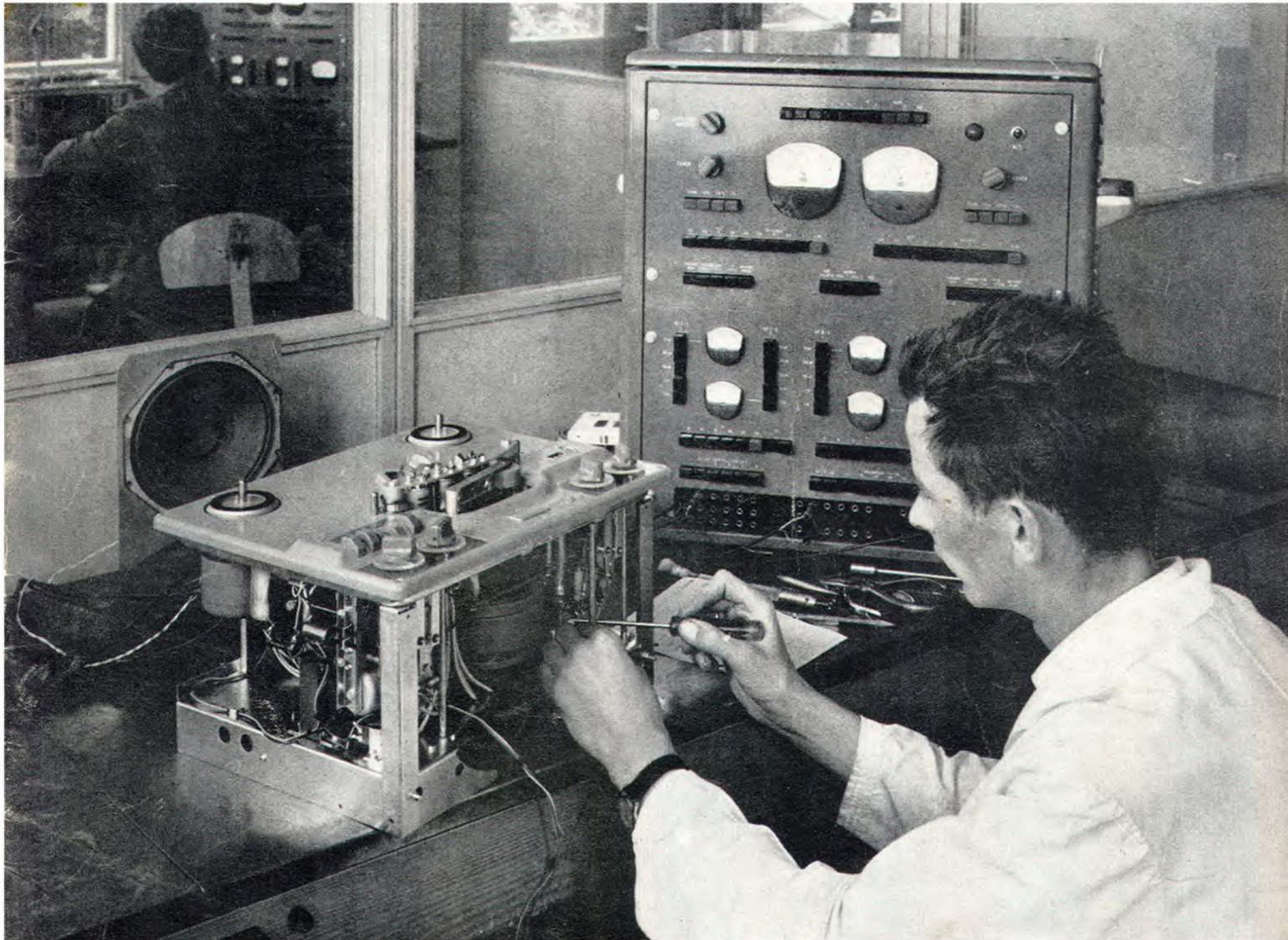


OCTOBER 1962

TAPE

RECORDING MAGAZINE

1/6



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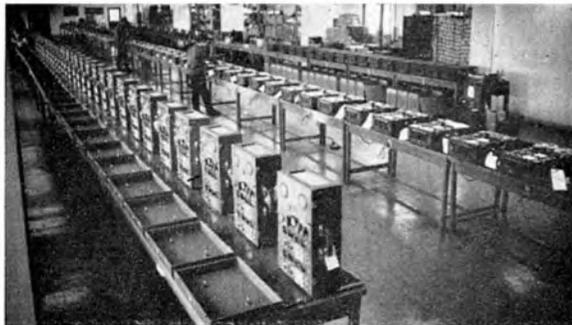
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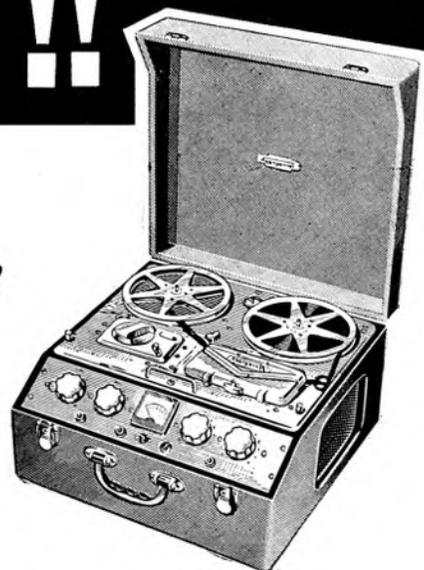
*Due to trade agreements Akai are sold under the name of Roberts in the U.S.A.

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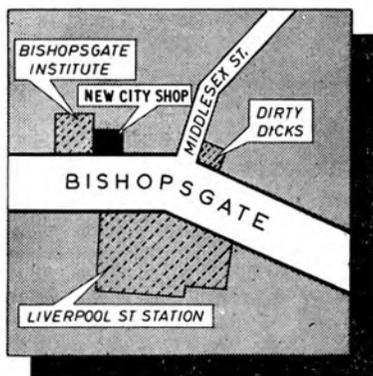


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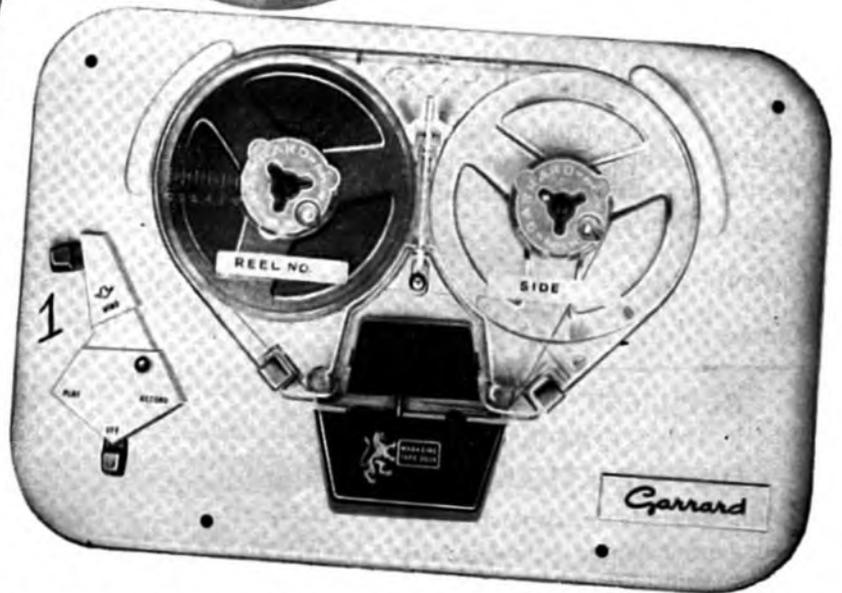
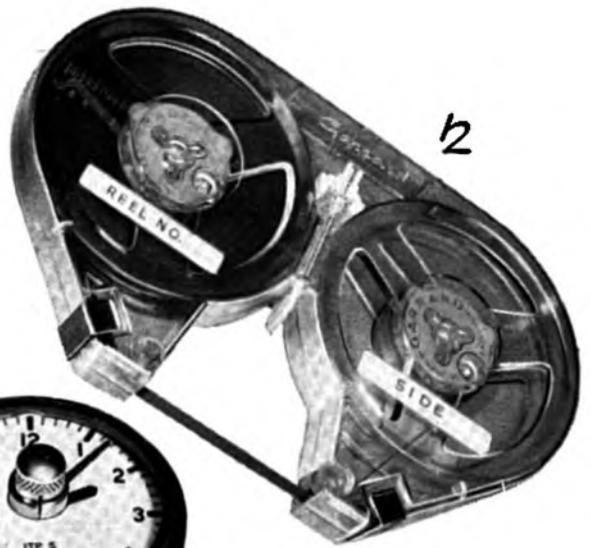
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1962-63

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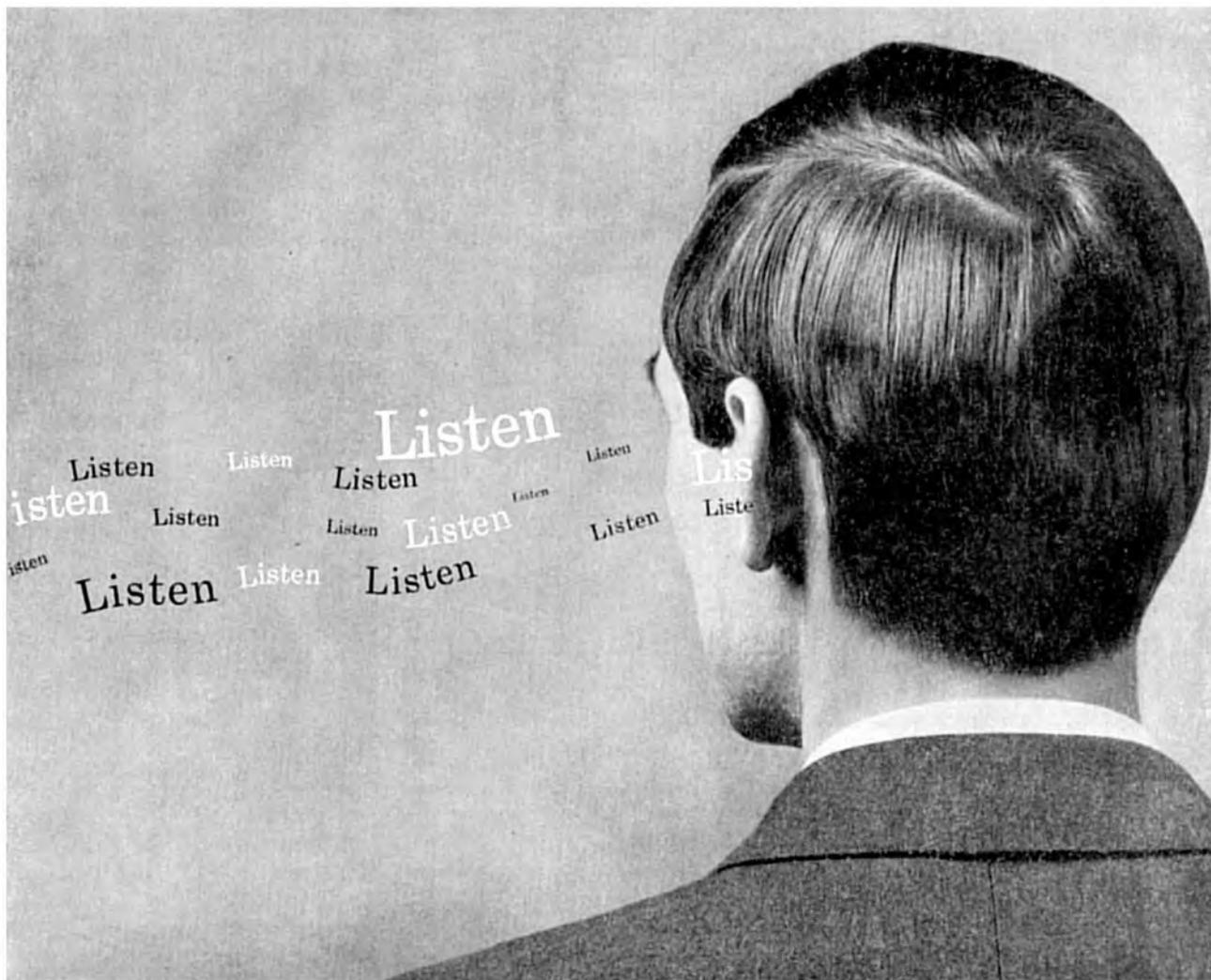
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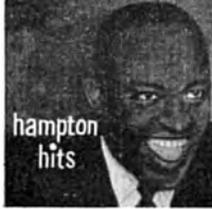
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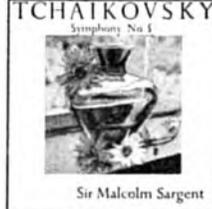
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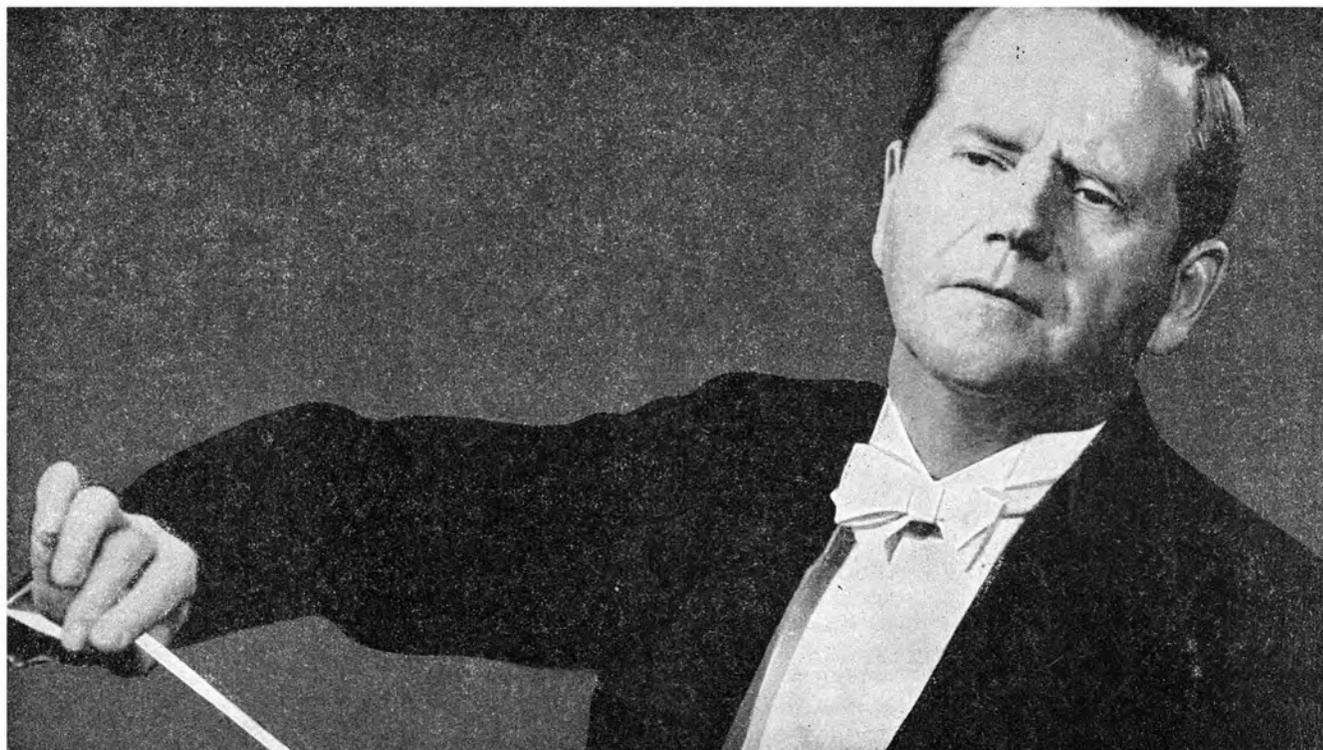
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TAPE RECORDING MAGAZINE

Vol. 6

No. 10

October 1962

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COVER PHOTOGRAPH: An electronics engineer adjusts the recording level indicator of a Revox E.36 stereophonic tape recorder in our illustration this month. The large machine on the right-hand side of the engineer enables him to check both channels simultaneously. The Revox recorders, manufactured in Zurich, Switzerland, have recently been made available for sale in this country, and are available from Audiocraft Ltd. of London.

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FLE 1455

EDITORIAL

ADVERTISING

Editor,
R. DOUGLAS BROWN

Advertisement Manager,
MISS PAMELA DURHAM

Assistant Editor, FRED CHANDLER

THE EDITORIAL VIEW

THE Contest celebrations went off very enjoyably; it was pleasant to meet several former winners returning to collect new honours and encouraging to make the acquaintance of newcomers to the ranks of honour.

One view they all seemed to hold, and it has been noted by the Contest organisers. Most competitors, it is clear, would like to hear a selection of the winning tapes and some detailed explanations of why they were selected as the best.

This has been a problem for the Contest organisers from the outset. In the first three years there were public playbacks of the winning tapes. There seemed some doubt, however, whether these functions were generally desired and last year, as an experiment, it was resolved to issue, instead, a special Contest tape containing the winning entries in the British and International Contests. Unfortunately, delay in securing copies of the Continental tapes wrecked this good intention.

Before next year the whole situation will be studied afresh. Meanwhile, however, the Federation of British Tape Recording Clubs, noting the views expressed by this year's competitors, has arranged to make available copies of all the winning entries. Clubs affiliated to the Federation may borrow these copies without charge.

Other clubs and individuals may hire them for a very modest charge.

Full information may be obtained from the Federation Secretary, Roger Aslin, 211, Melfort Road, Thornton Heath, Surrey.

* * *

WHILE I am writing of the Federation, perhaps I may get in a word of praise, albeit belatedly, for the new Federation Bulletin. The cover is very striking and the duplicated Bulletin within is full of useful information, including the list of dealers who have applied to go on a Federation "approved list."

* * *

ONE of the international tape-spondence clubs, "World Wide Tape Talk," is organising a petition in Britain. They are collecting signatures to urge the Postmaster-General to reduce the charges for sending tape messages by air mail.

They point out that air mail charges to Australia and New Zealand are high and surface mail is too slow to encourage tape-spondence.

I wish them luck.

* * *

DO you insure your tape recorder? I suspect that most people do not, but the risk, particularly if you take your recorder around with you, is out of all proportion to the modest premiums called for.

I quote from a new scheme announced by Telesurance Ltd. A "limited policy," covering fire, theft and accidental damage, costs as little as ten shillings.

A "comprehensive policy," covering these risks, plus maintenance, costs £3 for recorders costing under £60, and £5 for those costing between £60 and £105.

I shall watch with interest this effort to persuade enthusiasts to provide proper cover.

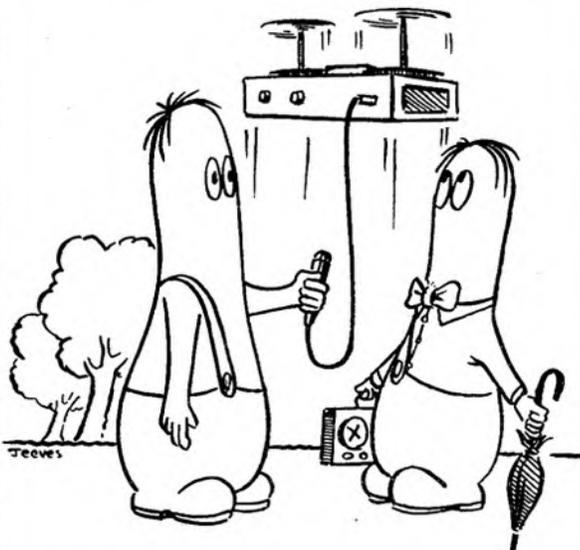
* * *

SIR HAROLD BISHOP, Director of Engineering at the B.B.C., gave us some additional information on stereo radio prospects in a letter to the *Guardian* recently.

The B.B.C., he revealed, is just beginning experimental transmissions from the Wrotham VHF station using the Zenith-G.E. system which has been adopted for stereo broadcasting in the U.S.A. and which the European Broadcasting Union favours as the system for Europe.

The results of these and other European experimental broadcasts will be considered when the CCIR meets in January next year.

LAUGH WITH JEEVES



"I got tired of carrying it, so I extended the shafts and fitted propellers on 'em"



THE CONTEST WINNERS

The 1962 British Tape Recording Contest reached its climax with two memorable social events in London's West End—the Emitape Luncheon at the Savoy Hotel and the party given by TAPE Recording Magazine at the Cafe Royal.

All the winners, except Mr. P. L. Bastin, were present and exchanged experiences and discussed their tapes with the judges.

At the Savoy the Emitape Cup was presented to Mike Avel, representing the Triumph Owners' Motor-cycle Club, by Mrs. Wall, wife of the Managing Director of E.M.I. Ltd. Mr. J. E. Wall presided, and proposed a toast to the guests, for whom Miss Jo Douglas replied.

At the evening event at the Cafe Royal, the Editor of the magazine handed the awards to the various winners.

Between the two events the prize-winners visited the Radio Show at Earls Court.

The prize winners are seen together at the Cafe Royal in the photograph above. They are, reading from left to right: front row, H. J. Walding (Grundig Cup), Miss A. M. Goodwin (Acos Cup), Ronald P. Guttridge (Irish Trophy and Wyndor Gold Medal), Mike Avel (Emitape Cup); back row, Reginald Bonney, Gerry Fitzgerald, F. C. Gazeley, the Editor of TAPE Recording Magazine, Roger Gomes and David Peach (Amphlett Shield). Peter L. Bastin, the remaining prizewinner, was unable to be present.

HOW TO MAKE THE TAPE OF THE YEAR—In the picture below Mike Avel appears to be telling the Editor the secret of success.

Photographs of the Savoy lunch are on page 17.



The "Tape of the Year" was recorded on Ferrograph

It is with pleasure that we tender our congratulations to the three Ferrograph users who, in the British Amateur Tape Recording Contest of 1962, secured five of the six major awards. They are Mr. Michael Avel on behalf of the tape section of the Triumph Owners' Motor Cycle Club who won the Emitape Challenge Cup and the Amphlett Shield for "The Tape of the Year"; Miss A. M. Goodwin who was awarded the Acos Challenge Cup and Mr. Ronald P. Guttridge who secured the Irish Trophy and the Wyndson Gold Medal.



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recording and Playback.
Model 4A/N (3 $\frac{3}{4}$ /7 $\frac{1}{2}$ i.p.s.) **81** GNS
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In the making of an outstanding tape, as every serious recordist is aware, three factors are involved, namely, the basic idea, the development of that idea in terms of sound and, finally, the actual recording. It is clear that in the Contest to which we refer, the basic ideas and their development reached a very high standard and as to the third factor, we content ourselves with remarking that, so far as recording quality is concerned, the Ferrograph spoke for itself!

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Model 4S/H (7 $\frac{1}{2}$ /15 i.p.s.) **93** GNS

Series 420
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recording and playback, with
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from one track to the other,
introduction of echo effects
and many other advanced
features. Requires power
amplifiers and external loud-
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AT THE SAVOY

The photographs on this page were taken at the Emitape Luncheon at the Savoy Hotel. On the right Mrs. J. E. Wall is joining in a traditional ceremony at this event—drinking champagne from the Emitape Cup as it is passed around the table. In the other photographs, left to right, moving down the page are: (1) Mike Avel talking to Mr. J. E. Wall, the Managing Director of E.M.I. Ltd; (2) John Borwick, one of the judges, with Mr. and Mrs. F. C. Gazeley; (3) Mrs. Wall with Mr. and Mrs. Bonney; (4) Jo Douglas and Alan Stableford, who were both judges; (5) A composite photograph of some of the guests at table.





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Fred Chandler spots the new recorders shown at

THE RADIO SHOW

THE 1962 Radio Show exhibition at London's Earls Court was designed on the theme "The Fair of the Air," and it was just that. Although near the entrance to the main hall the visitor found himself first of all alongside an audio avenue, this section was soon passed and one became lost in a maze of television and radio receivers.

Apart from the larger companies like Bush, Ekco, Ferguson, Ferranti, and Murphy, whose tape recording activities are but a small percentage of their overall production line, one could visit Alba, B.R.C., Clarke & Smith, Dansette (entering the tape field for the first time), Dynatron, E.A.R., E.M.I., Elpico, Fidelity Radio, Philips, Portogram, Tape Recorders (Electronics), and Garrard.

Perhaps the most interesting of the products seen were the new machines presented by Dynatron, Clarke & Smith, and Philips.

THE new Dynatron machine, designated TRP2, is not yet in full production. The prototype shown is close to professional standards, and will be available in two and four-track versions, mono only.

It incorporates a meter recording level indicator, and clock counter, auto and instant stop controls, plus built-in echo effect facilities. Good sound reproduction is claimed from the 10 x 6 inch speaker unit.

Fuller specifications, including the price (around £120), will be published when available.

THE Clarke & Smith stand presented two new recorders, the 634 and 635. Both machines are housed in strong wooden cases fitted with locks and two carrying handles to enable two persons to carry the machines if necessary.

The 634 is described as a professional machine of particularly high performance. The elegant appearance is seen in our illustration right, which shows the Wearite deck incorporated.

It features two completely separate transistorised amplifiers for record and replay, with mixing and monitoring facilities provided. Other features include automatic frequency correction if a speed change is made, a built-in 9 x 5 inch elliptical speaker unit, straight-through amplification mode, superimposition and meter recording level indicator.

The tape speeds are $7\frac{1}{2}$ and $3\frac{3}{4}$ ips with a quoted frequency response of 50-15,000 cps \pm 3 dB at $7\frac{1}{2}$ ips, and 50-9,000 cps at $3\frac{3}{4}$ ips.

Three input and three output sockets are provided. Other features include an automatic tape end stop switch, pause control, digital rev. counter, three heads, and accommodation for $8\frac{1}{4}$ -inch spools. Rewind speed for 1,750 ft. of tape is given as less than one minute.

The Type 635 has specifications identical to the Wearite model, but features a Truvox deck. Push-button operation is provided on this model, plus an interlock feature when the machine is in the "record" mode. Three motors, balanced heavy flywheel, separate precision ground drive pulleys for each speed, and disengaged in the "off" position are additional features.

Delivery for either model is not expected until mid-October, by which time we hope to have a model for review. The price of the TR634 is 103 guineas, and the 635 costs 86 guineas.

THIRD of the higher-priced models, for the first time, was shown on the Philips stand.

This is the 92-guinea EL3534 four-speed stereo tape recorder which replaces the model EL3536. Eight hours play with a seven-inch reel of double-play tape are provided using the ultra-slow speed of $15/16$ th ips.

Among the many features are facilities for monitoring, and mixing, automatic tape and stop, inputs for microphone radio and pick-up, and provision for straight-through amplification for mono and stereo: outputs for extension loudspeaker, headphones, or radio sets are also provided.

One unique feature is the provision for "Multiplay." This enables the production of several sounds after each other, combining them on one sound-track, and reproducing them all together.

An all-transistor amplifier is incorporated, allowing instant use without the need for the usual warming-up process and preventing any over-heating of the machine.

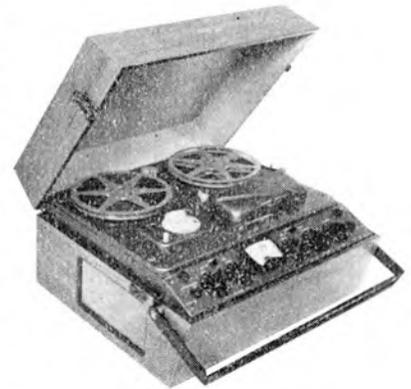
Two 7 x 5 inch elliptical loudspeakers are included, providing an output of three watts per channel.

Housed in a wooden cabinet covered with P.V.C. foil, and with a detachable lid, the EL3534 measures $18\frac{1}{2}$ x 15 x $8\frac{1}{2}$ inches and weighs 43 lbs.

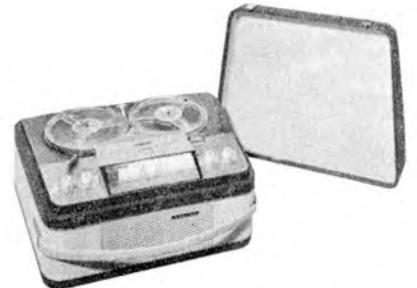
FERRANTI introduced a new model this year, a four-track version of the model TR1044 which was shown last year for the first time. The new model is the RT1069, illustrated on this page.

A B.S.R. Type TD2 deck with a single speed of $3\frac{3}{4}$ ips is incorporated. This will accommodate $5\frac{1}{4}$ -inch spools, providing a playing time of 45 minutes per track using standard-play tape.

(Continued on page 21)



CLARKE AND SMITH
MODEL 634
Wearite deck



PHILIPS EL3534
Unique "Multi-play"



FERRANTI RT1069
Four-track model

'BELTING UP'

AS my rather impolite title indicates, we have won enough space to allow a discussion of that vexing problem, the broken or slipping belt.

It seems, from a quick perusal of the mailbag, that this is a matter that worries a fair number of readers—and this is surprising. In the average service engineer's day, belt trouble is not the most frequent fault encountered. Although, on some machines, it can be one of the most awkward.

This may be because many of our customers are not so well versed in the "running repairs" of their tape recorders as are readers of *TAPE Recording Magazine*. They bring or send their machines for such trivia as dirty heads, twisted tapes or pressure pad adjustment.

For the same reason, the preponderance of "belt queries" in our postbag may be due to the deterring sight of the underside of one's deck rather than the frequency with which these faults occur. So, for the benefit of several unfortunates who have experienced a breakdown and can't see for the life of 'em how the darn things are put on (I paraphrase), let us study a few belt layout diagrams and unravel a few of their secrets.

Walter 303 DeLuxe. *First call to Mr. J. P. R. of Tavistock, who has obtained a new belt for his Walter 303 and cannot see how to fit it without a full-scale dismantling operation.*

I sympathise with you, J. P. R.—and congratulate you also, on obtaining a spare part that is now becoming difficult to order. At first sight, the Walter deck does look as if the designer did not intend that the belt should ever be replaced. But there is a fairly easy method, once you know it. And the secret is—a buttonhook!

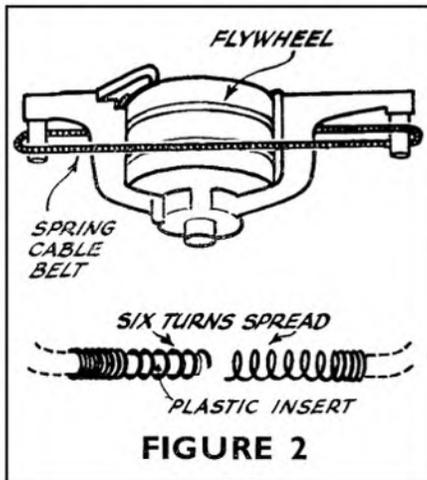


FIGURE 2

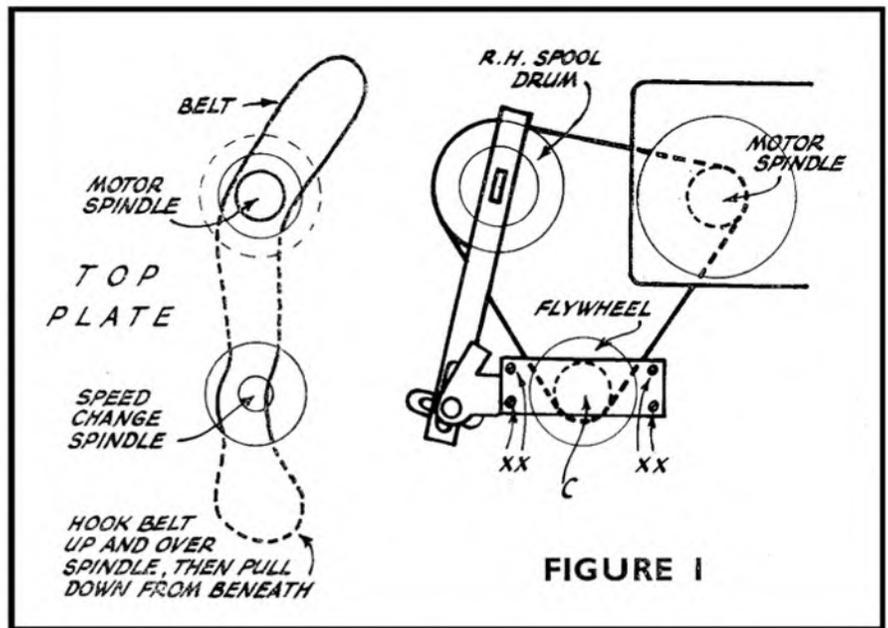


FIGURE 1

This handy instrument is used to hook the belt up through the speed-change knob clearance hole in the top of the deck and over the spindle. Referring to Fig. 1, the complete procedure is as follows:

(a) With machine disconnected, switch to "Fast Reverse" and $3\frac{1}{2}$ ips. Remove spools, knobs, top-plate, and bottom.

(b) Insert new belt through motor spindle hole, draw it through speed-change knob clearance hole and lift over spindle. Allow belt to sit around top groove of motor pulley and take up slack from bottom of machine. N.B.: a small piece of Sellotape will hold the belt in place around the motor pulley temporarily. Don't forget to remove it when the operation is completed.

(c) Turn machine on face. Remove the four screws (X) that secure the flywheel assembly and the capstan bracket (C).

(d) Withdraw flywheel, and fit belt. During this move, take care that the capstan spindle is not strained and that the joystick does not foul the setting plates or levers. Gently does it!

(e) Reassemble flywheel and capstan bracket and feed belt between the end of the clutch spindle of the right-hand drum (left-hand in diagram—machine inverted) and the phosphor-bronze spring on the lever. In the "Fast Reverse" function there should be just enough clearance for this. Let the belt settle around the drum.

(f) Tighten the capstan bracket, ensuring that the flywheel is free in its bearing, remove the piece of Sellotape and you are ready to go.

Points to observe, also applicable to all belt jobs, whether plastic, rubber or spring, are not to stretch unduly and to avoid grease and oil being transferred to the belt from flywheel bearings, etc.

Philips AG8107. *Mention of spring belts reminds me of W. B.'s query, from Penzance. He has a Philips AG8107 on which a new belt was recently fitted and he is now experiencing a knock that "appears to be caused by the belt joint."*

No doubt this was due to a clumsily made joint rubbing on the flywheel casting. The belt on this long-service model (released December, 1956, and still going strong) is a long coiled spring, threaded in the manner of Fig. 2, and joined by what can best be described as a "spiral splice."

The secret is to slightly open the last six turns of each end of the spring, insert the plastic guide piece into one end, unscrew the other end against the torsion of the spring and allow it to screw itself turn for turn over the guide piece. The final result is six interwoven turns—and no lump. Care must be taken not to overstretch the spring, or squash the circular shape of the ends.

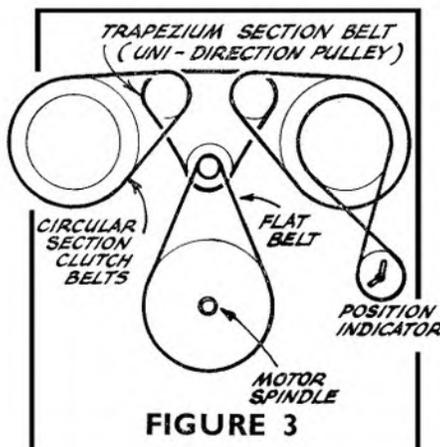
To make this joint without the bugbear of tension, simply slip the belt down to the stop-plates of the pulleys, when enough slack can be gained to work in comfort.

When threading the belt, lay the uncased machine on its back, pass the belt from left to right in the top slot of the flywheel, clockwise around the right-hand pulley, back around the other side of the flywheel in the bottom slot and anticlockwise around the left-hand pulley. Refer Fig. 2.

More advice in our

SERVICE BUREAU

by Harry Mack



No doubt, W. B. will find that the joint has to be made. The great advantage of this cable spring type of drive is that it can be stretched overall. Thus, a half-inch can be cut off the end to make a fresh joint and the extra tension will be absorbed by the stretch in the belt.

Grundig TK9 and TK12. From Clapham comes a plea for information on the Grundig belt system as used in the TK9 machine, one of which L.W.A. has purchased second hand.

Not much information was given by L. W. A. in his letter, but it is strongly suspected that this machine lay in disuse for some time and now suffers from stretched and hardened belts.

This is a common fault with belts made of thermo-plastic material, and is easily cured by the gentle application of heat. Personal method is to remove the belts altogether, let them soak in a bowl of fairly hot water, dry thoroughly, replace and run the machine for a while. Fig. 3 shows the assembly.

If the hardening is not too severe, it is possible to mould the belts back into shape and inflexibility by allowing the tape recorder to run in the "Fast Wind" position, unloaded, for an hour or so.

As for the question about "alternative belts," I presume you mean replacements from other Grundig machines, L. W. A.

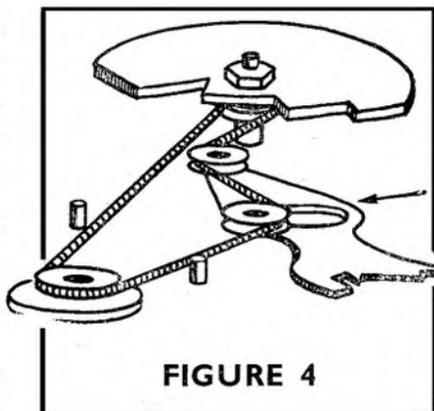
The only alternative I know is the position counter belt, the 2 mm type, part No. 128/222, which is also used on the TK30, 35, 55, 60, 819, 820 and 830. I sincerely hope you do not mean the sort of thing we saw in the Grundig "Black Museum"—old garters, the tops of preserving jars and sundry elastic bands taken from machines returned to the factory for repair.

Steelman Transita 2-711. An unusual one was reported by H. O'H., Manchester. He has an intermittent failure of take-up action.

Although this is really the subject of our last article—"Spillage"—the cause is likely to be a weak spring belt, and appropriate to our present discussion. In its worst form, both take-up and fast forward action are lost.

Replacing the belt can be a bit awkward, and care must be taken when feeding around the tightener pulleys not to stretch the spring. Fig. 4 shows the positioning of this belt. Care must be taken to ensure that the tightener pulley is quite free, that the slider bracket and its carrier lever are not binding or distorted.

When all goes well, this is an excellent little machine. But if the latter lever is clumsily handled during servicing, you are likely to have enough faults, H. O'H. to last you a fortnight.



RADIO SHOW

(Continued from page 19)

Among the features is an output of 2½ watts through the built-in 7 x 4 inch speaker (3 watts for an external unit), and a magic eye recording level indicator.

An Acos Mic 40 and reel of long-play tape is included in the price of 32 guineas.

Tape Recorders (Electronics) Ltd. released eight new models at the Radio Show. Four of these represent the Slimline range of single and three-speed twin-track recorders with four-track versions of each. Their Riviera range is complemented by a new version of single and three-speed, twin-track models also with four-track versions.

Their Slimline range comprises the Three-Two recorder at 40 guineas and the Three-Four at 45 guineas. These models incorporate the Collaro Studio deck, with the speeds of 7½, 3½ and 1½ ips. Push-button operation is included together with facilities for superimposition, mixing, monitoring, and straight-through amplification.

Over 3½ watts output is claimed, and using seven-inch spools of standard-play tape a playing time of just over two hours per track is available. The four-track version also has stereo playback facilities.

Operating at 3½ ips only are the Slimline One-Two and One-Four models. These feature the B.S.R. Monardeck and are priced respectively at 32 and 37 guineas.

Again in two and four-track versions, this model provides 45 minutes' playing time per track using a 5½-inch reel of standard-play tape. Facilities are provided for loudspeakers, monitoring, mixing, superimposition and straight-through amplification. A magic eye recording level indicator, is included, and over 3½ watts output is claimed.

The Riviera range includes the two-track Sound Riviera, price 22 guineas, and the De-Luxe version, available for an extra three guineas, with four-track operation.

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INTERVIEWING



Rather distant balance (above) may or may not be good—this depends on voice quality, background sound, etc. Indoors, it would very likely give an unpleasant boomy or resonant acoustic (using an omni-directional microphone). This balance is, on the whole, more likely to be satisfactory where the eye takes precedence over the ear—i.e. for TV.

Studio conditions (below) ensure perfection of technical quality, but will introduce a somewhat formal element into the proceedings, as the speakers sit on each side of, and probably not less than two feet from, the (bi-directional) ribbon.

(BBC Photos—Local Broadcasting Experiment)



Sooner or later, every recording enthusiast tries his hand at serious interviewing. It is not as easy as it seems! Below an experienced B.B.C. producer, ALEC NISBETT, offers some practical advice.

THERE are two types of interview: the first of these is for straight news. The interviewee is at this particular moment in time uniquely able to provide the answer to the basic news questions: who, what, why, where, when, how?

The ability to ask these questions in the right order, to build a story from the headline down, is a rare skill. The newspaper reporter has the advantage that he can reconstruct his interview as he writes it, to ensure that news values as well as facts are expressed by what goes at the top of the column. The radio newsreel interviewer, on the other hand, has a "column" which is maybe 1½-3 minutes long, and he has to fill it with the right questions and the right answers, in the right order and at the right length, so that if possible no editing need be done apart from the selection of in and out cues. The interviewer must be well briefed, must have his questions ready, but must be prepared to ask "supplementaries" or follow a different line if this opens up in the course of the interview.

Another type of interview is that which goes some way beyond the basic questions of the journalist. This second type of interview is sometimes called the "interview in depth" and is intended to indicate more of the personality of the interviewee than does a simple news interview. Here some of the questioning is off the central issue and probes the background of it, so that when seen in perspective the important facts have greater meaning.

Naturally, these two types of interview overlap. However, there is a subsection of this second category which gets us well away from the orthodox news interview. This is the case where a "depth" interview is deliberately recorded at a greater length than will fit the available "spot" and is subsequently edited to length and shape. Before doing this one should, of course, ask the permission of the interviewee, but I have yet to meet anyone who has insisted on all-or-nothing. In my experience most people are very humble about their performance at the microphone and are rather relieved that a certain amount of editing will be done.

In preparing programmes for America during the last eighteen months, most of my work has been with this last sort of interview. And whereas I have not become an expert interviewer myself (far from it) I

have learned enough to know where this sort of work can go wrong and to brief the interviewers who work with me.

WHY INTERVIEW?

The first thing to do is to decide on the aim of the finished programme. Is it to discuss a particular idea, either to give information about it, or to comment on it, or to reflect opposing opinions about it? Is it to create a portrait of a particular personality? Or is it perhaps to be combinations of the two—to present a particular idea as seen through the eyes of a particular person?

Of the three, the last is the simplest and most satisfactory basis for an interview. Given that sufficient programme time is available for expression of the idea, a carefully directed (or edited) discussion should bring it out in a form which is easily assimilated by the listener, and the interviewee will reveal himself a great deal more readily than he would in a scripted talk (which in many cases will reveal only that he has literary aspirations but limited histrionic powers—facts which are rarely relevant to the main issue).

The portrait of a personality is more difficult, and I'd much prefer to turn this into a personality-plus-idea spot before setting out on the interview. I hate "star" interviews when they revolve around such questions as "Tell me about your latest film," "What do you think of England?" "What's it like working with so-and-so?" or "What's it like to be rich and famous?" unless any of these actually produce answers which are not smooth, pat, all-you-nice-people clichés. As a matter of fact these questions can be very relevant, in which case there may be a way of asking them which will produce a real answer. But on the whole there must be something I really want to know about a person's opinion or experience—that isn't already common knowledge—before I decide on the interview. If a person is genuinely interesting (and not just a Public Relations man's promotion) a reason for interviewing him will crop up sooner or later. It may provide the solution in the remaining category of programme, that which is based originally on an idea. Putting together personality and idea, when both had previously been thought of separately, often produces excellent results.

When something starts out as an idea on its own it may be that an interview is not the appropriate way of expressing it in the available time: for example, a brief to comment on the progress of L.C.C. Comprehensive Schools, for an American audience, in three minutes maximum, is unlikely to be filled by an interview. It will take so



long to explain what a comprehensive school is and how it differs from other schools that there will be no time for the interview—a straight report would be better (if the feat must be attempted at all). But if an interview is suitable, the “personality” solution will often be inappropriate. Then, the problem is *who* to interview.

WHO TO INTERVIEW

Here, of course, the professional has all the advantages. There are limits, but these are set high. In practice, I can approach pretty well any private individual with a reasonable hope that he will be prepared to help. But where the subject is concerned with the work of some organisation, the organisation often wishes to decide who shall talk and who not—and since the most effective interviewee is not always the best qualified or most senior it is sometimes a matter of some delicacy getting acceptable results.

My own difficulties in broadcasting to an overseas audience are more than most: a much wider range of voices is unacceptable than with a home audience. For a start, strong regional accents are likely to be unintelligible. For example broad Cornish dialect or the broadest Norfolk are practically impossible to understand by non-residents of those two counties, so abroad they will simply bewilder. The other sort of accent that cannot be used is the affected elocution-gone-wrong mouth-full-of-plums tone that any American or Australian will laugh off the air—and rightly so. Any genuine regional accent, if intelligible, is infinitely preferable. Certain accents which are regarded as middle class also fall into the “unacceptable” category.

Often “difficult” cases include people who cannot talk into a microphone in anything but the most complex technical jargon (some Americans are themselves all too good at this), or people who speak only in clichés—a fault which is often accompanied by extreme deliberation. (Some men carry a service rank into civilian life: while the bearer may turn out to have a perfectly acceptable voice and manner, it is—as the doctors say—a contra-indication.) Another

● A close microphone balance is best when using an omnidirectional microphone—say six inches from the mouth and, if necessary, moving backwards and forwards between question and answer. While nominally omnidirectional, certain microphones (particularly those with large casings) may have polar characteristics which make it necessary to angle individually for each voice in turn. Anything louder than the lightest background should be avoided in an unmonitored recording (party effects, for example, can be recorded separately and mixed in afterwards). Backgrounds are always much heavier than they seem.

(Photo by Rolls Royce: Recording for BBC North American and General Overseas Service programme: “Portrait of Derby.” Interviewer, Colin Wills; producer, Alec Nisbett)

important category of difficult speakers—for me—has been Americans-in-England.

Americans abroad are so polite that they can sing the praises of England for as long as you care to hold a microphone in front of them. And even if the praise is deserved it will mean nothing more to listeners back home than “How do you do?”—which leads me to the odd conclusion that if the idea reflects credit to Britain an interviewee-voice which says so must be British.

A manner of accent which would be unsuitable in the interviewed is even more unacceptable in an interviewer. I know only too well that an interest in tapes and tape recording does not necessarily go with a winning voice at the microphone. No recordist should accept without question the cheerful reassurance of friends and relations that “That sounds fine—good as the radio.” When I do any interviewing myself I find that comparison with the work of experts is both chastening and stimulating.

HOW TO GO ABOUT IT

I start by ringing up my “victim.” This is preferable to writing a polite letter, for several reasons: it gets things moving; it

establishes a pleasant informal relationship from the start and also allows me to “audition” the voice for gross faults and to estimate how much I will want to use in relation to the programme as a whole (though telephone and microphone voices can turn out to be very different). Besides this, I can make the important point that nothing should be prepared—and certainly not a script.

If by any mischance, the interviewee has prepared a script by the time I meet him, I try to persuade him not to use it—though, naturally, I read it through to check against the questions I had been intending to ask. Since I will almost certainly have chosen my interviewee for the answers that he can give *without* looking anything up, a script will only get in the way. Its psychological support should be replaced by the assurance that any slips or loss of the thread can be corrected by editing. The knowledge that he can trust the interviewer in this way, can in any case go a long way towards curing nervousness about questions for which he feels he may not be prepared.

The interviewer must do his “homework,” the more so if the subject is at all technical or unfamiliar: he should be able to ask sensible questions. Scientists, for example, get particularly irritated by being asked questions which are off-beam: it’s difficult enough giving a simple answer without having to start off by reconstructing the question to make it relevant. Even with the homework done, the questions may not be the ones the interviewer would choose if he knew as much about it as the interviewee. Of course, full discussion before the take would ensure that there would be no misunderstandings—but it would also flatten and dull the effect. So it’s better to keep the preliminary chat down to the minimum.

After replaying my own interviews on complex subjects I often find that the answers follow a slightly more relevant line than the questions: so that by editing I can avoid confusing the listener by incorrect signposts. In cutting to shape I may finally reject most of a line I plugged away at, concentrating the listener’s attention instead on an answer or turn of phrase which went by almost unnoticed in the interview, but which carries real weight or suddenly illuminates both the subject and the speaker. Not all the careful scripting in the world can do the work of an unusual and surprising turn of phrase or slightly inappropriate word which can turn up in real conversation. When a pop-singer is telling an archbishop what’s wrong with hymns, and suddenly adds “. . . and the lyrics!” this is something which belongs to the personality of the speaker, and puts across his point more effectively than any scripted alternative would. A good interview is the sum of such moments. And when an interview has to be cut for time these are the seconds which are least dispensable.

Although I do little of my own interviewing, I am, whenever possible, present at the interview, whether this is in a studio or out and about. This procedure allows me the opportunity of studying the interviewee to see how the microphone changes his manner and even his words. I want to get an impression of his personality which even a complete unedited interview of a natural speaker may not give. And then, when I edit, I have something to seek to re-create, and an interest in working towards it.

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TAPE RECORDS REVIEWED

Tape records are being issued in larger numbers than ever before and several firms have plans to increase output further. The fullest, most authoritative reviews of the new issues, as they appear, will be printed here. Edward Greenfield, the recorded music critic of *The Guardian*, is responsible for our coverage of classical music, and Don Wedge, of *New Musical Express*, for the popular music.



DON WEDGE

listens to the new Pops issues

COLLABORATION! The Johnny Dankworth Orchestra and the London Philharmonic Orchestra (conducted by Hugo Rignold). Saga (STE 3056), 7½ ips, stereo 63s.; STG 8059 3½ ips, mono. 32s. 6d.

The attempts at combining classical music and modern big-band jazz made by Johnny Dankworth and the late Matyas Seiber in 1959 were historic. After the few public performances of the Seiber-Dankworth "Improvisations for Jazz Band and Symphony Orchestra" it was put on record.

It was issued at the time by the original Saga company and is now available again through its successor.

The piece is heavy listening, but very rewarding. Most previous tries at welding together the two media produced bad classical music and even worse jazz.

Here the result is very encouraging. The symphonic part is used as a dramatic backcloth for the solos of the Dankworth jazzmen. In these new pastures, they forge a path which critics two decades hence will still applaud.

Included on the record, too, is Stravinsky's *Ebony Concerto* originally written for the Woody Herman band and played by the Dankworth orchestra which also joins the LPO for two more pace-making contributions to the classical-jazz link: *Rendezvous* and *A Rondo for Jazz Soloists and Symphony Orchestra*, the work of arranger Dave Lindup and Leonard Salzedo.

This is a case of the stereo version being well worth the extra expense. The mono captures the performance, of course, but dynamics are an important part of these works and are considerably more truly captured in stereo.

LIVING PERCUSSION. The New York Percussion Trio. Esoteric, STVX 4257401. 3½ ips, stereo (four-track) 19s. 6d.

This is a midget tape—with a lot of sound crammed into a small footage at 3½ ips, four-track. The smallest record I have ever been asked to review, it is an interesting novelty, but no more. By

means of over-dubbing, four American musicians produce a dazzling collection of percussive sounds.

As an example of virtuosity, it would have settled better on my ears if put in a framework of some sort of orchestra rather than being so isolated.

YOU MAKE ME FEEL SO YOUNG. Nancy Wright. Saga (STG 8056), 3½ ips, mono. 32s. 6d.

A collection of very good songs—rather better than the singer. Miss Wright is an experienced American cabaret practitioner and, no doubt, successful, but her voice is not very suited to the numbers she chose to record.

There is a swinging accompaniment, by Caesar Giovannini, which is subdued—I would like to have heard more.

The best track: *I hear Music*, which Miss Wright belts and overcomes most of the vocal shortcomings.

SILK SATIN & STRINGS. The Radiant Velvet Orchestra directed by Caesar Giovannini. Saga (STE 3053), 7½ ips, stereo. 63s.

What I said when previously reviewing this record in mono is amplified many times now there is the added sound of stereo.

Giovannini's sweeping strings gain tremendously in lustre. All the songs are very well known. It includes my personal favourite, *Laura*—and as a collector of "Laura's" this arrangement is among the very best.

There is little deliberate separation, in the gimmick sense, but the overall sound is magnificent.

LET'S SWING. Wendell Tracy and his Orchestra. Saga (STE 3063), 7½ ips, stereo. 63s.

I wrote praisingly about the mono version of this record as recently as July. A dance band usually has less to offer stereo than a string orchestra. But this Tracy band is a swinging outfit and is here heard for most of the time in powerhouse cry.

There is an excellent example of separation during a trumpet solo in

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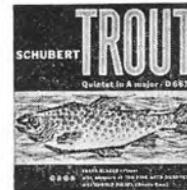
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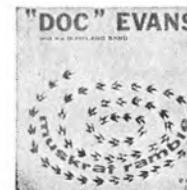
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Gotham Jump but it is as a combination that this band is most successful.

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FAVOURITE SHOW TUNES. Sorkin Strings. *Saga* (STE 3057), 7½ ips, stereo. 63s.

A good tune cannot be recorded too many times—that seems to be the opinion of the manufacturers. Almost everything I have listened to this month has been recorded at least a hundred times. *If There is Someone Lovelier than You*, one of the best numbers on this tape, is rare.

The Sorkin Strings rely a great deal on cellos—more than most orchestras. It makes a change, but is not as mellow as it could have been and the overall sound is rather tepid.

NAT "KING" COLE SINGS MORE FAVOURITES. World Record Club. (TT 169), 3½ ips, mono. 29s.

This is a delightful record. A major singing star in a set of songs, all good and several of them among his biggest hits. They were recorded more than a

decade ago, and—unusually for a name artist—these are no longer available on disc, I suspect.

Age does not wither in any way as far as Cole is concerned. Although he celebrated 25 years in show business in August, his voice has not deteriorated (or improved, for that matter) like, say, Frank Sinatra's.

The accompaniment does sound old. Nearly all the backings are by dance bands, whereas today strings and choirs are present on many of his sessions.

An extra bonus is the final track, *Three Little Words* which is a feature for a swinging, effervescent piano from Cole—with no singing. (He began as a pianist, of course, and still plays during a long act). On this, the bass is under-recorded—another sign of age, for today I am sure it would have been heard more prominently.

It is as a vocalist though that Nat Cole has his biggest following. I was grateful to re-discover *I'll Never say Never Again*. You may prefer *Funny, Little Boy That Santa Claus Forgot*, *Weaver of Dreams* or *Lush Life*. I like them all.

made by his friend and finest interpreter, Sir Adrian Boult, provides a definitive and most persuasive performance.

The delightful slow coda to the first movement with its violin solo harks back to the early Vaughan Williams of the "Lark Ascending," and then the second movement begins with a typical quirk of the later Vaughan Williams, a strange solo on the flugel-horn, marked to be played without vibrato and with strange oriental-sounding interruptions from the rest of the orchestra.

The recording keeps up World Records' very high standard of mono 3½ ips tapes, but this is not the most brilliant recording from the Everest source. My one complaint about the issue is the absence of programme-note.

PROKOFIEV Symphony No. 5. London Symphony Orchestra conducted by Sir Malcolm Sargent. World Record Club (TCM 29), 3½ ips, mono. 29s.

This is the most Tchaikovskian of Prokofiev's symphonies, with passion, broad expansive melodies and a genuine Russian flavour. Unlike the little Classical Symphony written during Prokofiev's years of exile from Russia, this is not, however, a deliberate imitation of an earlier composer, and the work remains highly typical of Prokofiev in every bar, destined I imagine to become one of the most enduring of twentieth century symphonies.

Sargent's performance, I am afraid, does not bring out the passion, as some disc versions do, and for once the London Symphony Orchestra sounds a little dispirited. But the recording is very good, and some may actually prefer the underplaying.

ELGAR "ENIGMA" VARIATIONS. Introduction and Allegro for Strings. London Philharmonic Orchestra conducted by Sir Adrian Boult. World Record Club (TT 158), 3½ ips, mono. 29s.

It is astonishing that Boult, still unquestionably the greatest interpreter of Elgar, has had to wait till now to replace his ancient recording on 78 rpm discs. His interpretation has changed. As I remember the scratchy old 78s the performance with the old BBC Symphony Orchestra was brisk but grand at the same time.

Whether through the effects of mellowing age or merely a temporary mood at the time of the recording this is a restrained performance. The speeds are very much on the slow side, and even in the two great climaxes of the *Nimrod* Variation—surely one of the most expansively beautiful melodies ever written—and the final variation representing Elgar himself, Boult keeps his forces back a little. This disappointed me at first, but several hearings have convinced me how satisfying this performance is.

The Introduction and Allegro for Strings, another assured masterpiece of Elgar's, is a splendid companion-piece. Apart from overtures and incidental pieces there are few concert works of this length (about 15 minutes) and Elgar's supreme success in moulding a balanced form of his own makes it surprising other composers do not follow his example.

The recording is splendid—like the performance not inflated, but warm and clear at the same time.



EDWARD GREENFIELD

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CHORAL CLASSICS. Vaughan Williams "In Windsor Forest"; Stanford *Te Deum* in B flat; Parry "Jerusalem"; Mendelssohn "Hear my Prayer"; Brahms "How lovely is Thy Dwelling-place"; Mozart "Ave Verum Corpus." Elsie Morison, the Bach Choir and Jacques Orchestra conducted by Dr. Reginald Jacques. World Record Club (SIT 53), 7½ ips stereo. Playing time 45 mins. £3.

When Dr. Reginald Jacques retired a couple of years back World Records had the enterprise to record him with the choir and orchestra which he had made famous. The programme chosen for this farewell was ideal—a combination of choral favourites with a delightful and rarely heard cantata by Vaughan Williams, *In Windsor Forest*.

It is in fact a selection of separate items from Vaughan Williams' opera based on Shakespeare's "Merry Wives of Windsor" and called "Sir John in Love."

The Cantata begins with a captivating setting of "Sigh no more, ladies" for women's voices with delightful play on the "hey-nony-nony" ending of each stanza. There follows a rollicking drinking song for the men, a piece called "Falstaff and the Fairies" for soprano solo and chorus, a wedding chorus and an epilogue, with one of those rousing and beautiful melodies that are typical of the composer.

The Stanford *Te Deum* loses a great deal in atmosphere from not having a church setting. This is a little plodding and Parry's *Jerusalem* too does not out-rouse the blood as it should. Elsie Morison sings Mendelssohn's *Hear my Prayer* most beautifully though many will miss having a boy's voice. I per-

sonally prefer the security of a soprano as fine as Elsie Morison. The other two choruses are both devotionally done in the old Jacques manner.

But attractive as the tape is, it would be even more so had the recording been sharper-edged. In the original disc version there were some obvious patches of distortion where the chorus tended to blast. The tape, I think, is rather better, but the improvement seems to have been achieved at least in part by a cutting down of the frequency range. The stereo adds atmosphere, and so many listeners I am sure will be able to put up with a fairly low ceiling: a nice mellow sound without any suspicion of brilliance.

VAUGHAN WILLIAMS Symphony No. 9. London Philharmonic Orchestra conducted by Sir Adrian Boult. World Record Club (T 144), 3½ ips, mono. 29s.

As late as the war, few would have given Vaughan Williams much chance of completing a cycle of nine symphonies, yet after his 75th year he suddenly seemed to take on a lease of creative life, and this, his final symphony was completed at the age of 84, less than a year before he died.

In all honesty it is not Vaughan Williams' greatest symphony. At times, particularly in the first movement, he seems to be striving after a rather grandiose manner without providing a profound enough argument to go with it. I personally much prefer the lighter and less pretentious Eighth Symphony, but if to my mind the overall structure is too loose, there are still many moments, often beautiful, which only Vaughan Williams could have created, and this recording

TAPE RECORDING SIMPLIFIED

At some time or other, the thoughts of the reader who uses his tape recorder as a serious medium for listening to music, will have turned to how and why this phenomenon occurs. He will most likely have dismissed the answers and decided that the whole procedure is to say the least complicated. It is! Let me attempt to clarify these thoughts:—

The whole object when recording sound is to reproduce the original as closely as possible. The frequency range of amplifying equipment should be such, that all the notes reproduced are of the same uniform volume irrespective of frequency, provided the input of all notes to the equipment is of equal volume at all frequencies. This is the basis of normal sound reproduction.

With this as a starting point we will see how these results are obstructed and overcome in a good commercial instrument.

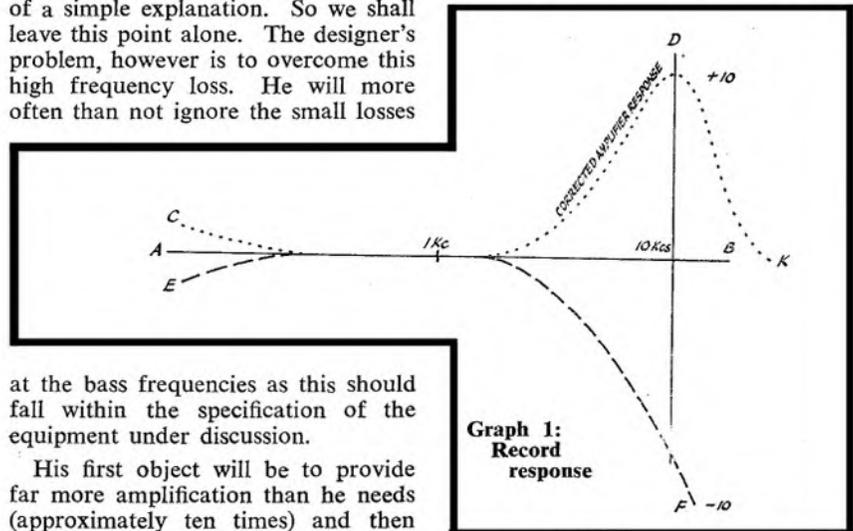
The first thing we shall want to do is record the signal on to the tape.

We will assume all input frequencies are of equal volume.

The main obstruction is the failure to record the high frequency notes and is shown on GRAPH 1—line EF. This failure is due mainly to self-demagnetisation. This in itself is far too complicated to give any semblance of a simple explanation. So we shall leave this point alone. The designer's problem, however is to overcome this high frequency loss. He will more often than not ignore the small losses

The resultant recorded signal should then be as required, line AB.

However, to replay this recorded signal is a little more complicated. The designer is once again faced with heavy losses at low frequencies, complicated losses at high frequencies and a severe brain storm, GRAPH 2, line

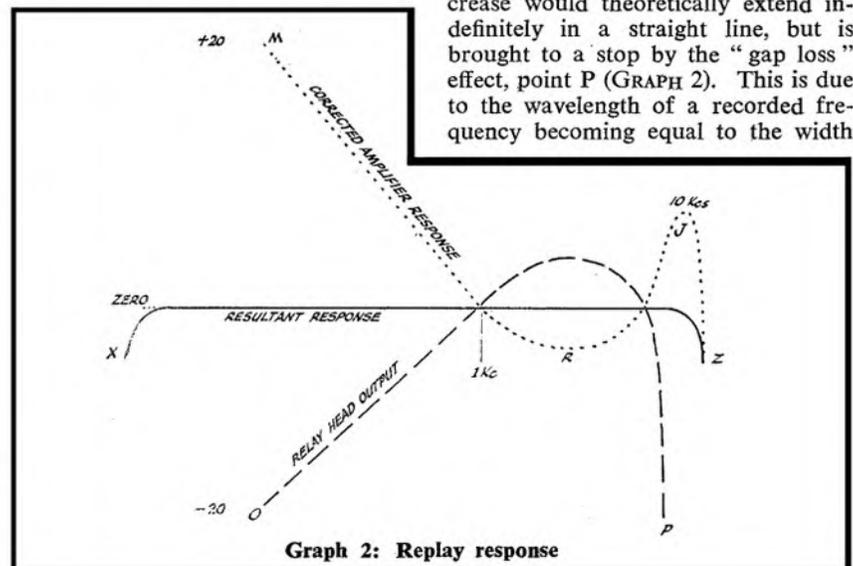


Graph 1: Record response

at the bass frequencies as this should fall within the specification of the equipment under discussion.

His first object will be to provide far more amplification than he needs (approximately ten times) and then reduce all the lower frequencies until the amplifier response is as near line CD as possible, GRAPH 1. One method of achieving this is by circuit G1.

OP. The low frequency loss is due to the voltage output from a torroid (replay) head increasing twice every time the frequency is doubled. This increase would theoretically extend indefinitely in a straight line, but is brought to a stop by the "gap loss" effect, point P (GRAPH 2). This is due to the wavelength of a recorded frequency becoming equal to the width



Graph 2: Replay response

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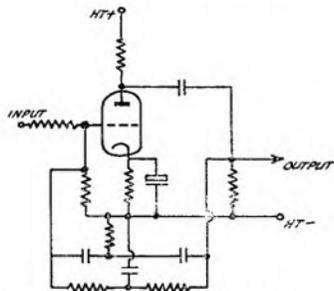
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of the minute gap in the replay head. At this frequency the output is theoretically zero. This is relative to the speed of the tape, the faster the tape passes the head the higher the frequency of zero output, hence better



Circuit for Graph 1 record response

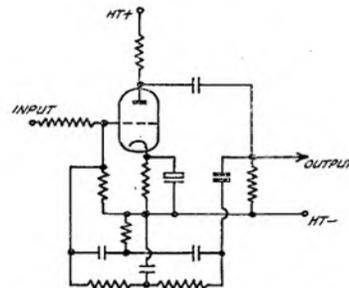
high frequency response at higher speeds, or alternatively, the smaller the gap at the same speed, the higher the

frequency of zero output. Zero output is shown by point P, GRAPH 2.

Again, far more amplification than under normal circumstances is required, approximately 20 times. (All losses and gains are referred to level volume at 1 kc.). A rather peculiar dent (point R) is then punched into the amplifier frequency response at the middle frequencies with the hope that line MRJZ, GRAPH 2, will be the result, XZ should then be the resultant replay response.

This once again can be achieved by various arrangements, one of which is shown: Circuit H 1.

As you will see in GRAPH 2, line MRJZ, the replay amplifier is capable of coping with the bass losses, but the treble losses can only be partially overcome, point J, due to the amount of amplification available and the high background noise that would result if



Circuit for Graph 2 replay response

this frequency were boosted further.

These few words should give a surface knowledge of a few of the problems and some of the cures in magnetic recording. Matters do not end here by any stretch of the imagination. And a more basic technical knowledge would be required to make a thorough detailed study of all the intricacies involved.



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But now we have the Grundig TK40, and this recorder really has everything! This machine has obviously been designed for the real enthusiast and provides all the features necessary for making first class serious recordings.

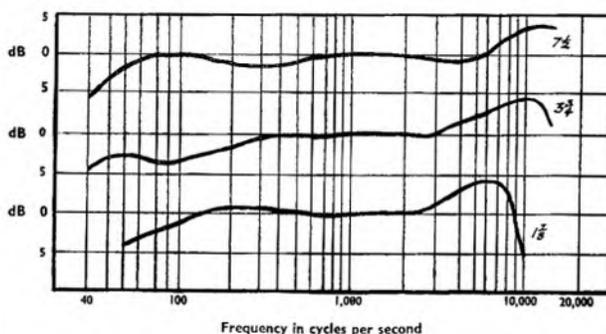
Among these features I would list the following as being of particular interest: Three speeds, $7\frac{1}{2}$, $3\frac{1}{2}$ and $1\frac{1}{2}$ ips; four-track operation; internal loudspeaker monitoring, when required; mixing and superimposition facilities. The machine has an excellent signal-to-noise ratio, for a four-track recorder (better than 48 lbs at $7\frac{1}{2}$ ips) and additional multi-disc clutches to remove tape strain. A

pressure sling which is flexible and maintains even pressure over the whole surface of the head; a first class "inching" control; built in tape cleaner etc.; all these and more have been incorporated into a very attractive plastic covered wood case measuring only 16 x 15 x $7\frac{1}{2}$ inches.

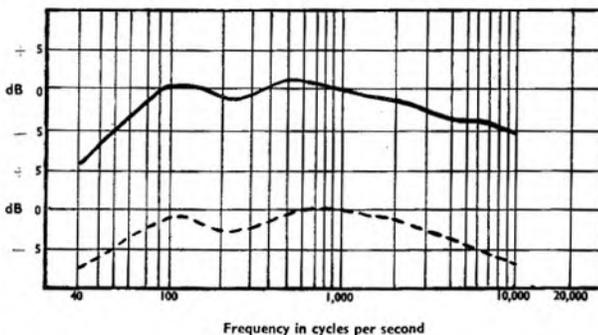
The general styling is similar to the smaller TK14 machine which had a white and two tone grey, plastic covered case, with chrome trims.

As one would expect with a recorder with so many facilities, the controls are bound to be numerous; but the manufacturers have obviously given a great deal of thought to the functioning and layout of these. Five clearly identified push buttons provide control of all tape movements and two additional buttons provide switching for the four tracks. The speed change control and mains "on/off" switch is located on the left of the main group of controls and is of the "edge" type with a "neutral" or "off" position between each speed. A slide lever control provides fast forward and fast rewind and this can also be used as an inching control for exact positioning of the tape for editing.

A flexible fabric band takes the place of the normal pressure pads, for holding the tape against the heads. The manufacturers claim that this maintains a more even pressure over the whole surface of the heads and therefore gives



Record/replay
response
curves of the
Grundig TK 40



Replay only
response
curves of the
Grundig TK 40,
using standard
CCIR test tape

better high frequency response and minimises "drop-out" effects. The tape position indicator, located above the track selector buttons, is of the three position digital type. A novel feature of this is the provision by press button control for immediate zero reset. A twin button at the other end of the keyboard releases the built in tape cleaning pads.

CONTROLS

Immediately in front of the keyboard, are mounted the two sets of dual controls, with functions as follows; record level control for low impedance inputs. This control also has a push-pull action which is the loudspeaker "on/off" switch. The lower half of this control doubles as a playback tone control or monitor volume. To the right of these, is the second dual control, the top half of which adjusts the record level for microphone recording or volume control for playback. The lower half is a switch for selecting microphone or high-impedance inputs. Finally to the right of these, is the pause control, which is held down for a momentary pause or can be locked in position by sliding it forward. This control halts the passage of the tape past the heads whilst leaving the recorder in the switched "on" position.

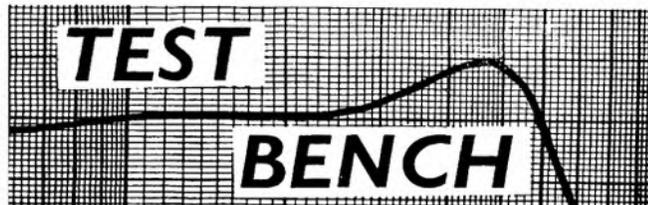
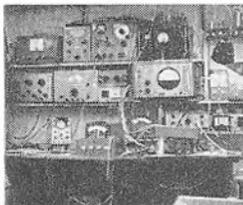
The record level indicator is of the popular "twin beam" type and is mounted conveniently in the front of the dress cover. Two sockets are situated on the extreme right of the top panel; one is the microphone input and the other one provides for the connection of a cine projector. This is a new and very useful feature enabling the enthusiast to record sound for films, or playback a film commentary.

FACILITIES

All the other sockets are mounted on the back of the recorder and apart from the normal high and low impedance input and output connections, provision is made for the connection of accessories such as a remote control unit, monitor amplifier and telephone coupling unit. All these optional accessories are available from the manufacturers.

A recorder of this class, with so many facilities provided, obviously needs a comprehensive and well produced instruction book and this brings me to my first criticism. In my opinion (and also several of my colleagues) the instruction book provided with the recorder is far from adequate. It follows the same pattern as the one provided with the much cheaper TK14 recorder. This consists of a series of photographs of the controls of the recorder with a series of numbers labelling each control. But the numbering sequence was different for each set of instructions so that the same control might have four different numbers depending upon the operation being described.

This method may be ideal for the person buying his first tape recorder, and who might not be so familiar with current terminology as the more experienced enthusiast. The TK40 was obviously designed with the latter in mind, who would I think, prefer the controls to be referred to as they are actually



labelled on the recorder. I think also, that the instructions for fitting the spool of tape, the microphone and radio/pick-up connecting lead should be included in the instruction book instead of being printed on three separate pieces of card and packed separately with each accessory. These separate items could quite easily be thrown away with the packing, or subsequently lost.

During the month or so that I had the use of this recorder, I am pleased to say that I could find no faults with the performance or operation of the deck and its mechanism. The motor used is a Papst external rotor type, ensuring exact and constant drive for the three tape speeds. The results obtained from wow and flutter tests proved to be exceptionally good—flutter was practically non-existent and wow was only slightly noticeable at the lowest speed of $1\frac{1}{2}$ ips. Record/replay frequency response checks were made, using the reel of long play tape supplied with the recorder. The results obtained are shown, plotted in the accompanying graph, and were measured from the low impedance output socket with the tone control set for maximum treble.

The replay only response, was checked using a standard test tape recorded to C.C.I.R. standards. The output was measured at the high impedance outlet socket and the response shows that the playback equalisation does not quite follow the C.C.I.R. characteristic. The tone control provided, however, has sufficient range to enable tapes recorded to this standard to be replayed without much loss of musical balance. But if the output is fed via an external amplifier and speaker, a slight amount of bass and treble lift will be required. Hum and noise level measurements were taken at both the high and low impedance output sockets and were found to be better than those claimed.

The microphone supplied with the recorder, is the Grundig GDM18 moving coil microphone. This was found to give excellent results for speech recordings, due to the fact that the microphone has a falling characteristic below about 300 cps and therefore does not suffer from the booming usually associated with moving coil microphones. Additional subjective tests were carried out by making musical recordings via the diode input connection. Replaying these through the internal speaker gave quite good results, within the limitations of the small speaker and cabinet.

Connection of a good quality external speaker did not bring about an expected improvement of reproduction, in fact the results were very disappointing. Reference to the circuit diagram showed that this is probably due to the fact that no negative feedback is provided over the pentode output stages. Of course, if really first class reproduction is required, the output should be fed to an external amplifier system via the high impedance output socket.

To sum up, I give full marks to the Grundig TK40 for provision of so many facilities; its superb tape handling mechanism; ease of operation; general styling and sound mechanical construction. If you are a serious enthusiast and are contemplating buying a recorder in this class, I would thoroughly recommend the Grundig TK40.

The price is £78 15s.

CORRECTION

We apologise for a printer's error in the Test Bench review of the September issue, concerning the price of the Truvox PD86. This unit is in fact retailing at £63, and not as shown. The specification of one of the valves was also incorrect. The valve used in this instrument is an ECC83, not an ECC81 as stated.



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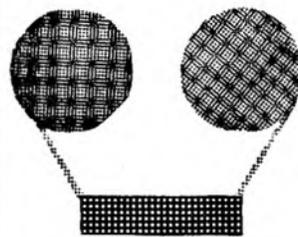
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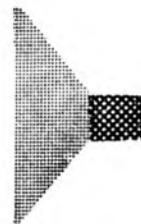
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NEW PRODUCTS



A versatile model

LATEST of the models to be announced by Stereosound Productions Ltd. is the Carousel Unit-Tape.

This is basically a twin-track recorder fitted with a B.S.R. Monardeck. Provision is made in the cabinet for the owner to fit optional extras such as a record-player transcription unit, radio tuner or to store tapes or discs.

The tape recorder section provides a single playing speed of 3½ ips, and accommodation for 5¼-inch spools. This allows a playing time of 64 minutes per track using standard play tape (1,200 ft.).

The quoted frequency response is 60-12,000 cps ±3dB, with the signal-to-noise ratio given as better than 40dB, and the wow and flutter figures stated to be better than 0.4 per cent r.m.s.

A 9 x 5-inch loudspeaker provides an output of 2½ watts, and output sockets are provided for a 15-ohm unit. Use of this mutes the internal unit. A high impedance output is provided, plus a crystal microphone impedance input socket. Facilities are provided for monitoring, with independent adjustment of volume when recording.

The cabinet is a polished walnut veneer with brass fittings, lined sycamore and leathercloth, and the dimensions are 14 x 24 x 31 inches high.

For the owner desiring the record-player fitment, the unit also contains an RC2 auto changer consisting of a Garrard auto-slim unit with GC8 head. This is mounted in a timber structure, the sides of which form two record storage spaces inside the cabinet. The mains supply and pick-up output are plugged into the amplifier (without any soldering) and the unit is fitted to the cabinet by the insertion of two bolts provided. An AM4 Tuner Unit is fitted on the right of the tape deck, using ready-fitted plugs.

The price of the Unit-Tape is



Carousel Radiotape

42 guineas, plus the cost of the individual extra units which are as follows:—RC2 changer, 10½ guineas, AM4 tuner, 8½ guineas, and FM3 tuner 18½ guineas. Other prices are available from the manufacturers.

Stereosound Productions Limited, Capital Works, L2-14, Wakefield Road, Brigg House, Yorkshire.

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A NEW TANDBERG

ELSTONE Electronics Ltd., announce an addition to their range of Tandberg tape recorders. The new model made in Norway, is to be designated the Series 7 stereo recorder.

It is available in two versions, Model 72, two-track, and Model 74, four-track. Three speeds are provided, $7\frac{1}{2}$, $3\frac{3}{4}$, $1\frac{7}{8}$ ips, and it will accommodate seven-inch reels. Playing time available is therefore 64 minutes per track using standard-play tape (1,200 ft.). Fast wind is achieved within two minutes for this length.

Quoted frequency response is 30-20,000 cps (40-16,000 cps ± 2 dB) at $7\frac{1}{2}$ ips; 30-14,000 cps (40-10,000 cps ± 2 dB) at $3\frac{3}{4}$ ips; and 50-7,000 cps (50-5,000 cps ± 2 dB) at $1\frac{7}{8}$ ips. Wow and flutter figures (r.m.s.) are given as within .15 per cent at $7\frac{1}{2}$ ips, .2 per cent at $3\frac{3}{4}$ ips, and .3 per cent at $1\frac{7}{8}$ ips. Signal-to-noise ratio below maximum recording level (five per cent distortion) is quoted as 55 dB for the four-track model, and 58 dB for the Model 72. Cross-talk rejection is stated to be better than 60 dB and better than 70 dB for the Model 74 and Model 72 respectively.

In all other respects the models are identical. They incorporate a number of facilities, including ability to change tape speeds whilst running, recording level indicators, facilities for monitoring, playback on one track whilst recording on another, auto stop operated by tape running out, digital rev. counter, pause control, and a bass boost switch (12 dB at 70 cps).

Inputs are provided for two microphones (1.5 mV r.m.s. 3.3 M ohms; and

two line inputs—adjustable external presets 7 mV to 7 volts r.m.s. Outputs include phono sockets supplying external speakers or hi-fi amplifiers.

A speaker switch selects three positions for (a) internal, two Goodman's 7 x 4 inch ellipticals, (b) internal plus external, and (c) external units only. Two three watts output stages are incorporated.

A combined record/playback head and ferrite core type erase head (minimum erasure 70 dB) are incorporated. The bias and erase frequency is 85,500 cps, distortion five per cent.

Power requirements are 110, 125, 145, 200, 220, and 245 volts, 50 cycles, 85 watts

Motor pulley for 60 cycles at 24s. 0d. extra). The valve line-up includes one ECC82, two ECC83, two ECL 86, two EAM86, two Philips AC107 transistors, and a selenium rectifier 124 mA 250v.

Dual volume controls are fitted. During recording, the upper control knob adjusts the recording level for channel one and the lower control knob operates channel two. These same controls are also used during playback or when switched to straight-through amplification.

Both models are housed in a teak cabinet measuring $15\frac{3}{8}$ x $11\frac{7}{8}$ x $6\frac{3}{4}$ inches. The instrument alone weighs $27\frac{1}{2}$ lb., and with a luggage-type carrying case, $32\frac{1}{2}$ lb.

Both are available at 93 guineas, with the luggage case an optional extra at £7 1s. 8d.

Elstone Electronics Limited, Edward Street, Templar Street, Leeds, 2.

A tape timer unit

SYMPHONY AMPLIFIERS LTD. announce a Tape Timer Unit suitable for use with all existing tape recorders, designed from their experiences with the unit incorporated in their Symphony Automatic recorder.

The new unit will be available in two versions. Model B has both the clock/time switch and process timer, and Model A is without a process timer. They both possess all the normal facilities of

switching on and off at pre-set times any household appliances up to a current load of 13 or 15 amps. Operation is for 200-240 volts, 50 cycles, AC.

Model A contains an electric time unit with a 12-hour dial and two control knobs. These can be selected for setting "on" and "off" times, and the other for selecting automatic "on" and "off"; automatic "off" only, or "manual operation," i.e., automatic switching cut-out. In addition there is a neon indicator and a 13- or 15-amp socket for mains output. Model B is similar but in place of the neon indicator there is a special Process Timer with readings in one minute divisions up to 25 minutes.

Model A can be used with any mains operated recorder, but Model B is suitable for use with recorders such as the new Revox stereo machine, the Telefunken 75, 76, 77, and 85 series, and also by the Stuzzi Tricorder. Both models will take heavy current appliances as well as the tape item.

The various prices of the Symphony Tape Timer units are as follows:—Model A, complete, 10 guineas; Model B, complete, 15 guineas; time switch (round or rectangular), 6 guineas; process timer (0-30 minutes), £6 10s.; and the mounting plate, bare metal, is 10s.

Symphony Amplifiers Limited, 16, King's College Road, London, N.W.3.



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READERS WITH PROBLEMS

AS a newcomer to tape recording I wish to use my machine, among other purposes, for dictation.

I am surprised, however, to find that there appear to be no accessories on the market by which one might adapt an ordinary tape recorder to this end.

I would need (a) a switch that could be operated by one hand whilst holding the microphone in the other, and (b) a foot switch for operation by a typist; or, better still, a foot switch that would serve both purposes.

Even as a complete novice, however, I realise it is not simply a matter of incorporating such switches into the mains lead coming from the machine since it would not then be sufficiently warmed-up either to record or play-back immediately.

I should be pleased, therefore, to learn if other readers have solved this problem and if so, how?

E. CRAVEN.

Flixton, near Manchester.



I WONDER if your readers can help me with a small problem which I have had for some time.

I recorded the Service of the Consecration of Coventry Cathedral; however, the direct recording lead was not screened properly and this produced a whistle on the recording.

If any one who has a recording of this is willing to make it available to me for dubbing, please notify me. I am willing to pay the cost of postage both ways.

I would also like to take this opportunity of saying how much I enjoy reading your magazine and I congratulate you on producing a first-class paper.

PAUL L. NEWMAN.

Aylesbury, Buckinghamshire.



I HAVE an old Scophony Baird Mk. II tape recorder in use in addition to my Vortexion. I wish to keep the older recorder, purchased in 1953, working in order to transfer some of my ancient recordings.

My difficulty is replacing the spring belt which is operated from the pinch wheel to the take-up spool. The Baird Company has had many changes, and it is not possible to get these items direct. Do any of your readers know where such a belt could be obtained?

T. BROWNER.

1, Montpelier Terrace, Blackrock, Dublin, Eire.

Letters to the Editor

A CLUB THAT DIED

HOW correct your correspondent J. Williams is, in your September edition, I used to be the treasurer of the Wakefield club, which was dissolved in January of this year. This club was among the first few dozen in the country to start and was, although I say it myself, very active. It held in its existence an annual audio fair and was never short of activities at its meetings.

In the few months towards the end of its life, not enough members turned up at meetings to make any activity really worthwhile, and one can hardly invite speakers to come, when you know full well that there will only be a small audience. There were always plenty of other things to do, but members were either not interested or if they were, so few people turned up, that the programme planned for the meeting fell flat.

Three members of the club, all on the committee—including myself—decided we had had enough. The three of us put it to an extraordinary general meeting, that the club be disbanded and an informal group formed which could meet in one another's homes. In this way, there would not be the overhead expenses of a meeting place, nor would it be necessary to have a subscription—and thus no one could say he could not afford to join the club, though on the other hand as we intended to amuse ourselves rather than sit back and watch demonstrations, only the really active would take part.

The club was in fact disbanded and many members said they would come along to the meetings of the newly formed group. Not one of them came. The three of us who thought of the idea remain—Peter Wainright, Stephen Gaunt and myself. But we are not short of ideas. We enjoy ourselves far much more now, providing our own activities than when we were on the committee of the club trying to please everyone else, and failing to do so.

We meet at least twice a week. We have built our own studio and equipped it. We record programmes for four old-

folks homes, and are shortly starting on recording programmes for the local broadcasts to hospitals service. We go out with a portable recorder from time to time, and occasionally visit other clubs.

Mr. J. Williams asks "Are tape clubs with committees and regular meetings really necessary?" I say they are not. If members are co-operative and fully active then a club is an ideal meeting place. If not, then it is far more interesting and satisfying for a group of similarly interested enthusiasts to meet informally in their own homes, or a mutual meeting place and get on with whatever activity they choose.

If a new club were to re-form in Wakefield I would not join it. I get far more satisfaction now from our present activities. I use a recorder six nights out of seven, and have had one for five years—and I'm not bored yet!

Incidentally, keep up the good work, your magazine is excellent. I've been a reader since the first volume.

MIKE STOREY.

Wakefield, Yorkshire.

TAPE RECORDING CROSSWORD

Solution to last month's puzzle

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News from the Clubs

BIRKENHEAD

G. Prandle of 74, Salacre Lane, Woodchurch Estate, Birkenhead, Cheshire is keen to hear from tape enthusiasts who are interested in the formation of a tape club. He mentions the Merseyside area, and details the districts of Heswall, Cressby, Wallasey or Hoylake as a probable location.

Interested persons should contact him direct.

BOSTON

Boston Soundhunters had their first regular fortnightly meetings at Pilgrim College on June 12 and 26. Membership had shown an increase since their inaugural meeting held in May, and the members also welcomed along their first lady member.

The earlier meeting was devoted to basic principles of tape recording, the speaker being the club's leader, Philip Towell. He illustrated his talk with recordings, demonstrating the versatility of his machine with tapes of a child's first words, an interview with a Fair showman, a jazz group session, and sounds from Amsterdam's streets.

Types of microphones and tapes were briefly discussed, and advice on editing and maintenance was given.

At the later meeting members took along their own recorders for a head cleaning and de-fluxing session. A remarkable absence of oxide deposit was noted, even though one machine came complete with cobweb and two spiders! A specially prepared test tape was played at various speeds, and one of the new E.M.I. Tape Records was demonstrated.

The group has been accepted into membership of the Federation of British Tape Recording Clubs. Mr. Towell, recently won third prize in the World Tape Pals (UK Section) competition for a ten-minute tape on the subject *Our Town*.

CAMBRIDGE

Recent meetings of the Cambridge Society have included an "at home" when they invited members of the Northampton Tape and Cine Society along. The hosts took charge of the first half of the evening, and Richard Hillman gave a talk on *Portable recorders—at work and play*. This was followed by *Town and Gown*, with Len Brown talking about the different gowns used in the colleges in their town compared with other universities. Among the examples shown was one gown (worth over six Ferrographs, I understand) made for the Lady Chancellor of Vancouver University.

During the second half of the evening the guests showed a tape/slide show plus an amusing production entitled *All in a day's work*.

Members made another special visit to Dunstable to record a Hammond Organ in the "Green Man."

The society has stepped up its social services under the direction of Richard Hillman, and the members would be pleased to hear from other clubs with material suitable for such cases. The first issue of the club's bi-monthly magazine was published on June 1.

A special turn-out of recording enthusiasts is expected in the town for October 17, 18, and 19, when the society will present the Cambridge 1962 Audio Exhibition.

Ten well-known manufacturers in the tape field have promised to support the exhibition by taking stand space for static and demonstration displays, in addition to advertising space in the Exhibition Catalogue.

The club's own exhibit will include a stand with membership details and general information, a home-built equipment display stand, and a recording and closed circuit television studio. Programmes will be relayed from the Studio throughout the three days of the show, and a competition, to find the voice of Cambridge, will be staged with valuable prizes.

ELTHAM

The formation of a tape and cine club covering the areas of Eltham and Well Hall in South-East London is proposed. Mr. M. McCoy, of the Royal Herbert Hospital, Woolwich, London, S.E.18, is the instigator, and he would like to hear from interested persons so that an initial meeting can be held.

He states he owns two tape recorders, has several more at his disposal, and also owns an 8mm cine camera.

GOSPORT

A tape club has been formed in Gosport, Hampshire, bearing the title of the Solent Tape and Audio club. Meetings are held on the second and fourth Thursdays of each month at the Gosport Community Association, Bury House, Bury Road. Tape exchanges with other tape clubs are welcomed.

Secretary: R. V. W. Temlett, 30, Blake Court, South Street, Gosport, Hampshire.

HELSEBY

Another new club recently formed is that in Helsby. Further information regarding meeting dates and venue can be obtained from the secretary, Mr. M. Sutton, 5, Sandringham Avenue, Helsby, Warrington, Lancashire.

INTERNATIONAL VOICES OF YOUTH

Founded and operated by the "leaders of tomorrow" as a non-profit, non-political, non-sectarian organisation striving for world peace through tape exchanges is the description afforded the International Voices of Youth in a handbill recently addressed to this office.

Information of this new tape club is available from Post Office Box 3041-C, San Mateo, California, USA.

MIDDLETON

One of the most recent meetings of the Middleton club saw the presence of a local rock'n'roll group. Trouble with a mixer unit created a little set-back initially, but they managed to cope using only a single microphone. The results, they note, were a little disappointing, and arrangements are being made to have another crack at it in the not too distant future.

Monthly competitions have been organised and subjects are being set for short feature tapes. The idea is to gather together material for a future entry in the British Amateur Tape Recording Contest, and a stipulation is being made barring the use of copyright material.

Winner of the first contest was Tom Ingham who produced a tape describing his recent visit to the Channel Island of Jersey. The judge was George Wells, one of the London members.

The following competition, result not yet announced, was to be judged by the members of the West Herts club. The subject was "My tape recorder."

The club is keen to establish contact with other clubs, particularly those in the near vicinity, with a view to inter-club visits. Apart from the West Herts members, they are already in contact with the Jersey society.

A club magazine is to be produced. This is to include a series of articles by Joe McCormack, who is to back up his theoretical features with practical demonstrations during meeting nights.

Six Philips battery portables are now owned by members, and they recently had the opportunity of comparing these with their first demonstration of the Grundig TK1. Various points were found in favour of either machine, the Grundig proving popular because of its 3 1/2 ips speed and its pause control, and the Philips scoring high marks by virtue of its reproduction through its own speaker, and the ideal threading facilities.

Since these machines were introduced to the club they have "had to have lectures on interviewing." This chore was left in the very capable hands of Jim Carmel who "seems to be able to turn a hand to most things."

NORTHAMPTON

A change in their meeting place was recently made by the members of the Northampton club. Completion of a rebuilding programme of the former venue led to an increased hire charge so the members moved to the Cross Keys Hotel in Sheep Street.

During the past months their activities have included recording several concerts given to the blind, and a recording session with a local ladies' choir. They have also persevered with the club film *Friday the Thirteenth*. Filmed in the local market square this film is a comedy bank robbery, on 8mm cine with taped sound.

On June 21 the members played a triple role in the local Carnival in aid of various welfare societies in the town. The club entered a float entitled *Cafe de Paris* which was a mobile filming and recording unit. Two recording parties were at various points along the route to record the events, and the cine members operated their cameras. The results were to be made available to Homes for the Aged, and for children. The sound commentary will also be used as part of the programme for their service for the blind.

TAPE CRUSADERS FELLOWSHIP

The latest issue of the magazine on tape produced by the Tape Crusaders Fellowship is now available. Included in this sixth edition are a variety of topics related to their policy of encouraging tape recording in Christian service. An item about the use of audio/visual aids includes a brief survey by the Rev. Sinclair Walker, of Wallasey, and Mr. Joseph Ross, of Aberdeen, talks about the use of foreign postage stamps in the teaching of scripture.

Another discussion concerns itself with paperback books, and titles of Christian interest in particular. Also included is a lively five-minute talk from the Rev. John Bramley on *Christians and Cosmetics*, and Irvine Swift, musical teacher of the Henshaws School for the Blind, Manchester, provides the music throughout.

Copies of the tape are available either by sending a spool of tape (600 ft.) for a dubbing at 3 1/2 ips (or the equivalent length if a 7 1/2 ips copy is required) to Francis Newing, "Kingswood," Park Road, Bracknell, Berkshire. There is a nominal fee of a 1s. for expenses, and return postage is requested. New copies may also be obtained, price 19s. from David Lazell, 25, Wheatland Drive, Leicester Road, Loughborough, Leicestershire.

YORK (1)

Plans are being laid for a special "York Tape Week" to celebrate the third anniversary of the formation of the York tape club. Among proposed features are to be a dinner and dance, tape demonstrations, a variety show, tape night, an audio exhibition.

The week will also be designed to coincide with a special recruiting drive. The club aims to raise its membership, and has set its sights for 100 fully paid-up members.

At present members have a wide and varied programme of activities, including regular tape contacts with the clubs in Bournemouth, Bristol, Hove, Keighley, Northampton, Rugby, and the R.A.F. Tape Society. They are currently designing a display to be included in the exhibition being organised by the Northampton club members.

A re-shuffle of committee members recently occurred. Apart from the chairman and secretary, who retain their posts, the newly elected officials are Peter Lambert, vice-chairman; John Derry, publicity officer; and Brian Lambert, tape secretary.

A plan to increase their funds to enable the club to buy its own equipment, is to include the organisation of a tape party. Members and visitors will be invited to bring a tape recorder or pay 2s. 6d., and a celebrity will be asked to open the proceedings.

Secretary: G. Machen, 17, Melbourne Street, Fishergate, York.

YORK (2)

A second tape club has been formed in York. The new group has been formed by the Acomb Community Association, and meetings are held every Thursday evening at the Association's premises in Front Street, Acomb.

Secretary: B. Snowden, 51, St. Paul's Terrace, Holgate Road, York, Yorkshire.

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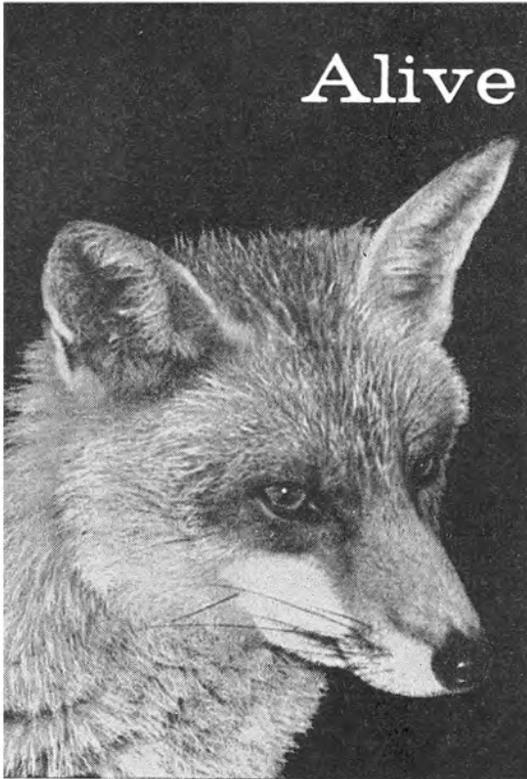
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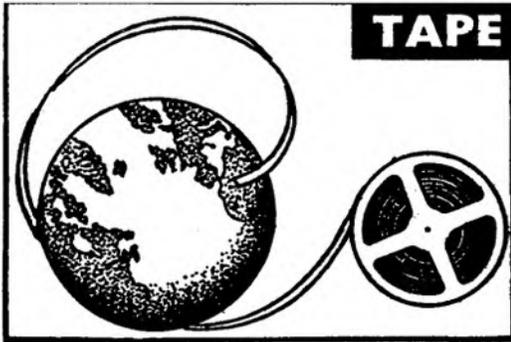
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Austin, Bunny (44). 12, Cornwall House, Durham Hill, Dover, Kent. Photography, motoring, musical instruments. 7½, 3½, 1½ ips. 7-inch spools. Robuk RK3. U.K., U.S.A. and Europe.

Beale, Lt.-Cdr. John W. (42). Command and Staff Course, Naval War College, Newport, Rhode Island, U.S.A. English folk music. 7½, 3½ ips. 7-inch spools. Philips 400 (EL3536), stereo, four-track. U.K., U.S.A., British Colonies.

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Billings, J. (22). 33, Ruskin Walk, Herne Hill, London, S.E.24. Philately, and travel. 7½, 3½, 1½ ips. Robuk RK3.

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Blakeley, A.F. (34). 15, King's Avenue, Boston, Lincolnshire. Sound effects, 8mm cine, drama (stage management), 7½, 3½ ips. 5½-inch spools. Uher 195.

Bond, L. (36). 12, North Close, South Nor-manton, Derbyshire. 8mm cine and still photo-graphy, political science, history, classical music. 3½ ips. 5½-inch spools. Regentone RK20. U.K. and Europe.

Booth, K. F. (32). 12, Lincoln Road, Maiden-head, Berkshire. Photography. 7½, 3½ ips. 7-inch spools. Telefunken 95. U.S.A., Canada, England.

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Casson, David (20). 15, Cameron Drive, Northampton, Northamptonshire. 8mm cine, cinema, all music. 3½, 1½ ips. 5½-inch spools. Grundig TK20, Majestic, Philips EL3585. Female contacts preferred.

Cresdee, Douglas Brian (20). 65, Gregson Avenue, Bridgemarky, Gosport, Hampshire. Motor racing, medicine, people. 7½, 3½, 1½ ips. 7-inch spools. Robuk RK3. German, U.S.A., Canada.

Cross, Michael (25). 3, Coniston Close, Barne-hurst, Kent. 35mm photography, travel, fishing, people. 3½ ips. 5½-inch spools. Grundig TK20, Cossor CR1601, four-track.

England, John R. (29). 12, Dongale Road, Bristol 7. Photography, church work. 7½, 3½, 1½ ips. 7-inch spools. Civic recorder. Overseas, especially Africa.

Fraser, Charles D. (40). 20, Belmont Street, Glasgow W., Scotland. Travel, technical books, dancing. 3½ ips. 5-inch spools. Philips AG8109. Europe and South America.

Goldup, D. (31). 5, Hillside, Southwick, Sussex. "Pop" to classical music, angling, astronomy. 3½ ips. 5½-inch spools. Philips EL3541.

Haijemaalje, Herman J. F. (46). P.O. Box 157, Rotterdam, Holland. 8mm cine, slides, dramatics, music. 7½, 3½ ips. 7-inch spools. Philips EL3541, four-track.

Haliburton, Godfrey (39). 642, Alderson Avenue, New Westminster, British Columbia, Canada. Sound effects, music, general. 7½, 3½, 1½ ips. 7-inch spools. Two Webcoors, Clarion battery portable. All Commonwealth countries. Will send all tapes airmail.

Hardman, John (65). 28, Clyde Road, West Didsbury, Manchester 20, Lancashire. Education, writing, travel, and all music (except jazz). 7½, 3½, 1½ ips. 3-inch spools. Grundig TK830, TK5, TK24, TK40. Overseas only.

Hastings, Leslie R. (38). Council Depot, Digby Street, Bethnal Green, London, E.2. Stereo,

photography, motoring, music. 7½, 3½ ips. 8½-inch spools. Ferrograph 4A/N and 422 (stereo and mono).

Ingham, Thomas (56). 108, Oldham Road, Fallsworth, Manchester. Wide variety of inter-ests. 15, 7½, 3½, 1½ ips. 8½-inch spools. Brenell MK 5, Stelaphone Portable.

Jansen, Gerrard (25). Odstsinge 125, Delfet-Holland. 8mm cine. Photography, music, travel. 3½ ips. 7-inch spools. "Aristona," Stella. English female required.

Johnson, Dennis (46). Peak Hill, London, S.E.26. Photography, light music, improving German speech. 7½, 3½, 1½ ips. 7-inch spools. Repts R10, 4-track. German male or female.

Johnson, Michael (26). 33, Prince of Wales Avenue, Regents Park, Southampton. Classical music, church (L.D.S.). 7½, 3½, 1½ ips. 7-inch spools. Philips 4-track. USA, North England.

Kinham, Walter H. C. (38). 26, Church Road, Tottenham, London, N.17. Photography, people and places, and many others. 7½, 3½, 1½ ips. 7-inch spools. Sound Slimline, and Clarion. Letters not needed.

Lee, Ken (23). Limber Cottage, Front Street, Dundton, Lincs. Christian fellowship tapes, evangelical, etc. 3½ ips. 5½-inch spools. Grundig TK14.

Lockie, Miss Fiona (29). 4, Maryfield Place, Midlothian, Scotland. Reading, swimming, music, geology, travel. 3½ ips. 3-inch spools. Philips recorder. Norway and Holland.

Lund, David (22). Hamden Club, Polygon Road, London, N.W.1. Hi-Fi, electronics, body building. 7½ and 3½ ips. 7-inch spools. Truvox R82.

Maitland, C. (20). 67, Gresham Road, Brixton, London, S.W.9. Theatre, gen. drama, folk music. 7½, 3½ ips. 7-inch spools. Sound (Studio Deck). USA and Canada.

McCoy, Bill (27). 3, Maida Street, Leichhardt, Sydney, Australia. Music, humour, reading. 7½, 3½, 1½ ips. 7-inch spools. Telefunken and Mag-netaphon 96. Japan, Germany, and USA.

Metcalfe, Allan (31). 54, Morely Street, Roch-dale, Lancs. Photography, music and travel. 3½ ips. 7-inch spools. Fidelity Argyl, 2-track. France, and Spain. Male contacts only.

Millar, Charles (35). 43, New Road, Bannock-burn, Scotland. 8mm cine, 35mm B & W. Slides, climbing, classical music. 7½, 3½, 1½ ips. 7-inch spools. Philips 2-track and 4-track. Out-side British Isles. Letters not required. Tapes answered in 48 hours.

Munkittrick, Alex (45). 24, Kenton Road, Earley, Reading, Berks. French language, travel, cycling. 3½ ips. 5-inch spools. Philips EL3541 and 3527. France, USA, UK.

Newman, Leslie (21). 192, The Mall, Harrow, Middlesex. 35mm photography, athletics. 7½, 3½, 1½ ips. 7-inch spools. New Zealand, Australia and Britain.

Pavlicsek, John H. (26). 519, Mackinac Avenue, South Milwaukee, Wis., USA. Cinema, international "pop," jazz and instrumental music. 7½, 3½ ips. 7-inch spools. Roberts 191 (Arkaï),

full-track recorder, and Tanberg 65, 4-track. Europe English/German speaking. Male and female.

Robson, Robert J. (32). "Rosemont," 20, Ewhurst Avenue, Sanderstead, Surrey. Films, music, travel, general interest. 3½ ips. 7-inch spools. Chelsea, 2-track. Male contacts preferred.

Smith, Keith (25). 117, Wykin Road, Hinckley, Leics. Editing and trick recording, Hi-Fi. All speeds, all sizes. Brenell Mk 5, Leavers-Rich. USSR, Germany and Holland.

Tansley, Ron (23). 1, Hodgkinson Street, Netherfield, Nottingham, Nottinghamshire. 35mm colour and b/w photography, films, reading, most popular music. 7½, 3½, 1½ ips. 7-inch spools. Norfield recorder.

Thomas, Louis (35). Basrah Elec. & Water Supply, Basrah, Iraq. Photography (violinist), violin concert and classical music. 7½, 3½, ips. 8½-inch spools. Ferrograph 4s with stereo add unit. English and Arabic.

FAMILY EXCHANGES

Jasper, Mr. & Mrs. D. (25). 17, Tasker Terrace, Rainhill, Liverpool. Photography, music (not "pop"), languages. 7½, 3½, 1½ ips. 7-inch spools. Philips EL3542, 4-track. Spain, South America.

Milner, Mr. & Mrs. J. W. (53). 34, Red Lane, Kenilworth, Warwick. Music (not "pop"), religion, Philos-esperanto. 7½, 3½ ips. 7-inch spools. Sony Sterecorder, 4-track. Any race, creed or colour. English and Esperanto.

TEENAGE EXCHANGES

Boyce, Terence (17½). 114, Hillcrest Road, Hornchurch, Essex. Films, "pop" music, some modern jazz, general interest. 7½, 3½ ips. 7-inch spools. Truvox R84, 4-track. Female contacts, same age preferred.

Cadier, S.A.C., A. R. J. (18). C/o Officers' Mess, R.A.F., Stanbridge, Leighton Buzzard, Beds. Cycling, camping, "pop" records. 7½, 3½, 1½ ips. 7-inch spools. Robuk RK3.

Hawkins, Ray (17½). 20, Lyndhurst Drive, Hornchurch, Essex. Films, TV, "pop" music, some modern jazz, general interest. 15, 7½, 3½ ips. 7-inch spools. Sceptone 161, 2-track. Letters not required. Anyone same age, female contacts preferred.

Mackenzie, William Fraser (16). 81, Gilmore Place, Edinburgh, Scotland. "Pop" music, angling, general interest. 3½ ips. 5½-inch spools. Grundig TK20.

Sweetman, Peter (16½). 21, The Byeways, Surbiton, Surrey. Jazz, economics, and general interests. 3½ ips. 5½-inch spools. Grundig TK20. Canada, UK, Australia, and Common-wealth.

Taylor, Allan (18). 19, Southfields Avenue, Oadby, Leicester. Electronics, swimming, "pop" records. 3½ ips. 5½-inch. Sobell Festival. USA, Britain.

Walker, Keith F. (16). 26, Bradley Avenue, Houghton-Le-Spring, Co. Durham. Model making, "pop" music, science fiction, general interest. 7½, 3½, 1½ ips. 7-inch spools. Robuk RK3. London, USA, Australia.

Tape recorder owners wishing to make contact with others of similar interests are invited to complete and return this form.

Name Age

Address

(BLOCK LETTERS PLEASE)

Special interests

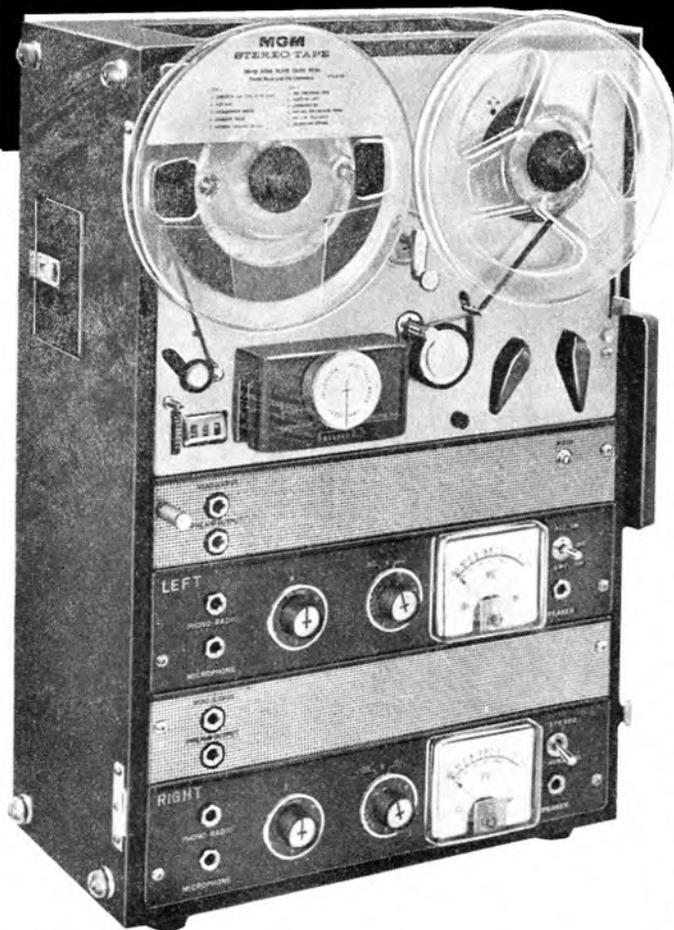
Speeds to be used Max. spool size to be used

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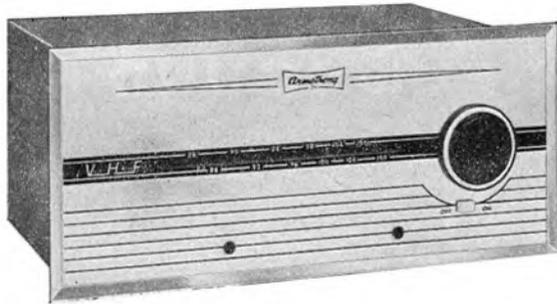
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Brenell 5 Type "M" ...	9 5 0	4 12 5	88	
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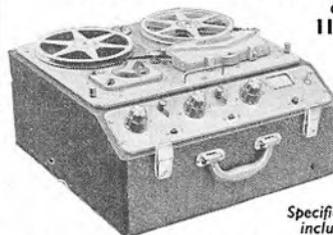
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Grundig TK23 ...	4 15 0	2 7 3	45
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Elizabethan FT1 ...	3 11 5	2 13 7	34	
Philips EL3541 ...	3 15 8	2 16 9	36	
Elizabethan LZ29 ...	3 15 8	2 16 9	36	
Stella ST454... ...	3 17 9	2 18 4	37	
Grundig TK23 ...	4 15 0	3 10 10	45	

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Grundig TK1 ...	2 13 0	1 15 0	23
Philips EL3585 ...	2 10 5	1 17 10	24
Stella ST470... ...	2 15 0	1 19 2	25
Optacord 420 Battery/ Mains	4 15 0	3 10 10	45
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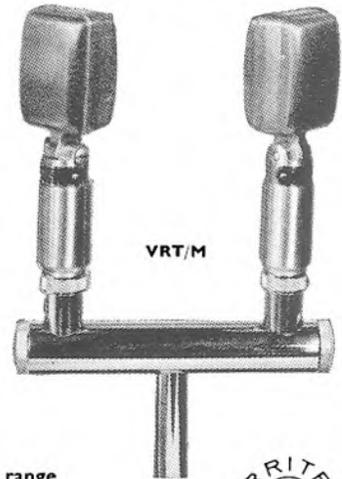
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