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1957

1-

# TAPE RECORDING AND REPRODUCTION MAGAZINE



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We're talking, of course, about the cheeky champ on the right. But, if we were discussing tape recorders, we could use all the same phrases about the WYNSOR REGENT, a machine that . . . .



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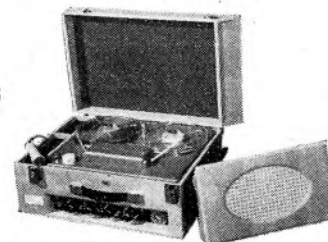
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LOW, LINE OR HIGH IMPEDANCE



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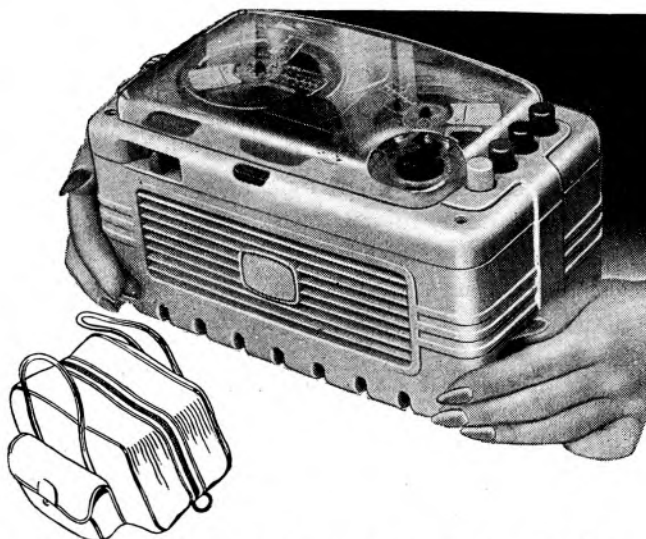
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**38**

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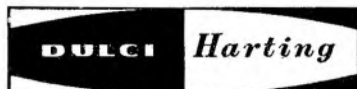
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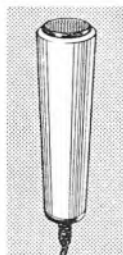
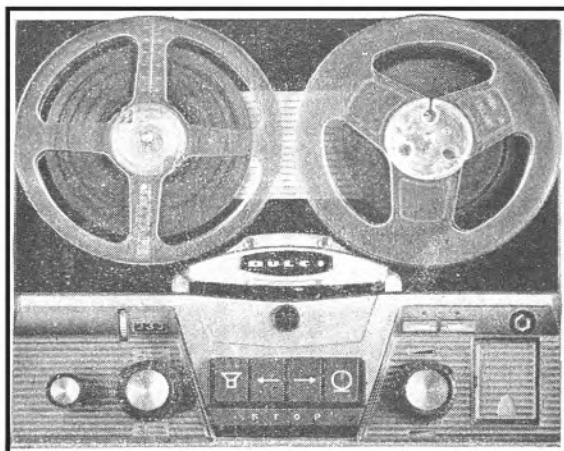
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*the precision Tape Unit* combining superb performance and presentation.

The brilliant new



## High Fidelity Tape Unit



Recommended microphone. 5 gns. extra.

Here's something that everyone interested in sound reproduction will want to see . . . a completely *new* Tape Unit, all ready for addition to an existing Hi-Fi system. It's packed full of attractive features! Recording amplifier is incorporated with erase and bias oscillator. Playback equaliser and pre-amplifier is integrated with the deck.

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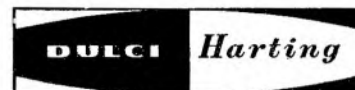
**55 GNS.**  
including tape and spare spool

★ 2 speeds —  $7\frac{1}{2}$ " / sec. and  $3\frac{1}{2}$ " / sec.

★ With calibrated compensating control, for various tape characteristics.

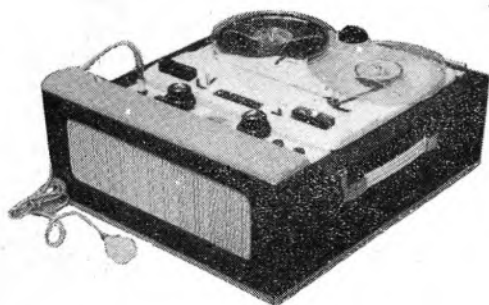
★ Control for superimposition of new recording over old — retaining both.

★ Can be used in conjunction with existing audio equipment.



SUPERIOR TAPE UNIT FOR THE SERIOUS ENTHUSIAST

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Featuring ★ Separate bass and treble controls ★ Push-pull oscillator for low noise ★ Provision for listening to recordings through its own twin 'speakers (i.e., Input Monitoring).

With 1200ft. of Emitape "88" and Collaro "Studio" microphone. . . .

available at **62 gns.** complete.

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With 1200ft. of Emitape "88" and Collaro "Studio" microphone. . . .

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Magnafon now bring Compatible Stereophonic Reproduction within reach of all.

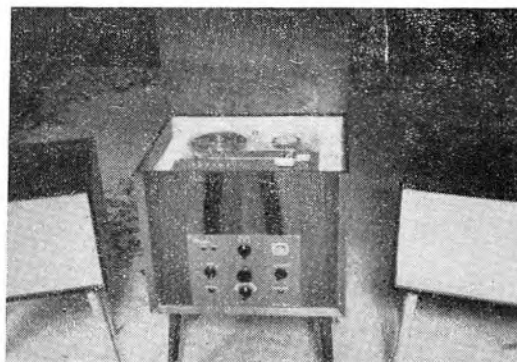
The Magnafon Stereo System provides ★ Stereo tape playback ★ Monaural play-back from Tape, Disc or Radio over both loudspeakers ★ Monaural recording from all audio sources.

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Announcing the New  
**MAESTROVOX "Majestic"**  
 TAPE RECORDER

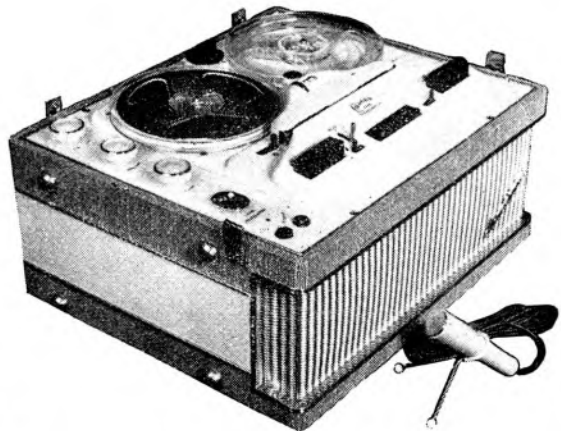
**IT FEATURES**

- \* The Collaro tape transcriptor
- \* Twin track instantly reversible
- \* Record and replay at 3 speeds, 3½, 7½ and 15in. per second
- \* Equalized to CCIR standard
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 Precision Built  
 Model available**

for  
**62 GNS.**

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**Ribbon Microphone**

Designed and Manufactured in England

- True pressure gradient response.
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The clean and attractive lines of the dual impedance Cadenza Microphone house an altogether new conception of ribbon and magnet arrangement, giving an output sensibly flat within close limits, 50-12,000 c.p.s. The ribbon itself is four times the area usually employed, thus providing increased sensitivity. Because of its extreme thinness (about 1 micron, or .00006 of one inch!) dynamic impedance is actually less. Clever acoustic design gives exceptional freedom from resonant peaks and troughs, particularly the fundamental ribbon resonance, or "bass hump."



Overall Design: ERIC TOMSON  
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Microphone, tripod desk stand, 11 ft. cable.

Complete in presentation case 10 gns.

Microphone head only, dual impedance.

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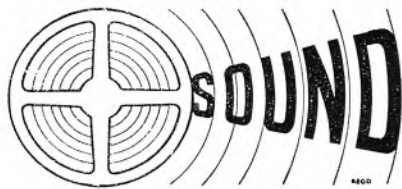
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# IT'S HERE!



# 777

The most compact, lightweight, 3-speed tape recorder with simple, push button automatic control. The 'Sound 777' incorporates the latest Collaro Mark IV Tape transcriber with digital footage indicator, pause control and instantaneous track change. Up to 3 hours playing time — plays all pre-recorded tapes. A 3-watt output recorder at a price all can afford.



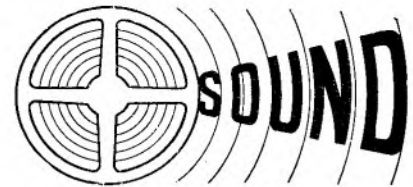
... and a proven favourite

## 40 GNS

Piezo-electric desk microphone  
£2 15 0., optional extra.



The



- 4 watt output.
- 3-speeds.
- 3 hours playing time.
- Plays all types of pre-recorded tapes.
- Completely automatic.
- Superb reproduction.

## 55 GNS

complete with mic. and spool of LP tape

● Write now for full details of these tape recorders

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Cables: Taperec, London

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ONLY **53** gns.

**COMPLETE**



*Just look at these features:*

- ★ **A 5 gns. Pencil Microphone** included in the price
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**TAPE RECORDER SPECIALISTS AND PRINCIPAL RADIO DEALERS  
ARE RECOMMENDING**

## VERITONE

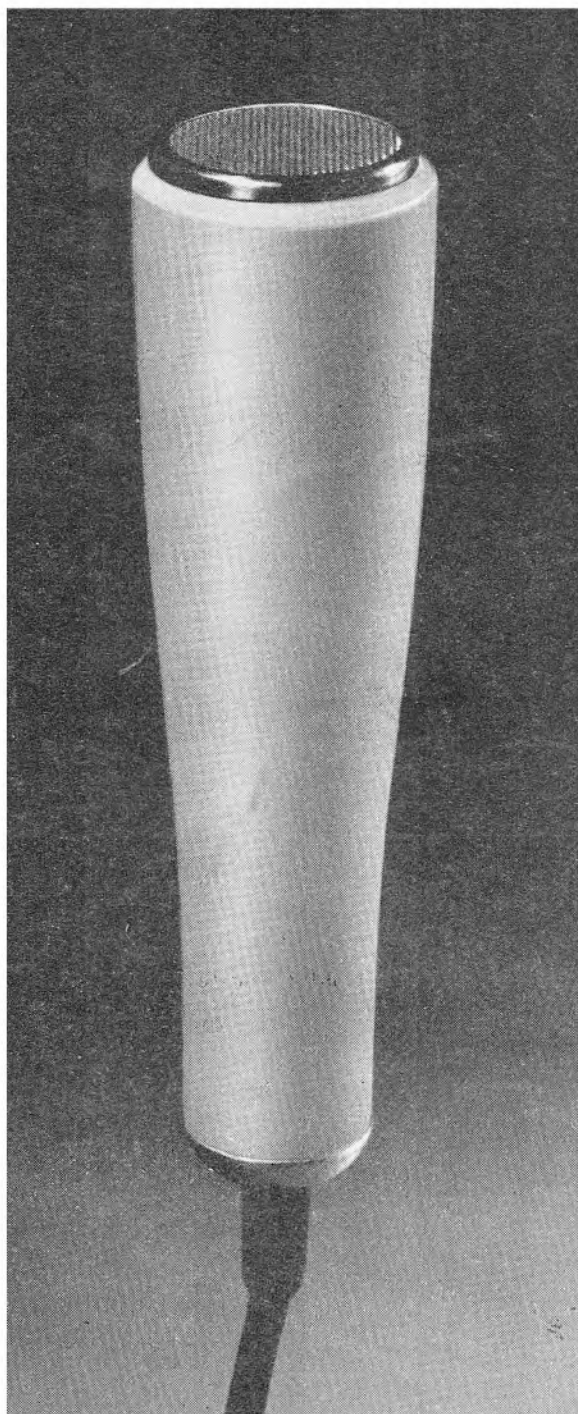
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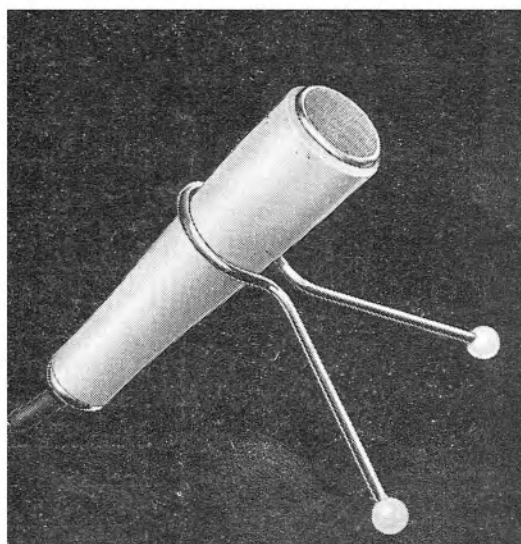
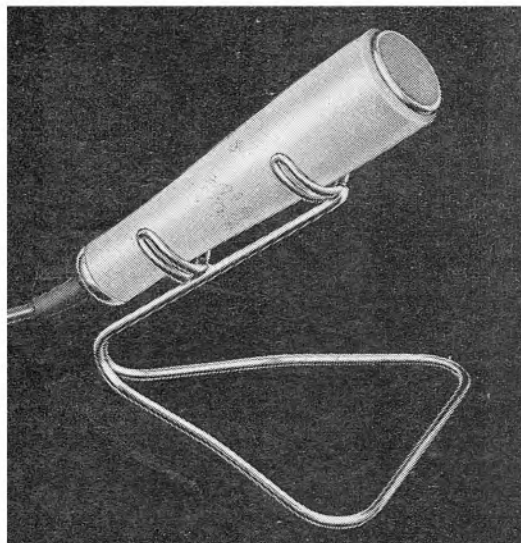
HOWard 1799



# A microphone by **acos**

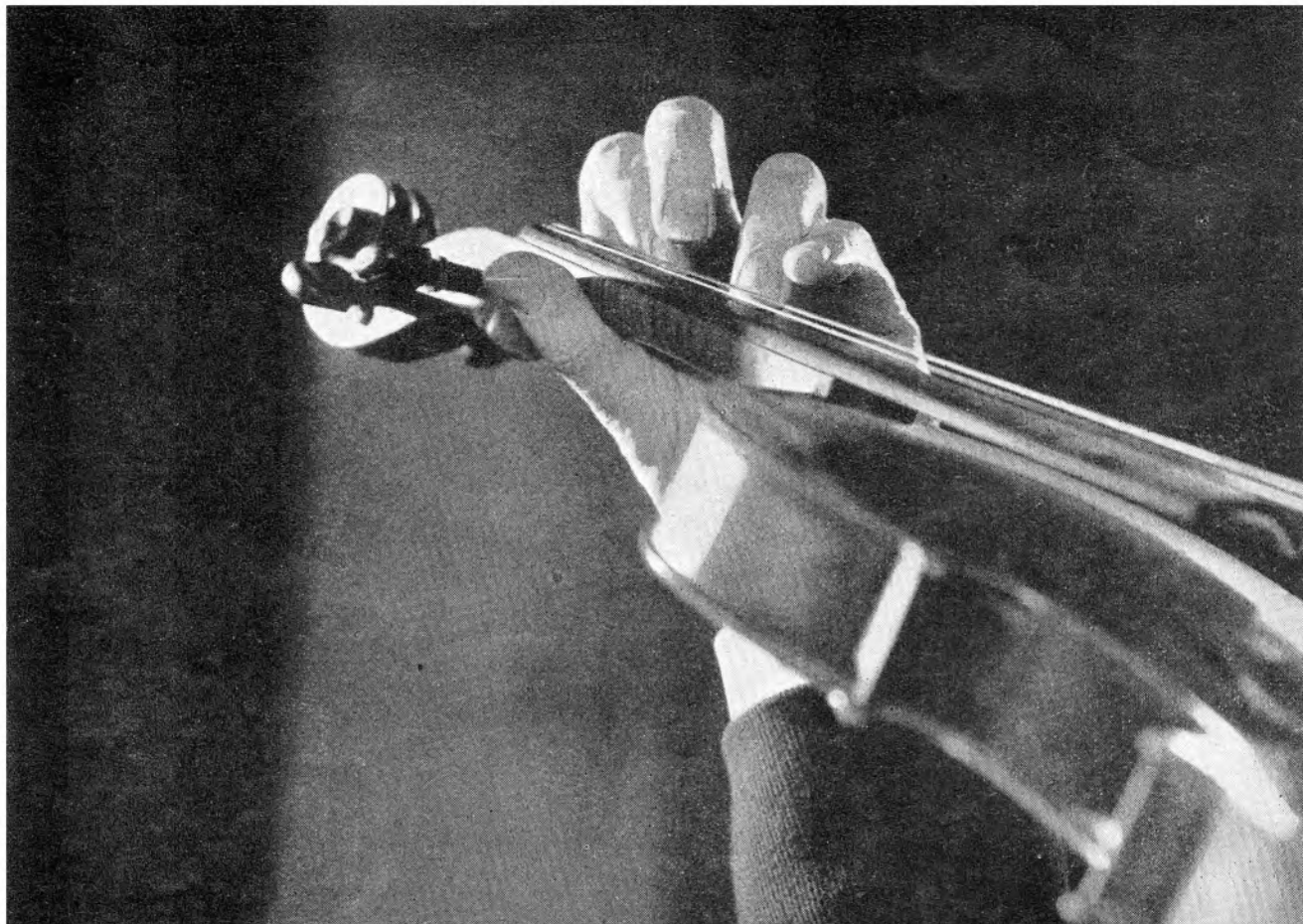


Held in the hand, or rested in one of the two attractive stands. Also available with neat floor-stand clip.



**Model MIC 39-I** for high-quality recording, public address, entertainment

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How have *your* musical tastes changed in the last five years? How many of your old favourites have been relegated to the lower shelves, played once a year, if at all? The music you enjoy is a mirror that reflects you and your changing tastes.

A Grundig tape recorder provides a very practical solution to the problem of changing tastes. A tape library grows with you and there is never any waste. A much-played Grieg can become a mint-fresh Rawsthorne for no more effort (or expense) than is required to fit the tape which holds the old recording and re-record the new on it.

With a Grundig tape recorder the world of music is at your feet. If music is your interest . . .

*keep it alive* with a **Grundig** TAPE RECORDER

TK 820/3D  
PRICE 98 gns.  
excluding microphone



**GRUNDIG (Great Britain) LIMITED**, Dept. TR1, 39/41 New Oxford Street, London, W.C.1

*Please send me a copy of your illustrated booklet on the Grundig TK 820/3D*

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reporting on the home, office, factory, school, ciné, amateur dramatic and musical uses of sound tape

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A case for cassettes

ONLY ONE WORD adequately describes the development of tape recording in Britain in the last year: it has been phenomenal. And the pace is most certainly going to become hotter in the year ahead. A lot of new firms are entering the field. As an article in this issue discloses, the Continental challenge is becoming stronger. There is a buoyant home market and encouraging export prospects for the industry, but clearly the rewards are going to fall thickest on those who show most imagination, courage and energy in carrying tape recording forward into a new phase.

We are, it must be remembered, at the infant stage. Only a few years hence, the picture is bound to look very different.

It is an interesting, and perhaps profitable, exercise for all those concerned with tape recording to anticipate the main developments probable in the near future. We foresee three main trends, all of them evident already.

Firstly, improved design and performance will enable satisfactory frequency response to be achieved with slower tape movement. Good speech reproduction is already possible with a speed of 1 7/8 ips and this will become more popular. As a corollary, 7 1/2 ips will increasingly be regarded as the highest speed necessary for general use, and the 15 ips speed will be discarded. It is significant that the tape record companies have achieved such excellent results at 7 1/2 ips. The three standard speeds, therefore, can be expected to become 1 7/8, 3 3/4 and 7 1/2 ips.

The second development already getting under way is the incorporation of mixing facilities as an integral part of the popular recorder.

But the most important single step forward would be a technical development that eliminated the need to thread the tape through the deck slot and into the take-up spool. Simple as this operation appears to most of us, it seems to be a deterrent to many people. The solution appears to be available. Some tape recorders designed for offices use self-contained cassettes, which hold the tape and the two spools, and which can be dropped on to, or lifted off from, the machine with one hand. If this method could be introduced for general use, it would mean that the setting up of tape equipment would be, not rather more difficult, but very much less difficult than putting a disc transcriber into use.

Perhaps some progressive firms are already at work on the problem. Certainly, the evidence shows that the men most concerned are alive to the tremendous opportunities. And every user of tape equipment can look forward to an exciting period ahead.

# 'Here's the tape recorder for YOU!'

## says JACK JACKSON

Take a tip from Britain's most popular TV and Radio taster—  
'If you haven't heard the Walter 303, you're in for a pleasant surprise  
... it has the performance of a machine 10 times its size!'  
On our stand at the Radio Show you can make a record of your voice  
and play it back *on your own* without anyone to overhear you.  
Don't miss this chance to try the wonderful Walter 303.

### Here's Why You'll Want A WALTER 303 Too!

#### SIMPLE CONTROLS!

There are only *two* knobs: one for Volume, the other—the exclusive all-in-one Walter 'joystick'—for Record, Play, Fast Forward and Fast Reverse.

#### SUPERB QUALITY!

Full orchestral frequency response (40 to 10,000 cycles). Delivers 3 watts through large (9-in.) elliptical speaker—more than you want to fill the largest living room!

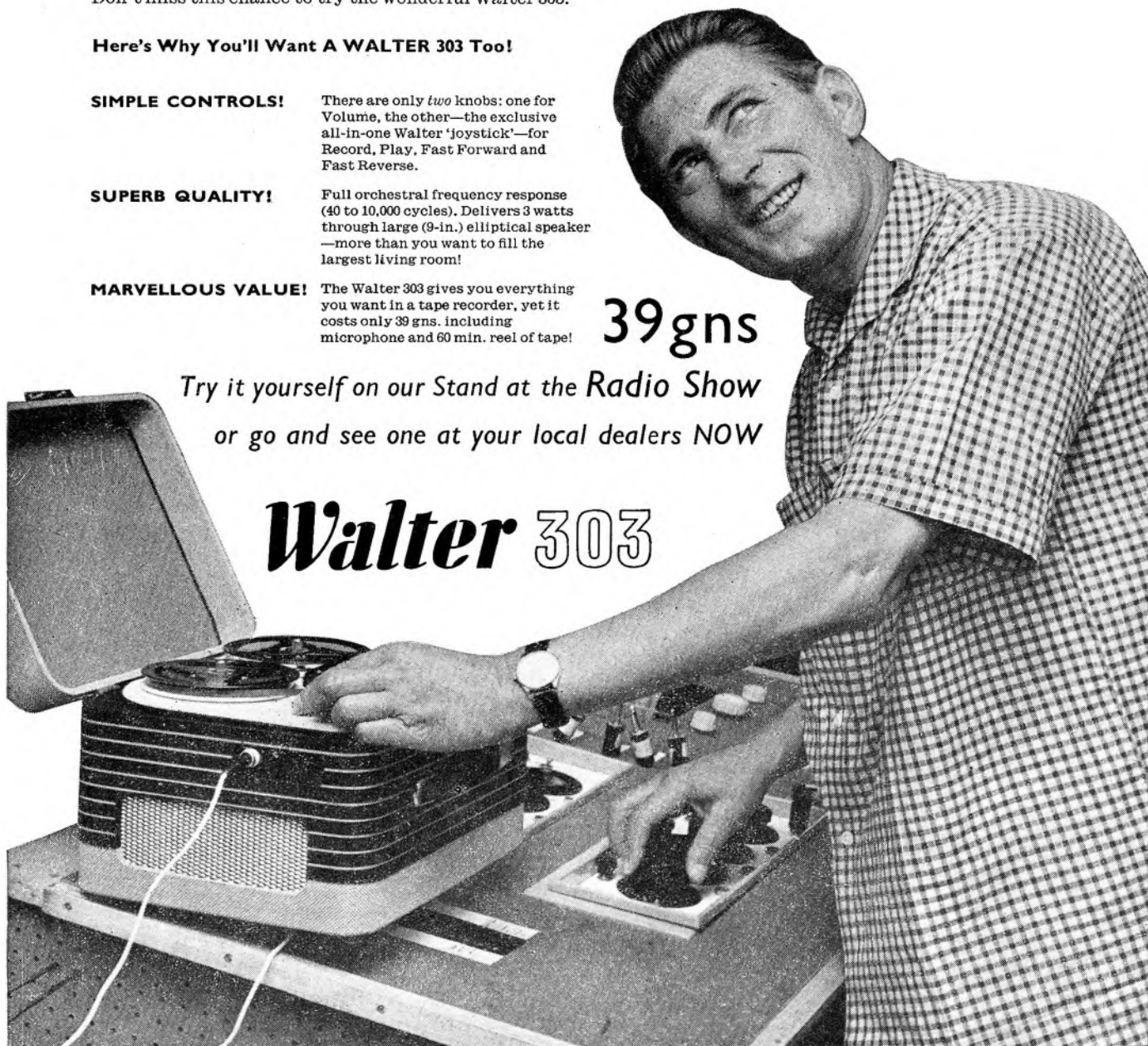
#### MARVELLOUS VALUE!

The Walter 303 gives you everything you want in a tape recorder, yet it costs only 39 gns. including microphone and 60 min. reel of tape!

# 39 gns

Try it yourself on our Stand at the Radio Show  
or go and see one at your local dealers NOW

# Walter 303



**TAPE TITTER** By **ALASTAIR**



“Why not read that little book of instructions, dear?”

**TAPES OF SATELLITES CAN HELP SCIENCE**

**I**F you have any direct tape recordings of earth satellite signals they may be useful to the British team of scientists who, since the Russians announced the successful launching of the first artificial moon, have been hard at work gleaning all the information they can from its sudden appearance on the heavenly scene.

I asked Mr. Martin Ryle, director of the famous Mullard radio astronomical observatory at Cambridge, how tape recordists could help in this operation, and he told me that recordings providing information on the Doppler effect could be of considerable value, but that they would have to be very accurate. The Doppler effect is something that shows whether an object is coming or going, and the sharpness of the change from coming to going gives an indication of one's distance from the object.

*Next month we shall be giving you a lot more information on this subject, together with the interesting story of how America has organised teams of watchers, including many amateurs, to spot satellites and record the times of their appearances with the aid of tape recorders.*

**T**HE spectacle of light and sound is a brilliant application of recording technique and the idea is bound to spread. There are hundreds of ancient buildings and historic sites that could be given the benefit of this effective combination; and providing the scripts are well written the treatment can be a valuable aid to the appreciation of history

**HOMO TAPIENS**

by

*Douglas Gardner*

as a thing of drama and excitement as well as mere academic interest.

Its secret, I am sure, is the way in which it stimulates the imagination without introducing any material changes to the scene; sound, aided by the play of light, conjures up visions in the mind's eye, and that is something much closer to historical realism than physical representation could possibly be.

Actors appearing before the walls of a castle are too obviously substitutes for the persons of Richard III and his followers but the clattering of hoofs in a courtyard, the blare of trumpets from the battlements and the sound of voices from windows can very nearly convince one that the past is somehow being relived again.

Here is a chance for tape recording groups or individuals to prepare a sound track that can conjure up some of the dramatic episodes of the past associated with old buildings or historic sites in their own districts. The local authorities would certainly be interested and might well take up the scheme as a practical project for next summer.

These experiments have emphasised one of the deeper truths of creative sound recording, that the separation of sound from its physical source can often

add, through the imagination, more than is lost through the elimination of vision.

You can confirm this yourself in your own home by preparing a simple script placing the participants in a rather unusual situation—shall we say a spot near the summit of Snowdon—and dealing with an action subject such as the negotiation of a difficult rock.

Run it through once or twice without tape, then record it and listen to the playback.

Providing the voices are only reasonably natural, the players and any observers present will be surprised at the way in which the tape performance conveys the impression of having actually taken place on the side of the mountain. Once there are no bodies attached to the voices, one's imagination sails in readily to paint in the entire scene, getting nearer to realism, very often, than would be possible with the most realistic scenery and acting.

I am sure that there is a technique lying around somewhere, so far undiscovered, whereby the success of *Son et Lumière* can be repeated in small-scale productions.

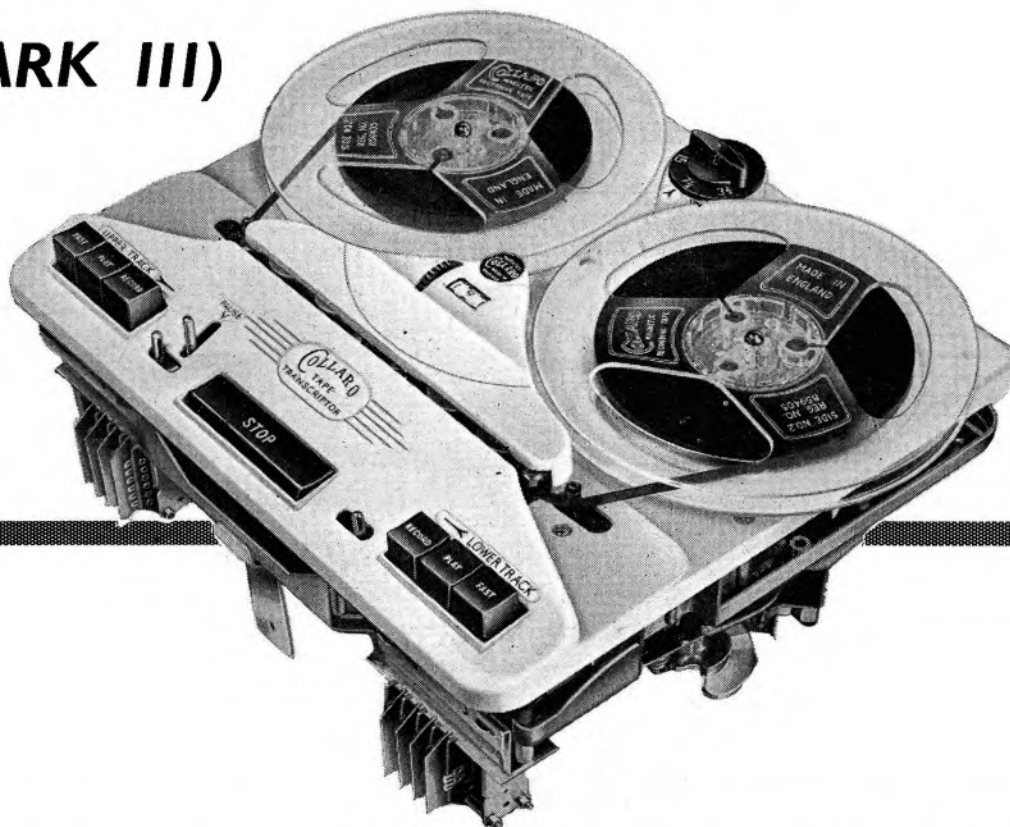
\* \* \*

There will be only a limited printing of the *Tape Recording Magazine Diary for 1958*, and if you want to make sure of having one you should write and order it soon. It will contain lists of manufacturers and tape clubs, glossary of tape terms, a tape time-table and many other useful features. The price is 4s. 6d., post free, including pencil.



# THE NEW COLLARO TAPE TRANSCRIPTOR

(MARK III)



This new High-Fidelity Tape Transcriber has been designed on Transcription quality principles for live recording, recording from F.M. Broadcasts, etc., and for reproducing pre-recorded tapes. A twin-track model fitted with two sets of heads, it runs at speeds of  $3\frac{3}{4}$ ,  $7\frac{1}{2}$  and 15 inches per second. It has low wattage input motors, and the tape tensioning is automatic.

The operation and the braking are mechanical and performed without the aid of solenoids. The 3-speed mechanism effects the final drive through the periphery

of a heavyweight flywheel and is instantaneously reversible. The drive pulleys retract automatically when the machine is switched off.

Several new modifications are incorporated in the Mark III, including the Pause Control (which enables the operator to record only the required parts of the programme) and removable switches. A pre-amplifier, incorporating bias oscillator and power pack for the Tape Transcriber, is now available.



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# School exchanges have immense value

**M**Y main object in joining World Tape Pals, just over two years ago, was to establish contact by tape with people in various parts of the world and so play a small part in creating better international relationships.

It was not long before I saw the possibility of making this a much more potent movement by bringing in the school children, making tape exchanges between schools in various countries. WTP has a special section devoted to school exchanges, so it was quite easy to make contacts by selecting names from the school list. The result is that today the senior pupils in an elementary school in Scotland (age range from 10 to 13) are in regular contact with other schools in New Zealand, Australia and the USA.

The initial tape usually consists of short talks by the pupils, giving such information as the exact geographical location of the school, a description of the school itself, and some details of the town or village in which we live. Other pupils ask questions about the country to which we are sending our tape and this gives the pupils at the other end something definite to speak about when they reply.

The microphone is sometimes taken outside the school to let our friends overseas hear the sounds with which we are familiar—the singing of birds, the noise of tractors or reapers in the fields, or the sound of children at play. This gives our tape “atmosphere” and enables our friends to picture our school and its surroundings. With our introductory tape there goes a list of all our senior pupils—their names, ages and hobbies.

When the tape returns to us we usually have personal messages addressed to the children here, as well as the answers to our queries. It is a thrill for the individual pupil to hear his name being called out by some other boy or girl thousands of miles away! A pupil-to-pupil contact is established and, at the



says **ROBERT ELLIS**  
Headmaster of Whitsome  
Public School, Berwickshire

(seen with some of his pupils  
in the photograph above)

same time, a part of the tape is reserved for the teachers so that they can get to know one another, too. They discuss items that might be included in future tapes and have a word or two about teaching methods, or they might just have a friendly chat.

After the exchange of the first two or three tapes, it is found that the children readily volunteer to recite poetry, sing songs or describe some local event or special occasion for their friends overseas. Indeed, the overseas children soon become known to our pupils by their

Christian names and we hear them speak about Margaret or Ron, of Taupaki, New Zealand, or John and Laura, of New York.

In addition to the normal tape exchanges, we send and receive occasional special tapes. These consist of a tape commentary to accompany the showing of twenty or so coloured slides. The commentary is usually given by several pupils, each pupil describing two or three slides. A typical commentary would go something like this: “You are now looking at Slide No. 1 and there you will see my picture. My name is Betty McKinnon and I am eleven years old. I am going to tell you about the next three slides. Slide No. 2 shows the outside of our school. In the foreground is the playground and part of the shed where we shelter in bad weather. The door on the left is the main entrance. . . .”

Other slides would show interior shots of the school, pictures of the children at work and at play, pictures of school sports, etc. These slides would be interspersed by pictures of each pupil as he or she takes up the tape commentary.

When we first began to exchange tapes, there was a natural shyness on the part of the children to talk into the microphone. There was also a certain surprise, even amusement, when they first heard their tape friends speak with an accent so different from their own. They soon overcame any fears that the microphone held for them, however, and after the first couple of tapes they accepted the new accents as perfectly natural.

The educational value of such exchanges is immense. Apart altogether from the important contribution to goodwill and international friendship, it has been found that pupils gain a great deal from the tape exchanges. Children who have never been very keen on geography, for example, suddenly find a new interest in their text books and atlas and are anxious to learn as much as possible

(Continued on page 31)

## If you want to join in

*Does any British school wish to establish tape contact with schools in New Zealand?*

*Mr. Robert Ellis, of Whitsome, Berwickshire, a pioneer of school exchanges of this sort, has received more invitations from New Zealand than he can cope with. His school already has contact with four schools “down under.”*

*He sends us two letters inviting British schools to establish contact.*

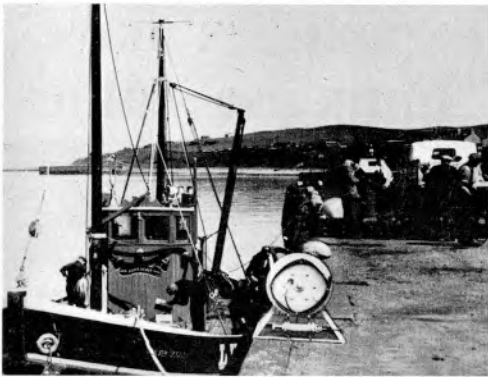
*First is from Miss Robin Baverstock, of Kohimarama School, Kohimarama, Auckland, E.I., New Zealand. She writes on behalf of form one at the school, which uses a Vortexion and “would like to learn more of the ways*

*and people of other countries through the exchange of tapes.”*

*Kohimarama is a waterfront suburb and the popular interests there are swimming, boating and fishing. Ages of the class are ten to twelve.*

*Second letter is from Mr. Douglas W. Jenkins, headmaster of Thornbury School, c/o Post Office, Thornbury, Southland, New Zealand. “Here we have 67 pupils, two teachers and visiting specialists for physical education, art and nature study,” he writes. “My recorder is a Pyrox Magictape, 7½ ips, only right-left play on top track, coated side out. By putting a twist in the tape when playing back on a left-right play machine (or rewinding), no trouble is experienced.*

# HOW TO RECORD FISH



Preparing to go to sea for a recording session. The hydrophone can be seen standing on the quayside.

*The shrimp sounds like a garden bonfire, porpoises howl and some whales cheer; the cod sounds like a retired colonel clearing his throat. Ronald W. Lawrie describes*

**T**AKE one small ship, one magnetic tape recorder, one hydrophone; add one large anti-sickness tablet, with salt water to distaste, and shake continuously by rocking and rolling; record and record *ad nauseam* at top speed.

Thus one might encourage (or discourage) the newcomer to recording at sea. But he should also be told that his patience may be rewarded in the distant future by a truly wonderful variety of unusual and unknown sounds.

Marine life can be divided into three groups of sound producers—crustacea, fish and mammals.

Amongst the crustaceans the American Snapping Shrimp is probably the noisiest, producing a practically continuous sound which increases at night, especially just after sunset and before sunrise. Frequencies upwards of 2 kc/s are produced and the sound is rather like crackling fat or a garden bonfire.

Croakers produce woodpecker noises which consist of repeated groups of 250 c/s but, in contrast to the Snapping Shrimp, the Croaker is migratory, and a marked variation in intensity occurs daily and seasonally. Feeding habits also influence their sound production.

Toadfish sounds are reminiscent of a Mississippi steamboat, whilst cod could be mistaken for a retired Colonel clearing his throat. Porpoises produce howls which are a cross between barking and gobble-gobbles. Some whales behave like a cheering crowd, whilst sharp and prolonged howls are given out intermittently by others.

The enthusiast who sets out to record these sounds will encounter difficulties. He will find that the weakest, most insignificant whisper is produced by the source in which he is most interested. Eventually the less stoic person may feel like retiring gracefully to Wembley Park to record a pin being dropped one moment after Scotland has scored at an International.

But difficulties are the lifeblood of the tape enthusiast and many of the snags will soon assume their proper perspective and suggest appropriate remedies.

Ships and their crews, water motion and marine life are the three main sources of underwater sound, and these sources are neither constant nor proportional in output, although a particular source may always produce the predominant sounds in a certain

area. Such variation in amplitude is characteristic of underwater sounds and is due to seasonal or daily effects and also to the distance the sound has travelled. This makes it difficult to assess the actual sounds or give estimates of the expected volumes.

In a busy port the noise level due to ships is, of course, tremendous, whilst a ship at sea is a floating power station and engineering works and its only rival as a sound producer is water motion. Main engines, steering gear, fuel pumps, water pumps, fans, winches, dynamos, rotary converters, echo-sounders, Scots engineers, and sailors all vie with each other to produce the maximum noise.

Unfortunately, the result is bedlam and the omni-directional microphone becomes such a doubtful acquisition that it may be necessary to screen it from noises above by means of an expanded rubber or foam reflector. It is not known how fish are affected by such noises, but sometimes they are disturbed and one imagines they might well become neurotic! Possibly they produce sounds in response but, more likely, they are struck dumb with horror.

Water noise can be produced by tides, wind, rain, hail, pack ice, icebergs, and sand or gravel movement on the bottom. Usually the volume is related to the wind speed and wave height, and these have been used to estimate the probable noise level. The noise level on a fairly rough day can be more than a hundred times that on a very calm day. Water motion is present almost everywhere, but certainly in the open sea clear of shipping it is the greatest source of sound and will dominate the others. Some recordings have shown that frequencies up to 10 kc/s have been produced by rough seas and by tides, and frequencies about 1kc/s by rain.

Now a few hints on how to tackle the recording and to overcome some of the difficulties.

Perfect suppression of ship's equipment should reduce interference noises, improved circuit design may reduce stray earth current hum, whilst an omni-directional crystal microphone attached directly to a pre-amplifier with cathode follower output will increase signal/noise ratio. In addition, heterodyning circuits and a first class recorder with the maximum possible frequency range will improve the chances of success, as the



The shrimp sounds like a garden bonfire, porpoises howl and some whales cheer; the cod sounds like a retired colonel clearing his throat. Ronald W. Lawrie describes

# HOW TO RECORD FISH

frequencies under investigation are usually unknown, even approximately. Finally a detailed analysis by aural and visual methods will make all the work and patience worth while.

Satisfactory results can only be achieved by using a complete check of equipment with each link of equal quality and matching closely, without sacrificing flexibility. The vital components of this chain are an underwater microphone with its pre-amplifier, one or two amplifiers, a magnetic tape recorder, an oscilloscope, and a waveform analyser, if funds permit.

In underwater work the hand microphone is replaced by the hydrophone, which is a brass cylinder with two end plates bolted to it to form a watertight unit. One end has a gland which accepts a screened cable and the other end projects to form a housing for the crystal microphone, which is covered by rubber diaphragms to provide a water seal which readily transfers pressure changes to the microphone.

This microphone consists of three machined brass discs and two quartz discs which are stuck together, using a special heating technique to form a double-decker sandwich. No liquid filling is used and the microphone is omni-directional. In the cylinder itself there is a two-valve pre-amplifier or head amplifier, with a cathode follower output. A five core screened cable carries the power supplies and conveys the signal to a control unit and a first deck amplifier and thence to a main amplifier followed by a tape recorder. Battery power supplies are essential for the pre-amplifier and the first deck amplifier, but A.C. mains can sometimes be used for the remaining units.

A frequency range of 1 c/s to 30 kc/s or more with almost flat response throughout is reasonable for the pre-amplifier and other amplifiers. The pre-amplifier gain should be about 10 db. and the first deck amplifier gain about 80 db. In order to take advantage of the frequency range, an audio oscillator and a heterodyne mixer stage are essential, but a tremendous amount of interesting information can be obtained without these, as many sounds do occur in the lower frequency range. Signal monitoring should be available on each unit and will facilitate the tracing of unwanted noise.

The tape recorder must be top grade, and should have a frequency range extending to 15 kc/s with nearly flat response throughout. Wow and flutter should not exceed 0.2 per cent at 7½ ips, and the long term speed stability should be not more than 0.5 per cent with a constant

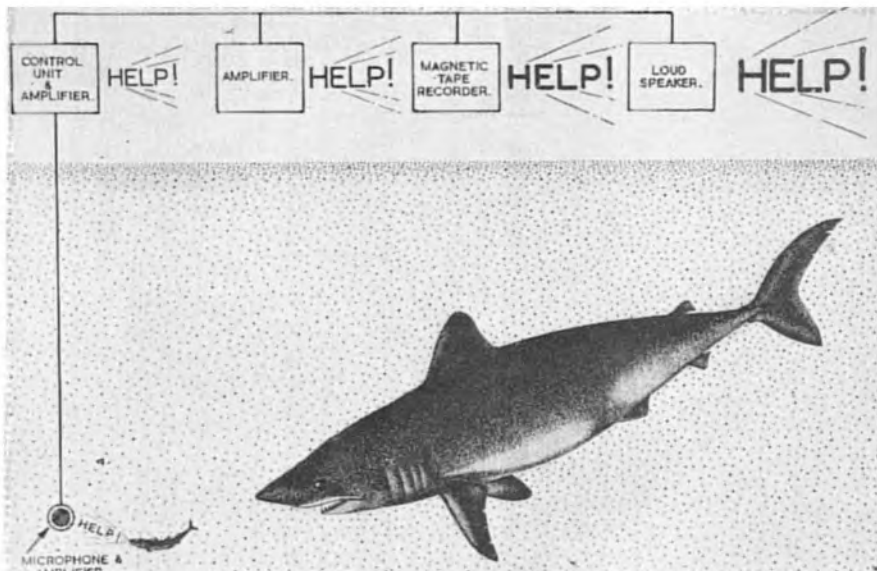
50c/s mains supply. A tape speed of 15 ips is essential, and a subsidiary speed of 7½ ips is useful for certain investigations.

A range of input impedances which should include one suitable for a commentary microphone, will improve flexibility and make for easy experimenting under trying conditions. Normal monitoring by internal and external speakers and by high impedance phones should be provided. It is preferable to monitor the sound immediately after recording, as this provides a check on tape noise and other unwanted material. Balanced or unbalanced 600 ohms line outputs are invaluable. All connecting cables should have an earthed screen, and a wide selection of lengths should be kept handy. Always remember, the more spares the fewer grey hairs.

When designing the hydrophone circuits and their layout, it is important to realise that trouble can be caused by loop circuits, microphony and interference from the recorder A.C. supplies which will be provided by a rotary convertor. Robust and compact equipment is essential, as space is limited and always inconveniently shaped and badly placed.

Whilst recording at sea a comprehensive log must be kept  
(Continued on page 18)

AN ARTIST'S IMPRESSION OF THE METHOD OF PICKING UP, AMPLIFYING AND RECORDING UNDER-WATER SOUNDS.



(Continued from page 17)

and should give position, depth, the state of the sea and weather, the control settings on the equipment in use, what noise producers are in operation on board ship, and what other vessels there are in the neighbourhood.

The log of a recording might read thus: "S.E. wind force 3, slight swell, main engine off throughout, fish traces on echo-sounder at interval, control settings such and such, distant ship's propeller heard continuously, water noises throughout, large object dropped in engine room followed by peculiar roaring at 10 minutes, plops and splashing sound at 12 to 18 minutes, raucous honks intermittently, horrible moaning at 20 minutes, occasional barking howls and so on. N.B. Porpoises near ship."

Afterwards the recordings should be analysed carefully, in relation to the log book, by repeated listening on playback and then at least by oscilloscope examination. If possible a waveform analyser and an oscilloscope should be used to determine the sound levels at intervals of 1c/s.

A method known as Octave Analysis can follow this. Graphs should be plotted from the various readings obtained and studied at leisure.

Whatever method is used, it is best to cut the tape into lengths suitable for making continuous loops which can be played over many times. Tapes on which there is good information should be preserved, but other tapes should be used only once for this type of work unless they have been cleaned and checked by oscilloscope. Detailed recordings of the background ship noises alone should be analysed to provide a reference for future work.

Proper analysis will show the various frequencies present and, by reference to a number of previous proved results,

it will be reasonable to assume that some of the sounds were produced by, say, porpoises, but that the others, apart from water noise, were unidentifiable at the moment.

In my experience, many of the sounds encountered have been in the lower frequencies but identification has been doubtful or impossible in view of the large amount of interference and water noise present. This raises a serious problem and, therefore, when the animals producing certain sounds cannot be seen, some method must be devised for capturing them and proving beyond doubt that they have been responsible.

As might be expected, this is not easy to do satisfactorily and tank experiments are necessary to achieve even a partial answer to this and other problems. Some fish will not produce sounds in tanks; others will not produce sounds when required, or if disturbed in the sea; whilst many will only produce sound when they are stimulated by a particular frequency or group of frequencies. On the whole, fish are not at all co-operative, either in the sea or in tanks, and if they are helpful in tanks, the conditions are unrealistic and do not prove what their reaction will be in the sea.

One other difficulty is that types of fish being investigated are not always easily located. An echo-sounder must be used to track them down and follow them when they move away. This can be even more soul-destroying than listening unproductively for hours on end. Then the waiting time can be spent studying a dictionary or encyclopædia seeking new words to describe sounds heard. But usually only the Scottish language is suitable. A Scottish word is essential, for example, to describe the awesome sound made by pack ice or the sound of an engineer in pain.

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## Mantovani gets a recorder

When Band-leader Mantovani recently left on a North American tour he took—besides his famous orchestra—a Grundig TK 830. He is seen here (left) receiving the machine from Mr. A. E. Johnson, chairman of Grundig, at a ceremony at their head office. Disc jockey and Mantovani agent George Elrick received a Grundig at the same ceremony.



# JUDGES PICK THE CONTEST WINNERS

## Important developments in 1958

**W**INNERS of the first British Amateur Tape Recording Contest will visit London on October 25th to receive their awards. The three distinguished judges—Miss Josephine Douglas, Mr. Tony Gibson and Mr. Eric Swain—have now completed their task of hearing and judging the feature tapes on “Summer 1957” entered in this pioneer contest.

Preliminary indications, as this issue goes to press, are that the Contest has aroused the widest interest and enthusiasm. Consideration is already being given to more ambitious plans for the 1958 Contest. Details will be announced in due course, but we can state that the Amateur Tape Recording Contest will henceforward rank as one of the greatest entertainment events in the calendar.

Those who have produced the winning tapes in this year's contest are pioneers. And when they come to London on October 25th they will be treated as such.

## SOUVENIR

A fully illustrated account of the events of this historic day will be published in the next issue of *Tape Recording Magazine*. Those who attend the official presentation of prizes and playback of tapes at the Cowdray Hall on the 25th will want this unique souvenir of the occasion.

Those who cannot be there will want to read about it. Accommodation at the Cowdray Hall is limited to 200 and admission will be by ticket only. These can be obtained from *Tape Recording Magazine*, 426 Camden Road, London, N.7, but there is a brisk demand and those who apply late may be unlucky.

At the Cowdray Hall function guests will include many leading representatives of the tape industry. Readers who are present will hear the best of the feature tapes, will have an opportunity to meet TV and radio stars Josephine Douglas and Tony Gibson, and the editors of *Tape Recording Magazine*, and will hear (by courtesy of EMI) a demonstration of stereophonic music on tape. Light refreshments will be available at popular prices.

The winners, of course, will start their programme earlier in the day, with a visit to the EMI factory at Hayes to see the famous “Emitape” being made. Then they will attend a special luncheon at the Savoy Hotel, and later a professional recording session at the EMI studios in London.

*(Yet another addition to the prize list comes from Messrs. Multicore Solders, Hemel Hempstead, Herts, manufacturers of the “Bib” splicers. They are giving three splicers which will be distributed among the runners-up.)*

## U.S. INTRODUCES PHONE-RECORDERS

From **WILLIAM FARQUHAR**  
(Our American Correspondent)

**A**N ingenious use of magnetic recording has been made by the Bell Telephone Company in the United States. It consists of a machine which automatically answers the telephones of subscribers when they are out.

The device comprises two magnetic drums 4 inches in diameter, one 1½ inches broad and the second 5½ inches, which revolve on a common axis at 20 revolutions a minute.

The ringing of the telephone automatically turns on the machine, tripping a relay which causes the magnetic head to pick up from the smaller of the two drums a message, previously recorded by the subscriber prior to his or her departure. This usually sounds something like “*This is John Smith, I am away from home (or my office) till . . . hours. When you hear the beep tone you may leave your name and number and any message not exceeding 30 seconds in length.*”

Another relay then throws the second drum into play which will then accept any message left by a caller. This drum has space for twenty 30-second messages before it is erased and put back into use.

On returning home the subscriber simply switches to play back, listens to such calls as have been received in his absence, wipes off the second drum and, prior to his next absence, records an appropriate message on the first.

The machine is available in two models, a message transmitter only and a message transmitter and receiver. The former is gaining much popularity with theatres where programme information is needed or with firms wanting a way to inform customers of their business hours.

The telephone company rents these recorders at a cost of about £4 a month, with a slightly higher charge for installation.

Experiments are proceeding with a more complex machine, with which the subscriber, by dialing a code of numbers and then his own, can call his home and have any messages received recited to him.



Another article in our series of **TAPE RECORDERS REVIEWED**

# The GRUNDIG TK. 830/3D

By E. SWAIN, A.M.I.E.E., A.M.Brit.I.R.E.

**T**HERE have, in the past, been many instances of a manufacturer establishing such a reputation within his particular field that his name has become synonymous with the general product.

While I do not think this has happened to the same extent in the tape recorder field as in others, it is nevertheless beyond dispute that even to the layman to whom tape recording is just another of these new-fangled inventions, the name Grundig is known.

Many fine products have emanated from the Grundig laboratories in recent years and it was with real pleasure and keen anticipation that I accepted the opportunity to review their latest recorder—the TK.830/3D.

Performance consideration apart, the Grundig machines have always been noted for their attractive streamline styling and quality of finish. This latest product, finished in three tones of grey with cream controls, fully maintains the excellent reputation created by the earlier Grundig models.

The recorder is supplied with two speeds, namely 3.75 and 7.5 ips. The recording sense complies with C.C.I.R. specifications and dual track facilities are provided without the necessity of having to reverse the spools. Four heads are provided—two erase and two recording heads, these being sited at different levels for dual track operation. The recorder will accommodate up to 7 inch spools of tape.

## THE MAKERS

**Grundig (Great Britain) Ltd.**

**39, New Oxford St., London, W.C.1**

Input sockets are provided for microphone, radio or gram, and also for a direct feed from the diode of a radio tuner unit. The choice of input is easily made by a bank of switches placed on the left-hand side of the recorder. A sensitive "magic eye" recording level indicator is provided, as is also a digital indicator for accurate position location on the tape. On the right-hand side of the recorder another bank of switches gives a wide range of tone control.

Two special features of this recorder are the provision of a button which serves a triple purpose; it can be used as a "pause" control to stop the tape during a recording without switching off the motors, while when in the locked position it leaves the operator free to adjust the recording level control, which is situated on the left-hand side of the recorder, before the tape starts moving. Its third purpose is to protect the user against accidental engagement of the "record" position and thus erasing a recording already made.

The second feature is a push button described as a loudspeaker/erase button. This button serves a dual purpose; when depressed on play-back it cuts out the internal loudspeaker, while in the "record" position it will, when depressed, prevent any erasure and thus enable the operator to superimpose a new recording on top of a previous recording.

The amplifier consists of six valves plus "magic-eye" level indicator and four metal rectifiers. When the record position is engaged, the appropriate input is selected as already mentioned by a bank of switches on the left-hand side of the recorder.

The microphone socket, which is intended for use with a condenser microphone, is supplied with a polarising voltage of 100v.D.C. Input signals are fed to the control grid of the first stage (EF86) and thence to the two halves of a double triode (ECC81) which are connected in cascade.

The output from the second triode is fed to the recording head through a suitable correcting network. The signal is also taken from this point to the level indicator EM71. The oscillator providing the erase and bias currents is a Hartley circuit employing one of the output valves (EL95), the frequency being 70 kc/s.

On playback all the input sockets are disconnected and the oscillator circuit is broken. The respective playback head is connected to the grid of the EF86, the output of which is again fed to the double triode ECC81, but this time the compensation network is switched to provide the necessary playback characteristic. During playback the recording level control is inoperative.

The output from the volume control is fed into the first half of another double triode, this time an ECC83. The two triodes are again connected in cascade but the second one is connected as a phase splitter providing the anti-phase feed to two EL95 pentodes connected in Class A Push/Pull. Overall negative feedback is applied from the secondary of the output transformer to the cathode of the first half of the ECC83. The amplifier delivers six watts into three 7 inch by 5 inch elliptical loudspeakers connected in series across the secondary of the output transformer.

An external loudspeaker socket is provided, this being combined with a high impedance output intended for monitoring purposes.

The deck is fitted with a single split phase induction motor from which the spools are driven by plastic belts via electromagnetic clutches. Efficient tape guides are provided, thus ensuring even winding of the tape on the spools.

The wow and flutter content is claimed to be 0.3 per cent at 7.5 ips and 0.5 per cent at 3.75 ips. From tests made on this recorder at both speeds, I got the impression that the wow and flutter content was every bit as low as many other recorders who make claim to a considerably lower level of wow content.

The time taken for fast rewind in either direction was almost exactly 2½ minutes. A check of the tape speed on both 3.75 and 7.5 ips showed that in each case it was extremely accurate.

The direct recording tests were made first using a condenser microphone, the Grundig GCM3. This is a very sensitive high quality microphone that did full justice to the capabilities of the recorder. The speech recordings made, whether on 7.5 or 3.75 ips, were among the best I have heard. I then applied to the Grundig Mixer GMU3 the output from the condenser microphone and the output from the Grundig high impedance moving coil microphone GDM.3Z.

This mixer, which is a recent Grundig product, is a very



The Grundig TK.830/3D tape recorder showing the attractive streamline styling and finish, together with the push-button deck which is incorporated.



(Continued from previous page)

smart looking little unit; self-powered, it provides for two condenser microphone inputs, one high impedance input from either a dynamic or ribbon microphone and an additional sound channel into which one may put the output from radio or gram. I used this additional sound channel to put in the output from an ACOS MIC.36 crystal microphone.

I now made speech recordings bringing in different microphones in turn in order to assess their individual performance, and although in each and every case the recording was crystal clear, I was particularly impressed with the reproduction obtained using the GD.M3 dynamic microphone.

**THE SIZE**.....

**Overall dimensions: 16" x 17" x 9"**

**Weight: 46 lbs.**

Recordings were next made direct from the Collaro transcriber pick-up and the reproduction was quite superb. It is to the great credit of the speaker system employed on this recorder that it was difficult to notice any worthwhile improvement on the reproduction even when played on a high quality external speaker system.

The recordings direct from the pick-up were then repeated using the slower speed and reproduction was so good that I would be strongly tempted, were I ever in the fortunate position of owning one of these machines, to use that speed and gain the advantage of extra playing time. I can with all truth say that I have never heard better reproduction at 3.75 ips.

I next tried recording a telephone conversation using the Grundig Telephone Adaptor TA3; the result, like everything else connected with this recorder, left very little to be desired.

The recorder was then used as a high quality amplifier alone and the reproduction was found to be comparable with that of a well-known quality amplifier. I was particularly impressed with the very wide range of tone controls available.

Finally I tried the Grundig RCF55 Remote Foot Control. This is provided with two pressures—the first causing the recorder to move in the correct direction for the track engaged while the second pressure causes the direction of the tape to

**THE PRICE**.....

**100 guineas  
(excluding microphone)**

reverse. This is a particularly useful accessory for transcribing purposes. One must be wary of accidentally applying the second pressure during a recording, in which case erasure of part of the recording would occur. There is, however, sufficient difference, in the two pressures to make such an occurrence unlikely. The response of the recorder to the application of the foot control was almost instantaneous.

The only criticisms I have of this recorder are not really directed at the recorder as such. I personally would find it a bit disconcerting to pay 100 guineas for a recorder and then find it was necessary for me to obtain a special lead at a price of 10s. 6d. before I could record from any source other than the microphone.

My other criticism concerns the mains lead. The manufacturers rightly stress that the recorder should be earthed for best results and yet they provide only a two-pin mains input socket and a separate socket for plugging in the earth connection. This makes for rather an untidy arrangement and is especially annoying on equipment that is intended to be portable. The very simple tidy remedy is to supply a three-pin mains input socket.

These criticisms are not serious ones and cannot in any way detract from the very high opinion I have formed of this machine in the all too short time I have been privileged to have it in my possession.

**BIG NEWS**

**Watch next month's issue for details of exciting plans to enlarge and improve TAPE RECORDING MAGAZINE in the New Year.**

**They will make it a publication unique in British journalism.**



**NEWS FROM MANUFACTURERS**

# A CONTINENTAL INVASION

## Germans and Swiss move in on British Market

German and Swiss manufacturers of tape equipment are moving in on the British market in a big way. This month comes news of four machines which are now available for the first time here—two of them German and the others Swiss. And there are indications that other models will soon appear.

It is clear that manufacturers all over Europe have the greatest confidence that there will be a steady expansion of sales in Britain. But the prospects are now of keen competition in 1958.

Below we print brief details of the new machines which will soon be reaching retailers.

### TELEFUNKEN

**T**ELEFUNKEN recorders have a high reputation in Germany, and their two models for the British market will arouse interest. They have been introduced by the Welmec Corporation Ltd., 147, Strand, London, W.C. 2, who are the sole distributors.

There are basically two models, the KL 35 and the KL 65, but a feature of the latter is that its tape deck and associated equipment can be obtained as a separate unit (KL 65 TS, priced at £47 10s.) for playing through an existing amplifier and loudspeaker system.

When desired, the rest of the machine can be acquired—power stage and loudspeaker in case—to bring it up to the complete portable version. If the whole outfit is obtained together it is known as the KL 65 KS and costs £63.

The KL 65 has two speeds, 1½ and 3½ ips, with claimed frequency ranges of 60—6,000 cps and 60—11,000 cps respectively. It has twin-track operation according to international standards and very neat press-button controls, including a pause control that can be locked in position.

There are also connections for earphones and remote control and the appropriate equipment is available, including typist's control key and foot pedal, to enable it to be used as an office machine. The neatness and lightness of the KL 65 KS (it weighs 18 lbs), make it particularly suitable for office use.

The KL 35 is a larger machine, aiming to fulfil very exacting requirements. It has two tape speeds, 3½ and 7½ ips, and with the faster speed the frequency response is given as 40—16,000 cps level. There are dual tracks according to international standards, and tape reels up to 7 inches can be accommodated.

The KL 35 has three recording inputs (for microphone, radio and gramophone), and all three have separate local controls and can be mixed. There are also facilities for superimposition. Three separate heads are provided for recording, play back and erasure, and there are outputs for external loudspeakers and monitoring headphones. Two loudspeakers are installed. The weight is 41 lbs and the price £108.

Dynamic microphones available are: DNA, £6 extra; D 11/HI, £8 10s. extra; and D 11/HIB, £9 10s. extra.

### REVOX

**V**ISITORS to the BSRA exhibition were able to study the performance of the Swiss-made Revox B 36 tape recorder, which was presented by Romagna Reproducers Ltd., 2, Sarnesfield Road, Enfield, Middlesex, the sole distributors in the United Kingdom.

It operates at 3½ and 7½ ips and is designed to accommodate up to 10-inch spools. Model 36-1 is a one-track machine and model 36-2 is dual-track.

*(Continued on opposite page)*



Above, the Telefunken tape recorder which is described on this page, and, below, the Harting HM6 tape recorder outlined on the next page.



The frequency response at the faster speed is given as 40 to 15,000 and as 60 to 7,000 cps at  $3\frac{1}{2}$  ips.

Other features of the Revox are :

Separate recording and playback heads, and separate recording and playback amplifiers, with immediate monitoring by the playback head.

Three motors, eliminating use of rubber belts, gears and friction rollers.

Push-button operation for all functions.

Built-in 9-inch speaker, with on-off switch and connection to external speaker or hi-fi system.

Three inputs for microphone, radio/gramophone and diode/auxiliary.

Connection for foot switch or other remote control.

Tape revolution counter, magic eye and end-of-tape switch-off without foils.

The price of the Revox B 36 with a 10-inch spool of tape, but no microphone, is £115 10s.

## NAGRA

**F**ROM Lausanne comes news that the firm of Stefan Kudelski is almost ready to market a new version of the famous "Nagra" portable recorder. These machines are not yet available in Britain, but we understand that they may make their appearance here in the near future.

The Nagra III, according to the provisional data supplied, is even smaller and lighter than previous models. An important feature is a special motor, the speed of which is controlled by a transistorised electronic device. Both the motor and the amplifier require a single DC power supply, which can be drawn from five flashlight batteries contained in the recorder itself, or from accumulators, a car battery, or an AC power line through a rectifier.

The Nagra III has three speeds,  $3\frac{1}{2}$ ,  $7\frac{1}{2}$  and 15 ips. It takes 5-inch reels with the lid closed, or 7-inch reels with the lid open.

The frequency response at the fastest speed is given as 50 to 16,000 cps; at  $7\frac{1}{2}$  ips, 50 to 10,000 cps; and at the slowest speed the characteristics are adjusted to give maximum intelligibility when recording speech.

Distortion, intermodulation, dynamic characteristics and azimuth stability values are stated to be in accordance with professional specifications.

The monitoring system is designed so that the operator, when using headphones, hears the sounds picked up by the microphone. A moving coil modulometer is connected to the microphone amplifier and, when recording is in progress, the headphones and the modulometer are switched to a monitoring playback head so that a continuous check is provided of what is being recorded.

For laboratory purposes, the Nagra III Special is available, with a frequency range of 30 to 20,000 cps.

## HARTING

**T**HE Harting HM6 tape recorder, manufactured by the Wilhelm Harting Company of Western Germany, has been about five years in preparation and the makers claim that it is built to professional broadcasting standards. It is now made available in this country by Technical Suppliers Ltd., 63, Goldhawk Road, London, W.12, at a price of 82 guineas excluding microphone.

At the top speed of  $7\frac{1}{2}$  ips the frequency response is given as 50 to 15,000 cps and at  $3\frac{1}{2}$  ips the figures are 50 c/s to 9,000 cps. The total of wow and flutter is stated to be better than .1 of 1%, and the signal to noise ratio better than 52 db unweighted.

Special efforts have been made to achieve trouble-free use through simple design and robust construction. The claim is made, in fact, that the mechanical and electronic mechanisms are absolutely fool-proof.

Other features of the HM6 include: Lorenz 9 in. x 6 in. bass and  $2\frac{1}{2}$  in. treble high fidelity speakers; digital counter, plus oral indication on fast rewind; fluorescent beam recording level indicator; monitoring facilities; tone control; sockets for microphone, radio, gramophone, remote control and external speaker; press button operation with safety switch for record.

Recommended microphones are: MD403 moving coil studio microphone at  $9\frac{1}{2}$  gns., or crystal microphone at 5 gns.

## SPURS STAR AT TAPE CONTEST



**T**ELETAPE, the tape recorder specialists, popularised a wide range of models at the recent Enfield Show. Twenty machines were on their stand and a hundred entries were received for a competition. The tape recorder prize was presented to the winner, Mr. Reginald Bray, of Enfield, by Danny Blanchflower, the Tottenham Hotspur football star. Mrs. J. Tughan, proprietor of Teletape, is seen on the left.

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counts



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For those who possess a high-fidelity system and, for which, only tape deck is required, the Sonomag Adaptatape is the answer. Simple to instal into your existing cabinet, the Adaptatape costs only 38 guineas and includes the Collaro Mark III deck, pre-amplifier and power pack.



*A glimpse of one of the assembly sections of the bright new factory of E.A.P. (Tape Recorders) Ltd. at Bridge Close, Oldchurch Road, Romford, Essex. These new premises provide full facilities for the rigorous testing at every stage which is an important part of E.A.P. policy. The official opening of the factory and offices took place on September 25, when a gathering of trade and press representatives were shown round the building as the first production models of the Essex tape recorder were going through the assembly process.*

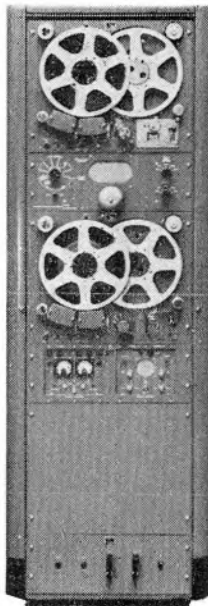
## TV SOUND ON TAPE

32 hours without change

**T**HE ability to record single channel for 32 hours without change of tape is a remarkable feature of this modified Simon standard 4-channel LDT 14, ordered recently by Scottish Television Ltd. for installation in their Glasgow studios. Associated Rediffusion Ltd. and Granada T.V. Ltd. already have similar installations at Wembley and Manchester.

They record, for reference purposes, the whole sound content of the television programmes put out by these studios.

The LTD 14 was originally designed for ground-air communications at airports and airfields, and this multi-channel equipment now plays an equally important part in such fields as those described above, in industry, and in the communications systems of such authorities as the London Fire Brigade.



## New Products Roundup

# TAPE TO AMP.

**A**MONG a number of important items shown for the first time at the recent B.S.R.A. Exhibition in London was the new Rogers Junior Tape Record Unit, which will be available in November or December. This unit tackles the vital problem of linking tape decks with high fidelity amplifiers, and will be eagerly awaited by all who know the Rogers organisation's contribution to the cause of better sound at reasonable cost.

In the same field is the new Expert "45" Record Amplifier, to be released in November. It was originally designed for tape decks using separate record and playback heads, but the Expert "45" Type 2D is suitable for decks using a single head for record and playback. The price will be £45.

Musicraft were showing the new Audiomaster amplifier, which incorporates pre-amp and tape equalisation facilities. Any first class medium impedance tape head can, it is stated, be connected directly to the unit. The price is £59 10s.

\* \* \*

The current interest in lightweight tape recorders directs attention to the Italian-made Elpico-Geloso, which weighs only 7½ lbs. but performs many useful functions. In addition to normal microphone recording and playback, at 1½ and 3½ ips, it can be used for recording from radio, PA work and office dictation. It has half-track recording and the voltage range is 100 to 240 v. 50 c/s AC.

The concessionaires in this country are Lee Products (Great Britain) Ltd., Elpico House, Longford Street, London, N.W.1, and the price of the recorder is 38 gns., complete with microphone, tape and a specially designed carrying bag.

\* \* \*

Portogram Radio Electrical Industries Ltd. inform us that they have now commenced production of the Portogram TR/100—their high fidelity tape recorder and reproducer in handsome modern cabinet, with the latest Collaro deck, 10 watt amplifier system and 10 inch p.m. speaker correctly baffled and air loaded. The price is 100 gns., and space is provided for the addition of FM radio unit and record playing unit.

\* \* \*

Many tape recordists have been impressed by the suitability of the CQ Reproducer, as a hi-fi extension speaker, and at the B.S.R.A. exhibition the makers of this very neat and compact speaker, CQ Audio Ltd. (formally R.G.A. Sound Services), introduced a matching cabinet to house a tape deck (or record player) and amplifier.

\* \* \*

The material from which the Emicase is made is transparent Polystyrene, and not Perspex as some recent announcements indicated.

\* \* \*

Due to appear soon at the time of going to press is a new mark Avantic tape player deck, with Servo brakes on each spool. It accommodates stereophonic or half track tapes. The manufacturers are Beam-Echo Ltd., Witham, Essex, whose products also include the Avantic DL7-35 amplifier, and the complete "Glyndebourne" high fidelity system in matched cabinets.

\* \* \*

"The Tape Enthusiast's ABC" recently published in two issues of *Tape Recording Magazine* is now available in attractive leaflet form. Copies may be obtained gratis by sending a stamped, addressed envelope to the Publicity Manager, Minnesota Mining and Manufacturing Co., 3 M House, Wigmore Street, London, W.1.

\* \* \*

Production models of the Walter "303" tape recorder now incorporate printed circuit technique.

⊕ In view of the many new machines now appearing on the market with this feature we have asked Eric Swain, our Technical Advisory Editor, to review the latest mark three

## COLLARO DECK

**T**HIS Collaro deck, which has a power consumption of 36 watts and weighs 16½ lbs., is a very sound piece of mechanical engineering and at the same time a most attractive looking piece of equipment. The strong rigid base plate is of cast alloy, while the cover plate is made of polystyrene, finished in cream. The controls are finished in maroon and all conveniently situated at the front of the deck.

Two motors are employed, each of which is dynamically balanced. The design is such that each motor performs only one function at a time. The deck is fitted with a very large diameter flywheel, the ground and lapped steel shaft of which runs on-a ball at the bottom of a long bearing.



Three speeds are provided, namely 15, 7.5 and 3.75 ips., and when these were checked on each track it was found that the error over a considerable length of tape was quite negligible.

The controls are quite positive and although I did fail to make contact on one or two occasions, with the inevitable result of having the tape wrapped round the deck mechanism, I suspect the blame lay more with my casual operating than with the deck. A safety switch is provided which must be operated before the record position is engaged, thus protecting the operator against the possibility of accidental erasure.

When the record or playback position was engaged the tape wound very evenly on either spool, but this high standard was not quite maintained during fast rewind when the winding was inclined to be rather loose and somewhat ragged.

The braking was quite effective, particularly when winding from left to right. There was, however, a tendency to get a spill-over from the supply spool when the tape was travelling from left to right on the fast rewind position. The "pause" control, the function of which is to stop the tape whilst leaving all switches and mechanical functions in their selected positions, worked very smoothly and there was no great tendency for the tape to jolt when the control was released.



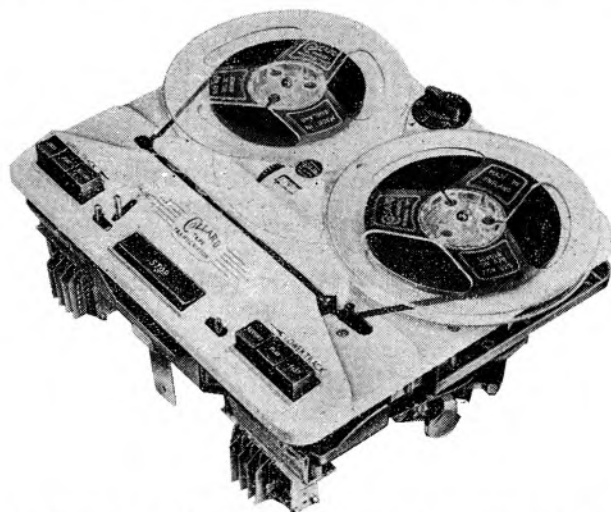
The digital counter, which is a fairly recent innovation on the Collaro deck, was found to be very accurate and it was found possible, with a little practice, to locate almost the exact spot required.

Change of track is accomplished merely in the time it takes to press two buttons, which is only about a second or two.

The deck is fitted with four heads—two erase and two playback heads. These are sited at different levels for dual track operation. All four heads are fully screened.

Up to 7 in. spools of tape may be accommodated providing 1200 ft. of standard tape.

I should point out in conclusion that the deck was reviewed as it was received. No attempt was made to carry out



A close-up of the Collaro deck showing many of the special features referred to in this review

any adjustments, so it must be borne in mind that some of my criticisms such as spill-over and loose winding on fast rewind would most probably yield to a few minutes attention from a service engineer.

The rewind time is, I understand, the subject of a proposed modification to this deck in order to reduce it to approximately 60 seconds. (On the model I had for review it was rather more).

There can be no doubt that in this deck Collaro have provided a fine piece of equipment and it well deserves the general acclamation accorded it by tape recording enthusiasts everywhere.

## Announcing the first TAPE RECORDING MAGAZINE DIARY for 1958

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## You can borrow from these libraries

THE tape record library movement is growing, but slowly so far. One of the pioneer library authorities has been Walthamstow, and Mr. J. W. Howes, Record Librarian at the Central Library there, gave *Tape Recording Magazine* this progress report:—

"We started issuing tape records about two years ago. So far we have issued eight single-channel classical tapes about 150 times. All have been returned without breakage—but in the very early days we had one accidental erasure!"

As far as his own district is concerned, Mr. Howes does not feel that progress has been substantial. He thinks, however, that a reasonably-priced domestic stereo system could alter the picture radically.

In Surrey, a Tape Record Library on a commercial basis has been established.

Directors John Howe and Richard Smith offer a postal library service on three, six and twelve month contracts. Normally tapes are exchanged monthly.

For an extra postal charge, additional changes may be affected.

A three months' contract for one reel costs £1 16s., three reels, £4 17s. 6d. (including postage).

A deposit system is available. Six and twelve month subscriptions are *pro rata* similar to three months.

The records are twin-track single channel on 7 inch spools, to be played at 7½ ips.

# Tape record news

Tape records are now being issued at a brisk pace by HMV and Columbia, and 36 titles on single-channel tape and a further 36 on stereosonic tape have been announced since the beginning of July.

We print this month a full list of the HMV single-channel issues. The Columbia complete list and the HMV stereosonic tapes will be listed next month.

With the latest issues, the serious music-lover gets a choice of performances on tape. For example, the latest Columbia list includes an Otto Klemperer interpretation of Beethoven's "Eroica" Symphony (CAT 292) to set beside the earlier Von Karajan performance of the same work (CAT 278).

Klemperer's Beethoven No. 7 is now issued on Columbia stereo (BTA 114); it was already available in a single-channel version for HMV, with Von Karajan conducting (CAT 282).

The new lists are well-balanced to suit many tastes. They include Schönberg and Hindemith and Bach's "Magnificat in D"; they include also a stereo selection from Gilbert and Sullivan's "The Gondoliers" and a "Waltztime in Vienna" selection of Johann Strauss 2nd.

And there is good measure for those who have more popular tastes. Bing Crosby stars with Buddy Bregman and his orchestra on HMV (HTD 817); there is an Ella Fitzgerald and Louis Armstrong HMV tape (HTD 816); and there is an HMV stereo selection from "Grab me a Gondola" (SCT 1515).

### H.M.V.

Sinfonia Antarctica (Vaughan Williams). The Hallé Orchestra, conducted by Sir John Barbirolli, with Margaret Ritchie (soprano) and a section of The Hallé Choir. HTA26.

"Manon" (Massenet). Cast includes: Victoria de los Angeles (soprano); Henri Legay (tenor); Michel Dens (baritone);

Jean Borthayre (baritone) and Chorus and Orchestra of the Théâtre National de L'Opéra Comique, conducted by Pierre Monteux; chorus master: Marcel Picheran. HTA27/30.

Solomon (Pianoforte) and The Philharmonia Orchestra, conducted by Otto Ackermann. Concerto No. 15 in B flat, K450 and Sonata No. 11 in A, K331 (Mozart). HTA31.

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	£	s.	d.	£	s.	d.	£	s.	d.
Brennell Tape Deck	18	18	0	2	1	6	C.S. 9 of 41/6		
Mk. II.....				9	9	9	H.P. 12 of 17/8		
Brennell Pre-Amp...	18	18	0	2	1	6	C.S. 9 of 41/6		
				9	9	9	H.P. 12 of 17/8		
Collaro Tape Deck	22	10	0	2	10	6	C.S. 9 of 48/10		
				11	5	0	H.P. 12 of 21/1		
Collaro Pre-Amp....	21	0	0	2	6	6	C.S. 9 of 46/2		
				10	10	3	H.P. 12 of 19/8		
Bradmatic Tape Deck	42	0	0	4	13	0	C.S. 9 of 92/4		
				21	0	6	H.P. 12 of 39/4		
Bradmatic Pre-Amp	75	0	0	8	5	0	C.S. 9 of 165/0		
				37	10	9	H.P. 12 of 65/3		
Truvox Tape Deck	23	2	0	2	11	5	C.S. 9 of 50/9		
Type III-U				11	11	9	H.P. 12 of 21/7		
Truvox Pre-Amp	16	16	0	1	17	4	C.S. 9 of 36/11		
Type "C"				8	8	0	H.P. 12 of 15/9		

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Second-hand				27	10	9	H.P. 12 of 51/6		
M.S.S. Type	65	0	0	7	3	0	C.S. 9 of 143/0		
PMR/DE				32	10	3	H.P. 12 of 60/11		
Simon Type SP/2...	65	0	0	7	3	0	C.S. 9 of 143/0		
				32	10	3	H.P. 12 of 60/11		
Spectone 120 Shop-soiled	72	0	0	7	19	6	C.S. 9 of 159/6		
				36	0	0	H.P. 12 of 67/6		
Spectone 122 Shop-soiled	58	0	0	6	7	9	C.S. 9 of 127/7		
				29	0	6	H.P. 12 of 54/4		
Elizabethan '57.....	68	5	0	7	10	1	C.S. 9 of 151/1		
				34	3	4	H.P. 12 of 63/11		
Vortexion 2A.....	92	0	0	10	3	0	C.S. 9 of 202/4		
				46	0	0	H.P. 12 of 86/3		
Ferrograph 3 A/N...	82	19	0	9	3	1	C.S. 9 of 182/5		
				41	9	9	H.P. 12 of 77/9		
Grundig TK8.....	75	12	0	7	11	10	C.S. 9 of 166/3		
				37	16	0	H.P. 12 of 63/2		
Grundig TK830.....	105	0	0	11	11	0	C.S. 9 of 231/0		
				52	10	3	H.P. 12 of 98/5		

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## H.M.V. TAPE ISSUES

(Continued from page 26)

"Il Tabarro" (Puccini). Cast includes Tito Gobbi (baritone), Giacinto Prandelli (tenor), Piero de Palma (tenor), Plinio Clabassi (bass), Margaret Mas (soprano), Miriam Pirazzini (mezzo-soprano), Renato Ercolani (tenor), Sylvia Bertona (soprano), and Orchestra of the Opera House, Rome, and section of the chorus of the Opera House, Rome, conducted by Vincenzo Bellezza. HTA32.

Great Scenes from "Boris Godounov." Boris Christoff (bass), Nicolai Gedda (tenor), André Bielecki (tenor), Eugenia Zareska (mezzo-soprano), and chœurs Russes de Paris and Orchestre National de la Radiodiffusion Française, conducted by Issay Dobrowen. HTA33.

The Philharmonia Orchestra, conducted by Guido Cantelli. Symphony No. 3 in F Major, Op. 90 (Brahms). HTB411.

Chicago Symphony Orchestra, conducted by Rafael Kubelik. Symphonic-Metamorphosis of Themes by Carl Maria von Weber (Hindemith) and five pieces for Orchestra (Schönberg). HTB412.

The Philharmonia Orchestra, conducted by Efrem Kurtz. "Souvenirs"—Ballet Suite (Barber) and "The Golden Age"—Ballet Suite (Shostakovitch). HTB413.

Jean Hammond (soprano) and The Philharmonia Orchestra, conducted by Glauco Curiel. Puccini Operatic Arias from "Suor Angelica," "Gianni Schicchi," "Madame Butterfly," "La Boheme," "La Fanciulla del West," "Tosca." HTB414.



Band of the Irish Guards, conducted by Capt. C. H. Jaegar. Regimental Quick March—St. Patrick's Day; Regimental Slow March—Let Erin Remember; Shepherd's Hey; Pitter pat parade; Andalusia; Dance of the Tumblers (from "Snow Maiden"); Fandango; Jigger's corn; March Lorraine; Perpetuum mobile; Diablero; Irish Washerwoman; La Sorrella; Wood Nymphs; El Caballero. HTC611.

"Funny Face," recorded from the sound-track of the Paramount film starring Audrey Hepburn, Fred Astaire and Kay Thompson. Orchestra conducted by Adolph Deutsch. HTC612.

The Philharmonia Orchestra, conducted by Nicolai Malko. Symphony No. 2 in B minor (Borodin) and Symphony No. 3 in A minor ("Unfinished") (Borodin orch. Glazounov). HTC613.

The Philharmonia Orchestra, conducted by Nicolai Malko. Beethoven Overtures: "Leonora," No. 3; "Coriolan"; "Die Geschöpfe des Prometheus." HTD814.

The Philharmonia Orchestra, conducted by Robert Irving. "La Boutique Fantasque"—Ballet Music (Rossini—Respighi). HTD815.



Ella Fitzgerald and Louis Armstrong, with Oscar Peterson (piano), Herb Ellis (guitar), Ray Brown (bass), Buddy Rich (drums): Can't we be friends; Isn't this a lovely day; Moonlight in Vermont; They can't take that away from me; Under a blanket of Blue; A Foggy Day; Cheek to Cheek; The nearness of you; April in Paris. HTD816.

Bing Crosby, with Buddy Bregman and his Orchestra: The Song is You; Mountain Greenery; Cheek to Cheek; 'Deed I Do; Heat Wave; The Blue Room; Have you met Miss Jones; I've got Five Dollars; They all Laughed; Nice work if you can get it; September in the Rain; Jeepers Creepers. HTD817.

"Mr. Top Hat," Songs and Dances by Fred Astaire, accompanied by Oscar Peterson (piano); Charlie Shavers (trumpet); Flip Phillips (tenor saxophone); Barney Kessel (guitar); Ray Brown (bass); Alvin Stoller (drums): Top Hat, White Tie and Tails; Isn't this a lovely day; 'S Wonderful; A Fine Romance; Change Partners; Steppin' out with my baby; They can't take that away from me; They all laughed; A Foggy Day; Let's call the whole thing off; Night and Day; I won't Dance; Slow Dance; Fast Dance. HTD818.

# GRAND PRIX THRILLS ON TAPE

By Stanley R. White

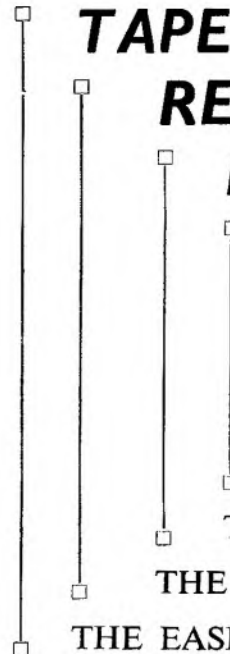
**P**EOPLE who record sounds as well as listen to them are likely to take a special interest in pre-recorded documentaries, and two of the best recordings I have heard in this or any other field have been issued recently by Stanley Schofield Productions Ltd., 6-8, Old Bond Street, London, W.1.

One of them (Sound Stories EP502), contains commentaries on the 8th and 9th R.A.C. British Grand Prix motor races held at Aintree in 1955 and at Silverstone in 1956. The brilliant commentary on both of these important events is spoken by Nevil Lloyd, and it is interwoven with the sounds of the cars as they speed around the circuits—the whine of exhausts, gear changes and the screeching of tyres. It is possible to recognise the distinctive sounds of the Ferrari's, Maserati's and Connaughts and the unmistakable Mercedes-Benz. The drivers are such familiar stars as Juan Manuel Fangio, Stirling Moss, Collins and Behra. All the sounds are captured with considerable realism and the quality of the recording is altogether outstanding. The speed used is 7½ ips, and the price of the tape complete with notes and maps of both circuits, is £1 10s.

Another very interesting story is told on Sound Stories EP501. It deals with the 1956 Diamond Jubilee Brighton Run for veteran cars. This tape also costs £1 10s.

These recordings, which are also available as e.p. discs at 17s. 6d., are obtainable from the manufacturers.

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**NEWS FROM THE CLUBS**

**A year of BATRS progress**

In September the BATRS, now the Incorporated British Amateur Tape Recording Society, celebrated the completion of its first year of activity. A new idea reported by General Secretary, E. Yates, is that “all tape recorder owners who are also BATRS members will in future be known as Tape Stations.”

Each “Station,” he reports, will be prefixed by a call sign; and he goes on to explain that these prefixes are international, only changeable by international convention and used by all radio amateurs and S.W. listeners, the following being effective for the British Isles: G- Great Britain; GM- Scotland; GW- Wales; GI- Northern Ireland; IE- Irish Free State; GC- Channel Islands; GD- Isle of Man. According to the country in which they live members will be given the correct prefix (for example MO/0073 becomes G-0073/T).

Mr. Yates adds that this station coding is the forerunner to future activities within the society, and that a master tape on these activities will shortly be available from the BATRS tape library.

BATRS subscriptions may now be sent in full and become payable again on the same date each year. The reduced subscription of 25s. for a corporate member and 30s. for an affiliate (public body), includes a full year's subscription to TAPE RECORDING MAGAZINE.

A new directory has been issued by Tape Respondents, International. Copies will be sent to British TRI members via BATRS headquarters in Chester.

(Continued on next page)

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**—NEW BATRS MEMBERS THIS MONTH—**

The following new members have joined the BATRS in the past month. Membership numbers are given first, followed by names and addresses, ages in brackets, then recorder speeds, lastly members two major interests, coded.

- G-0271/T. C. H. Stimson, 18 Dormington Rd., Paulsgrove, Cosham, Portsmouth. (39), 7½ and 3½. 88-50.
- G-0272/T. Peter A. Smith, 4 Second Ave., Havant, Hants. (20), 15, 7½ and 3½. 50-42a.
- G-0273/T. Roy Reynolds, 1 Thurlstone Rd., Radford, Coventry. (28), 15, 7½ and 3½. 67h-84-100.
- G-0274/T. Alfred A. Sweetland, Beaumont Hall, Greenbank Ave., St. Judes, Plymouth. (40), 7½ and 3½. 57d-102/82.
- G-0275/T. M. P. Davies, R.E.A.—C.P.O.'s Mess, H.M.S. Ariel, Worthdown, Winchester, Hants. (25), 7½ and 3½. 6-29b-32.
- G-0276/T. J. Whittle, 28 Hawkshead St., Southport, Lancs. (57), 3½ ips. 67-42-49.
- G-0277/T. William Walton, 48 Larch Rd., Denton, Manchester, Lancs. (36), 7½ and 3½. 67bd-32.
- G-0278/T. George Chandler, 33 Deacon St., London, S.E.17. (32), 3½ ips. 44-88egh.
- G-0280/T. M. A. Hossain, 9 Oxford Rd., London, S.W.15. (29), 7½, 3½ and 1½. 67d-57-102.
- G-0281/T. M. R. Arksey, "The Mount", 44 Kingfield Rd., Sheffield 11, Yorks. (21), 7½ and 3½. 88ef-67ehj.
- G-0282/T. J. W. Hancock, L/A (phot) 886829, D.2 Mess, R.N.A.S., Lee on Solent, Hants. (23), 3½ ips. 74abcd-98.
- G-0283/T. George E. Cudd, 3 Clarence Place, Morice Town, Devonport, Devon. (29), 3½ and 1½. 44-67ahk-88.
- G-0284/T. Dave J. Reynolds, 44 Southbank Rd., Coundon, Coventry. (21), 15, 7½ and 3½. 88aeg.
- G-0285/T. Geoff Bealey, 39 Lowfield Rd., Stockport, Cheshire. (37), 3½ ips. 88c-89fh.
- GM-0287/T. Winston A. Tubman, 2 Craighlockhart Terrace, Edinburgh. (16), 1½ ips only. 88c-74.
- G-0288/T. Patrick Grapes, c/o The Plough, Little Shelford, Cumbs. (27), 7½ and 3½. 88c-44.
- G-0289/T. Kenneth J. Beasant, "The Apple Tree", 40 Midland Road, St. Phillips, Bristol. (27), 88ceh-89h.
- EI-0290/T. M. A. G. Fitzgerald, 13 Shelton Drive, Terenure, Dublin, Ireland. (31), 3½ to 8½. 88abegh-67fh.
- G-0291/T. Derek K. Mortimer, 71 Clarence Gate Gdns., Glentworth St., Baker St., London, N.W.1. (30), 7½ and 3½. 67eh-95-98.
- GM-1006/T. Harry L. Ayers, 88 Clement Park Rd., Dundee, Scotland. (42), 7½ and 3½. 88-67bj.
- MO-0506. Alvin L. Toff, 234-19-133 Avenue, Laurelton, 21, New York, U.S.A. (41), 7½ and 3½. Deep-sea fishing-64b-84dg.
- ZS-0292/T. Cliff Johnson, P.O. Box 2554, Durban, South Africa. (27), 3½ ips. 72-Friendship and world peace.
- G-0293/T. John L. Hughes, 11 Empress Place, Fulham, London, S.W.6. (33), 3½ ips. (109 Biology/Microscopy)-98g.
- MO-0507. Hermann Eggers, P.O. Box 172, Bismark, North Dakota, U.S.A. (25), 7½ and 3½ ips. 67dh-50.
- G-0294/T. John H. Beazley, 138 Heath Road, Twickenham, Mdx. (28), 7½ and 3½ ips. 67b-88/89af.

Mr. R. Penfold, 48 Holbrook Lane, Coventry, is particularly anxious that potential tapespondents should know that his machine also records at 1½. The correct name of a new BATRS member at Kingston-on-Thames, Surrey (T.R. Magazine, October) is Mr. R. A. Perks.

**NEWS FROM THE CLUBS**

*(Continued from previous page)*

BATRS Representative for Northern Ireland, Region 15, is GI-0263/T Nelson W. Larmour, 3, Farnham Park, Bangor, N. Ireland.

Regional Representative for Southern Ireland is EI-0290/T M. A. G. Fitzgerald, 13, Shelton Drive, Terenure, Dublin.

\* \* \*

The help of recordists with tape speeds of 7½ or 3½ ips is sought by BATRS for recording messages from U.K. relatives of members of the Forces overseas. Tapes would be provided and recordings would be required to be made three or four weeks before Christmas. Volunteers should contact

WO11 F. A. Stevenson, 1, Base Workshops, REME, B.R.P.O. 57. He is BATRS Forces Representative Overseas.

\* \* \*

Now playing an active part in the British Hospital Tape Service is Toc H of Weymouth, Dorset, which has recently affiliated to BATRS. Secretary of the service is Mr. Alan Lovell, of Bristol, who has organised the production of many out-door recordings of local sporting and other events for the benefit of hospital patients in the Bristol County area.

\* \* \*

The first BATRS Blind Services Magazine has recently been produced by Mr. Eric Payne, an earlier editor of the BATRS Magazine in Sound, the official organ of the Society. The Blind Service, under the leadership of Mr. Bill Rawle, of Darlington, works in close co-operation with Tape Respondents, International, and there are many blind recordists on the files.

*(Concluded overleaf)*

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News from the Clubs (continued)



This cheerful picture from U.S.A. shows the result of liaison work between Charles Owen, Secretary of the Voicispondence Club in Noel, Virginia, and Londoner Ronald E. Davies, now Voicispondence publicity representative for England. The Virginian got the Londoner's cousin Doreen, and her American husband Dave Lacy (centre) round a microphone, and here they are preparing a tape for Doreen's family and friends in London. With them are Earl Savage, Voicispondence Publicity Officer in U.S.A., and Mrs. Savage

**VOICOSPONDENCE MOVES IN**

**I** THINK Voicispondence members are the most friendly people in the world," says Ronald E. Davies, 99, Caulfield Road, East Ham, London, E.6., who is now the club's publicity representative for England. He will answer any enquiries and assist members with local publicity, and he is particularly anxious to have news about members in this country.

**"AROUND THE WORLD TAPES"**

**R**OY W. HOWARD, 3113, South Center Avenue, Arcadia, California, U.S.A., is inviting recorder owners belonging to any or no club to join in an "Around the World Tapes" scheme. He will supply tapes and the aim is to have six to eight people, one in each country, contributing eleven to fifteen minutes each on a subject as world peace, national life and customs, national folk music, etc.

Each will hear what the others have said, record their message, and pass the tape on. Other tapes will be launched as new applications are received. The first tapes will be five inch Maylar, recorded at 3½ ips, dual track.

**SOUTH AFRICAN RECORDING CLUB**

**T**APESPONDENCE is a very strong feature of the South African Recording Club. It gives special attention to encouraging the exchange of tape letter between members and enthusiasts in other countries, and the Membership Roster of April 1957 incorporates a first-class "Manual of Tapespondence." Details from Denoon R. Sieg, P.O. Box 3392, Cape Town.

**TWO NEW BRITISH CLUBS**

**O**NE OF the results of the rapidly increasing number of tape enthusiasts in Britain is that tape recording clubs are beginning to spring up in towns. Clubs have just been formed in Edinburgh and Middlesbrough.

Twenty-two people attended the inaugural meeting of the Edinburgh Tape Recording Club on September 24th, and Alex Whyte, 33, Tylers Acre Road, Edinburgh 12 was elected secretary. Premises have been obtained and Mr. Whyte reports that the club hopes to help those who are contemplating taking up recording as well as established enthusiasts.

The Middlesbrough Tape Recording Club, formed early in September, is part of the activities of the Middlesbrough Settlement Community Centre, 130, Newport Road, Middlesbrough, Yorks. Hon. Secretary is Mr. Maddison. Mr. Brian Harrison is chairman and Mr. D. Lonsdale treasurer.

## SCHOOL EXCHANGES

(Continued from page 15)

about the country where their new friends live. They soon realise, too, that their friends at the other end will fail to understand them unless they make some attempt to speak clearly and so we find a marked change for the better in their speech after the first few tape exchanges.

But the friendship engendered by tape does not stop there. The pupils have, in almost every instance, reinforced their connection by the exchange of letters and magazines. The letters contain news of their school activities, of their holiday and week-end exploits, and are often illustrated by drawings or rough sketches of incidents that have taken place since the last letter or tape exchange.

So far all our tape exchanges have been with English-speaking schools, but shortly we are going to begin a further experiment. Arrangements have been made for tape exchanges to begin this winter between our school in Scotland and a class of 13 and 14-year-old pupils in Sweden. The latter will speak in English and, although we may have some difficulty with accents at first, I am convinced in the light of our experiments over the last two years that this new link with the Continent will soon be working as smoothly as our exchanges with our friends in the USA and the Commonwealth.

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