, otherwise tape slip will result.

Improperly spliced tape may deposit adhesive pieces on the heads, which will produce a falling off in reproduction.

TAPE MAINTENANCE

The best method of removing these deposits is to use a piece of lintless cloth or chamois leather lightly damped with methylated spirits and wound round a match stick. *Do not use any metal objects.* A soft camel hair brush should be used to remove dust around the heads.

Magnetised Heads

The magnetic heads are made of Permalloy or ferrous material, which have virtually little or no remanence; however, after a time they tend to become magnetised.

The first indication of this is distorted and noisy recordings. Heads may become accidentally magnetised in a number of ways. A simple test to ascertain whether a head is magnetised can be made as follows: Lace up some virgin tape, connect a decibel meter or A.C. voltmeter to the output of the recorder and play sufficient tape to note the reading on the meter. Rewind and repeat the operation about 10 times, noting the reading each time. Magnetisation may be only slight, but the readings will give a fairly good indication of its extent. *Under no circumstances test a head with a D.C. ohmmeter.*

Demagnetisation of Heads

There are several good makes of head demagnetisers on the market, with full instructions regarding their use.

The following test may be tried before investing in a demagnetiser: Remove the tape from the recorder, switch to record and then switch off from the mains supply, i.e., power point. Repeat operation three or four times. The currents in both record and erase heads die away slowly, thus subjecting the heads to decreasing cycles of magnetisation.

Note: It is advisable to remove your wrist watch before using a demagnetiser.

Head Wear

For optimum results it is essential that the tape be in close contact with the heads. The material make-up of the head must be of magnetically soft metal, which is also physically soft compared with hard steels. Thus, if the tape to head contact is good for recording, the result is head wear.

It is important to examine the heads periodically to see how they are wearing. Pressure pads should also be checked for even tension and their relative position to the heads.

Heads that have been worn down unevenly may be reground, providing the gap has not become too enlarged. But this is a hazardous operation and not one for the amateur to undertake; even the most expert machinist may think twice before tackling the problem. However, in most cases it will probably be cheaper to buy a new one.

A falling off of the higher frequencies is an indication of head wear. This is due to the widening of the gap, which results from such wear.

TAPE MAINTENANCE

By JOHN E. LITTLE

When fitting a new head, the azimuth adjustment (see diagram) plays an important part. The object is to set the head in full contact with the tape, and squarely across it. The best method is to use a test tape and adjust the screw for maximum output on playback.

Mechanical Maintenance

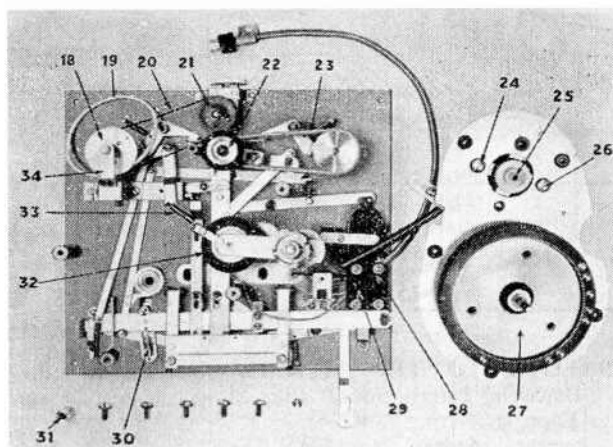
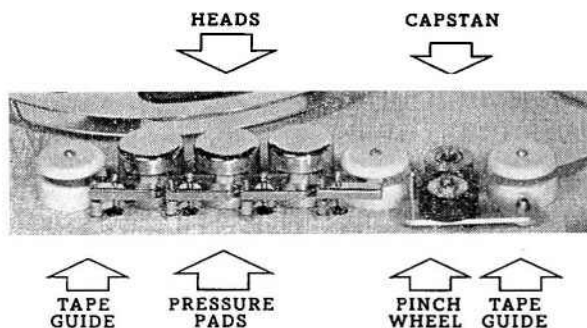
At periodical intervals the tape recorder should be thoroughly cleaned and lubricated according to the maker's specifications. With the aid of a vacuum cleaner and a small brush, all dirt should be removed from the underneath part of the machine, being careful not to disturb the wiring too much, as in time it becomes brittle and tends to break easily.

Motors

Some makes of tape recorders use only one motor to provide all the necessary functions of the machine, whereas others have two or three. However, how many is not important from the maintenance aspect, as we are concerned only with keeping whatever we have running efficiently. Before oiling indiscriminately, consult the manufacturer's instructions, as some types of motors have oil-impregnated bearings which require no oiling, while others require oiling very sparingly. It is far better to under-oil than over-oil. The oil should never be allowed to get into the coil windings or on any frictional surfaces. Some motors employ a capacitor for phase splitting. If it becomes necessary to replace this, due to erratic running, make sure that the replacement is a replica in every way of the faulty one. If it is not, the consequences could be serious. Use only the oil specified by the manufacturer. After a period of continuous running the deck temperature may rise. This is in no way detrimental to the machine or tapes.

Braking Systems

Efficient braking is an essential part of the tape recorder. Nothing is more annoying than to switch off a fast re-wind and find that the reels slow down



- Take up pulley 18
- Take-up belt 19
- Rev. counter belt 20
- Rev. counter pulley 21
- Rewind driving pulley 22
- Rewind belt 23
- Motor retaining screw 24
- Motor drive, stepped pulley 25
- Motor retaining screw 26
- Flywheel 27
- Erase head plug 28
- Record/Playback head plug 29
- Pinch wheel tension spring 30
- Capstan sleeve 31
- Idler 32
- Idler stretch spring 33
- Take-up bracket 34

gradually instead of coming to a quick halt. Much of this is due to shiny brake linings, grease on brake drums, or a sticky plunger on the brake relay. Braking systems vary from the electro-magnetic to friction types, and in every case the maker's instructions should be followed for adjustment. The brake linings and frictional surfaces should be wiped clean with carbon tetrachloride.

Special Note. Great care must be exercised when using carbon tetrachloride. Make sure the room is well ventilated; do not inhale the fumes or use the liquid on any plastic surfaces.

Rewinding

A loose rewind can ruin a tape, but despite this, the writer has yet to find an efficient rewind motor. However, light application of the finger to the trailing spool can effect a tighter spooling of the tape.

Capstan Drive

The capstan is usually driven by a large dynamically balanced flywheel, coupled to the drive motor by means of an idler or jockey wheel made of rubber or neoprene. Some machines using single motor drive provide rubber belts which drive friction gear under each reel, to maintain reasonable tape tension during transmission. All these points of contact must be kept thoroughly clean with carbon tetrachloride. Most manufacturers of tape recorders arrange that the idler wheel is disengaged from the flywheel in the off position, to prevent depressions being formed in the rubber, which would otherwise give rise to flutter.

continued on page 69

TAPE and DISC REVIEW

by STANLEY R. WHITE

"SALUTE TO TED HEATH," played by the Brussels International Big Band. ("Music on Tape.")

Stereo	CAS 6127	(7½ i.p.s.)	80/-
Monaural	CA 667	(7½ i.p.s.)	42/-
Monaural	CA 633	(3¼ i.p.s.)	32/-

King's Cross Climax; Lullaby of Birdland; Jungle Drums; Hot Toddy; I've Got the World on a String; Strike Up the Band; Blue Skies; Madagascar; Big Deep; The Hawk Talks; Listen to my Music.

This is a great performance by any standards and is all the more interesting because the "Salute" is

stant reminder of him, especially as Ted Heath has not yet been presented on tape here. This is one of the best of the "Salute" series that I've heard, and should be welcomed by all big band enthusiasts. The reproduction is very good.

"Music On Tape," 6 Laurence Pountney Hill, London, E.C.4.

"SALUTE TO LES BROWN," played by the Brussels International Big Band. ("Music on Tape.")

Stereo	CAS 13127	(7½ i.p.s.)	80/-
Monaural	CA 1367	(7½ i.p.s.)	42/-
Monaural	CA 1333	(3¼ i.p.s.)	32/-

Sentimental Journey; Baby, Don't Cha Go Way Mad; Stompin' at the Savoy; Twilight Time; Lover's Leap; I've Got my Love to Keep me Warm; Coffee Time; Blue Moon; Bizet Has His Day; Leap Frog.

Another "Salute" — this time to the famous American Orchestra led by Les Brown. The accent is on the sentimental style but still retaining that "kick" in the rhythm department which is a feature of this Brussels Big Band. Doris Day had her first big break as a vocalist with the original Les Brown Orchestra. This tape features no vocalist, but spotlights the orchestral style of Les Brown, and it is played in a good dance tempo. I enjoy these tapes of big band popular music; the standard of performance is always high, as is the reproduction quality. Pre-recorded tapes will come into their own this year and these tapes should make a good start to any collection of popular music.

"WEST SIDE STORY"

Bruce Trent, Lucille Graham, Mary Thomas, Joyce Berry, Maureen Fulham.

The "West Side Story" Orchestra (conductor, Lawrence Leonard).

Music by Leonard Bernstein. Lyrics by Stephen Sondheim.

Saga pre-recorded tape STB 8022.

Monaural	(7½ i.p.s.)	...	50/-
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Overture; Something's Coming; Maria; Tonight; Cool; One Hand, One Heart; The Rumble; I Feel Pretty; Ballet Sequence—Somewhere; A Boy Like That; I Have a Love; Finale.

This tape presents music and song from the famous show "West Side Story." The recording is excellent all round. The mood of the show is captured faithfully in this recording made by the great artistes named above. This is the best performance of "West



Left to right: Stanley Whittington (well-known Midlands organist), Ralph Bartlett (General Secretary of the Theatre Organ Club), Jack Helyer (famous broadcasting Theatre organist, arranger and composer), Stanley R. White ("Radio and T.V. Review" and "Amateur Tape Recording") Frank Hare (Editor of "Theatre Organ Review").

Pictured in front of the Conacher organ console, "ODEON" Nottingham.

aimed at our own great band leader, Ted Heath. Readers may recall that Ted Heath was the subject of the T.V. programme, "This Is Your Life," not so long ago; now the Brussels International Big Band adds its own tribute. The sound is not altogether that of Ted Heath, but is near enough to be a con-

Side Story" that I have heard recorded. It has been said that "music makes the world go round"—if this is so, this tape should give our old earth a few spins. Good for any worthwhile collection. I also like the picture cover tape box and the blue spool.

"LEIBERT TAKES BROADWAY," played by Dick

Leibert at the Wurlitzer organ.

Westminster. SWB 7070. Stereo. (7½ i.p.s.) 2-track. (American release.)

I have included this American stereo tape because it is possible that the recording may shortly be available in this country through appointed distributors. Dick Leibert is a famous American theatre organist, and this recording was made at the Byrd Theatre, Richmond, Virginia, using the large Wurlitzer theatre pipe organ (an organ which Reginald Foort has recorded for American release).

The stereo reproduction is very realistic, more so because the organ is divided with organ chambers on each side of the theatre, and so surrounding the listener with the rich sound of the Mighty Wurlitzer. The musical arrangements played by Leibert show off the instrument to good effect, and the choice of music is associated with various shows which have played on Broadway. I Could Have Danced All Night; If I Loved You; Spring Is Here; Begin the Beguine; Embraceable You; etc. If you can get hold of a copy of this tape, it is worth having for the excellent stereo reproduction.

"FOUR FEATHER FALLS": Michael Holliday with Orchestra conducted by Barry Gray.

Columbia SEG 7986 (extended play disc).

Kalla Ma Kooya Kalla; Four Feather Falls; Rick-Rick-a Rackety Train; The Phantom Rider; Happy Hearts and Friendly Faces; Two Gun Tex of Texas.

This happy offering by Michael Holliday is made up of the songs he features on the soundtrack of the T.V. series "Four Feather Falls." This is excellent material for an extended play disc, and I imagine Mike will sell a lot of copies with his friendly performance here. This type of material does not date, and is popular with all age groups. Mike makes easy going of the "not so easy" lyrics, and the whole package is most enjoyable, including the puppet picture on the cover.

"ORGAN WITH A BEAT," played by the Don Johnson Organ Combo.

Columbia SEG 7991 (extended play disc).

Night Train; Miami Beach Rhumba; Johnson's Boogie Woogie; At the Woodchoppers' Ball; 12th Street Rag; Pennsylvania Polka.

I've included this record for those who enjoy the music of the electronic organ. This group has plenty of life and features the organ with supporting instruments in a selection of well-known tunes which should set your feet a-tapping.

CLUBMAN REQUESTS

Mr. D. Wolstenhome, 73 Darley Street, Bolton, wishes to contact members who would be willing to assist with tape recordings in local hospitals.

Patrick Cairns writes from America: "I am a student at Oak Park High. Our class has been studying world geography and we are interested in tape-responding with students in other lands." Patrick's school address is Oak Park High School, c/o Mr. Cooper, 13701 Oak Park Boulevard, Oak Park 37, Michigan, U.S.A.

Roy Nancarrow, of 32 Greenways, New Site, Ebbw Vale, Mon., would like to hear from members interested in radio programmes such as "This Is Your Life" and the Monte Carlo Rally commentary.

Leonard K. Adams, of 18 Old Court Road, Guildford, Surrey, a blind Clubman, and his wife, an arthritis sufferer, would like to contact others in similar circumstances throughout the country. We therefore appeal, on Mr. Adams' behalf, to any local tape recording clubs who have the facilities and would be willing to use their machines for reading messages to the friends of the blind and disabled.

Derek Milburn, founder of the Pegasus Amateur Film Unit (non-political, non-profit-making) is producing a war fiction sound film and would like to contact a tape recording enthusiast who knows what he is doing, knows the difference between good and bad quality sound—and is the type of person who will strive to get the best under all conditions, even when using not particularly hi-fi equipment. He must be someone who can compromise and stand criticism—and also pay his way.

The sound equipment will be a Fi-Cord battery tape recorder (7½ i.p.s.), used with a Grampian DP4/M microphone. Recordings will be mostly out of doors, at week-ends, some of which would be spent away on location, so a person who can "rough it" is desired, and preferably one who lives near the N.1 area of London.

Interested enthusiasts should write to D. Milburn, 1 Micawber Court, Windsor Terrace, London, N.1.

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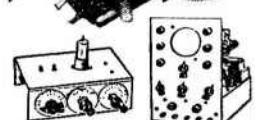


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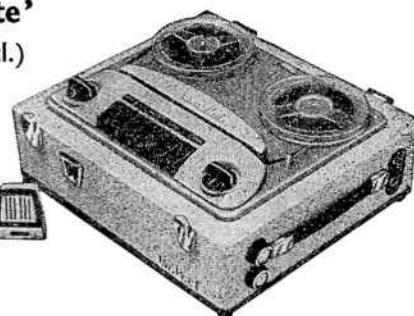
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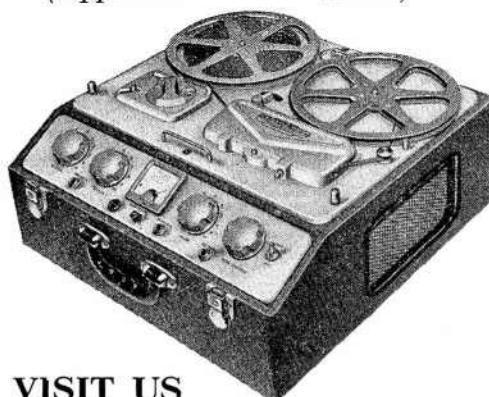
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Pause Control

This is provided to halt the tape during recording in order to eliminate unwanted announcements, etc. It should never be held in operation for a long period, as the heat generated by the erase head will give rise to tape curl, and tend to weaken the tape at the point held in stationary contact with the head.

Speed Check

A periodical check of speed should be made. This can be carried out in a number of ways. One method, with the aid of a stop watch, is to make a mark on the back of a length of tape, switch the machine to record or playback, and as the mark passes a certain point such as the tape guide, start the stop watch and run for 10 seconds. Switch off and mark the tape at the point reached. Remove, and carefully measure the distances between the two marks. If the speed is correct the length should be

37½ inches for a speed of 3½ i.p.s.

75 inches for a speed of 7½ i.p.s.

If the measured length is greater, the machine is running too fast, and if it is smaller—too slow. The percentage error can be calculated by multiplying the difference between the correct and the measured length by a hundred, and dividing the result by the correct length. If, for example, the measured tape length at a speed of 7½ i.p.s. was 90 inches, instead of the correct 75, the difference would be 15 inches, and we would get the following sum:

$$\frac{15 \times 100}{75} = 20\% \text{ too fast}$$

If, however, it was 60 inches instead of 75, the difference would again be 15 inches, but the answer would be 20% too slow.

Another method is to use a map-distance counter scaled in inches, pressed against the tape for a set time. But make sure first that the wheel hasn't a sharp edge!

Wow

Wows are long lasting changes due to slow variations in tape speed, and may be traced to a bent tape reel, uneven tape tension or tape slip on the capstan.

Flutter

Flutter in drive systems is very difficult to locate. It is a very short recurring speed variation giving rise to considerable distortion in the form of roughness of the reproduced sound. Flutter can be traced to vibration, and out of circle parts in the drive systems.

It is recommended that a check be made to ensure that there is adequate damping of vibration; the motors are usually mounted on rubber, and in time inspect the rubber jockey and pinch wheels for depressions, and if necessary change.

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SOUND EFFECTS

Reader P. L. Bastin, of 28 Whitcroft Road, Pershore, Worcs., has sent us some interesting sound effects suggestions in response to Nigel Rees' article in the April edition of "A.T.R.":

CAR SKID: Drag a fairly full hot water bottle of the close-ribbed type across a fairly glossy surface, applying pressure gradually, then stopping dead.

AVALANCHE: Half fill a bucket with gravel—about ¼ in. stuff—then pour in another half bucket slowly. Record this at double speed and play back slower.

MACHINERY: A spin drier, recorded at a distance of about five feet gives a nice subdued humming.

PRIMEVAL SWAMP NOISES: Recite a short poem with plenty of indrawn breaths at 7½ i.p.s. and play back at 1¼ i.p.s.



Luckily there are still a few copies of the first editions of Amateur Tape Recording left, at 2/- each (post free).

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TAPE BANK TRAIL

As forecast last month, the Tape Bank Trail for the Hospital and Blind Service has reached Penzance. It has just passed the boundary mark and is moving up Alverton Road towards the centre of the town. Next month we should be well on the road to Hayle, or should I say Redruth?

CLUB AFFILIATION TO THE B.R.C.

"A.T.R. Magazine" extend a cordial welcome to Durban & District Recording Club who have recently become affiliated to the British Recording Club. The secretary of this Club will be delighted to tapespond with any member in this country. R. A. Watt, Durban & District Recording Club, P.O. Box 2655, Durban, Natal, South Africa.

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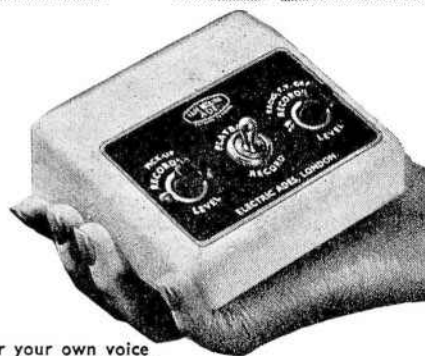
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A Home-View

of the WALTER 404 TAPE RECORDER

By F. C. JUDD, A.Inst.E.



THIS is a recorder with a new style; a style that will appeal to the ladies but is masculine enough for the poor common male. The Walter 404 is an excellent recorder and its unique styling will do credit to the most contemporary drawing room. The neutral colour scheme should cause no argument as to whether it will match the curtains, the new suite or even the cat. Two shades of mottled grey and some delicate gold banding give the machine a nice appearance, not too feminine and sober enough to look like a tape recorder.

The deck is a robust piece of mechanism, so simple to operate it can be left to the tender mercies of the younger members of the family. Note the accent on "family use." The 404 will satisfy the demands of the teenagers and the serious recordist with equal satisfaction, for it has all the desirable features that one expects in a good class instrument. Recording interlock, pause button, two speeds ($7\frac{1}{2}$ and $3\frac{1}{2}$ i.p.s.), will take a 7in. spool, can be used as a through amplifier, and it has an outlet for ciné synchronising.

Standard half-track record/playback allows full use of the tape and fast wind and re-wind prevents that long, impatient wait before you can hear the recording or find that special item somewhere along the tape. A three-dial counter is fitted for tape place indication, and speeds can be changed whilst the tape is on the move.

Very useful, too, is the dual mixing facility that permits microphone and a music source to be fed in together. The Walter patent "Joystick" takes care of all tape mechanism operation. Push to the left

for record, to the right for playback, up or down for re-winding the tape. Input and output sockets are conveniently placed at the side and a tone control is located on the same panel. I did very much favour the tape spools too, which have a slot right across the spool for rapid anchoring of the tape. The idea is the best I've seen yet on a plastic spool. A very comprehensive instruction book is supplied, a 1,200ft. spool of tape, spare spool, extra connecting leads and plugs, and last, but not least, a very substantial crystal microphone.

Performance

The Walter 404 is the first machine to be tested with "A.T.R.'s" new and comprehensive equipment just installed in the test laboratory. In a later issue I will describe the equipment and explain how a recorder is tested for reviews such as this.

The first test, that of frequency response, was carried out *entirely automatically with a special pen-recorder that plots the response of the recorder to a standard frequency test tape* (in this case the E.M.I. TBT1). The pen-recorder showed a very favourable curve for the 404, but which is modified a little at the lower frequencies to strengthen the bass response. Most table model recorders lack bass because of small "baffle" area provided by the cabinet. As the response curve shows, there is a gradual rise to +5 dB from 1,000 c.p.s. to the low frequency limit of the amplifier which is most effective in maintaining an even "audible" output over the whole frequency range. The "through" amplifier response agrees with the makers' claim of 40—16,000 c.p.s., and the tone control provides a useful amount of "treble cut" for those who like a smoother response for "background music" listening.

Hum and noise is low enough as to be ineffective on a normal level recording and only at maximum setting of the gain does a little 50 c.p.s. hum become noticeable. The hum and noise level is given as -35 dB, which measurement showed to be a just claim. "Wow and flutter" tests showed 0.21% at $7\frac{1}{2}$ i.p.s. and about 0.3% for $3\frac{1}{2}$ i.p.s. Both figures are low enough to warrant no other comment, except that the makers assured me that this model is usually better for $7\frac{1}{2}$ i.p.s. A second test revealed that a small adjustment to the pressure pads was needed and resulted in a slightly lower wow percentage for $7\frac{1}{2}$ i.p.s.

Tape re-wind is fast, being $2\frac{1}{2}$ minutes for reverse and 2 minutes 4 seconds for forward, but tape spooling was a little ragged for both directions. At normal playback record speed, however, the tape winds tight and centrally on to the spools, which reminds me of another useful feature: small rubber caps are provided which fit over the spool spindles and prevent them falling off when the recorder is being carried or is stood up on its side.

To sum up on performance generally, I can say that the 404 is an excellent machine, capable of first class recording and, judging by the pre-recorded tape supplied, has reproductive qualities surpassing many other machines in the same category.

Construction

The deck is robust, all metal and nicely finished in a gold lustre enamel, with its controls conveniently situated for quick and confident operation. By

the way, I should have mentioned the Magic Eye recording level indicator which is mounted near the front of the deck. No domestic machine would be complete without one, for they are useful assets to a good recording. A single motor drives the capstan and spools via a series of belts, and the mechanical braking system brings the spools to a dead standstill without spilling the tape or exerting too much tension. The amplifier and under deck mechanism is fully accessible for servicing and maintenance when the base cover of the cabinet is removed. The amplifier circuit is a simple one, but I was pleased to see an EF86 as the tape head amplifier. Far too many

manufacturers are using triodes as head amplifiers in circuits with no feedback, which are consequently prone to high noise levels and poor response.

The makers have put considerable thought into the design of the 404 and deserve full credit for a nicely finished inside as well as outside. Few owners of tape recorders ever bother about the "works," but those who do are assured that only the best will be found inside the Walter 404.

The recorder is manufactured by Walter Instruments Limited, of Morden, Surrey, and is priced at 42gns., complete with microphone and a reel of tape.

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