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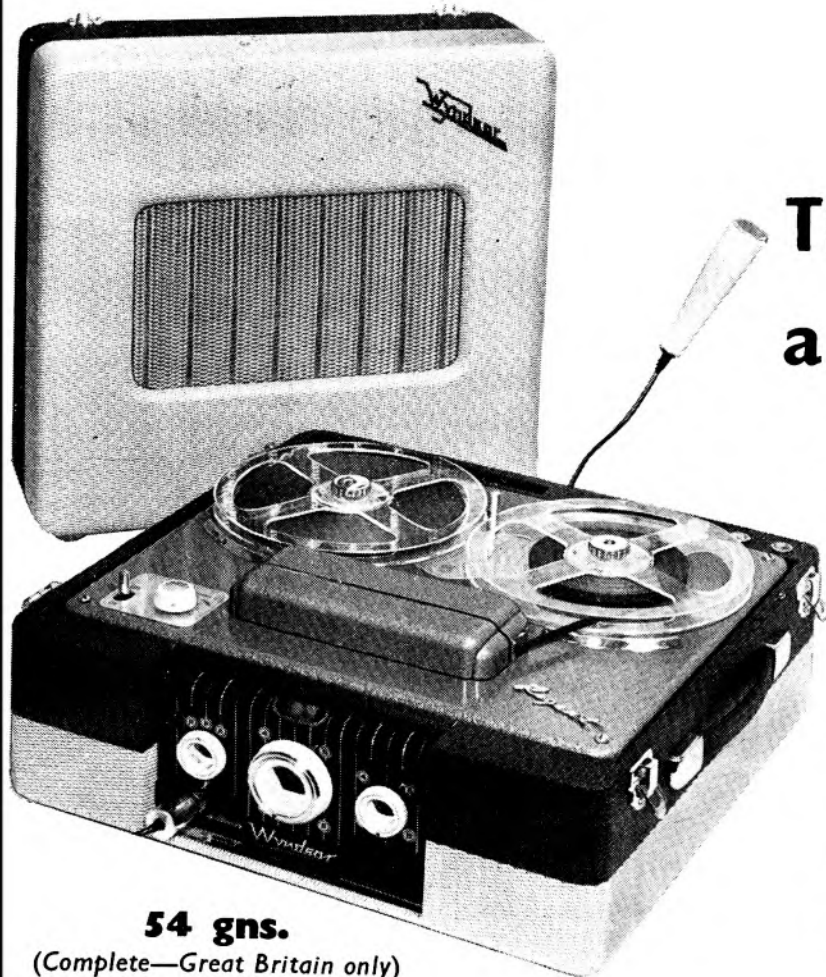
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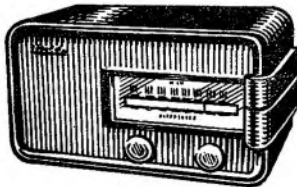
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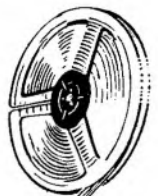
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Biological Acoustics

IN THE PAST FEW YEARS the magnetic tape recorder has revolutionised the study of animal sounds. The time has arrived for a standardisation of methods used in recording and, to that end, a conference was held at Pennsylvania State University last year.

As a result, an International Committee on Biological Acoustics was formed. The Committee is open to anyone interested in the subject of biological sounds, but its members are for the most part concerned with animal behaviour or the physiology of sound communication systems, including sound emission and hearing. There is an executive council, under the chairmanship of Professor Hubert Frings, of which Professor R. J. Pumphrey is British member. The secretary is Dr. Mabel Frings, Department of Zoology, Pennsylvania State University Park, Pa., U.S.A.

The Committee has just sent out its first Newsletter. A number of projects are in being: the first, the building up of a library of sounds on tape or disc to be housed at the Library of Natural Sounds, Cornell University, Ithaca, N.Y., U.S.A. Before sending recordings, biologists or tape enthusiasts should first contact Dr. P. P. Kellogg, at Cornell. In addition, Dr. Mabel Frings is preparing a list of tape or disc recordings, at present held by institutions or individuals, which are available for loan or copying. Dr. Kellogg estimates that the first catalogue of animal recordings will run to 20,000 items, mostly birds, but including mammals, amphibians and insects.

The second project is of immediate and practical value to biologists and, to a lesser extent, recording engineers and amateur recordists. It is the compilation of an annual bibliography of scientific or technical papers on animal sounds and the techniques used in recording them. Any readers of this column who have written articles on animal recordings are recommended to send two reprints of the paper to Dr. M. Frings.

Whether a British branch of the International Committee should be formed depends on the number of people joining first the parent body; the Committee is primarily for professional scientists but there must be many competent amateurs who have successfully recorded birds, frogs, fish or insects and for whom the International Committee's aims are in line with their own. *Tape Recording* would gladly act as a clearing house for correspondence on the formation, by members of I.C.B.A., of a British section. Should a British branch materialise, its first objective must be the building up of a National Library of animal sounds, in conjunction perhaps with the British Museum (Natural History) or the B.B.C. The next meeting of I.C.B.A. will be held in 1958 in London, at the time of the International Congress of Zoology. It would be pleasant to have a strong British body in being by then.



EDWARD GREENFIELD

REVIEWS CLASSICS ON TAPE



Mr. Greenfield is the recorded music critic of the "Manchester Guardian"

These operas are well worth the price

TO be worth the money, the tape record of a complete opera has to be extremely good, if it is to compete with the much cheaper article which the tape enthusiast can take privately from a radio broadcast. E.M.I. has been sparing in its choice of operas on tape, but that choice could hardly be bettered. I think they are well worth their high cost.

The complete recording of Puccini's *Tosca* on two tapes (CAT 266-7), done at La Scala, Milan, is infinitely finer than even the "gala" performances we have heard recently from Covent Garden. The conductor is De Sabata, who controls his brilliant cast magnificently. Maria Callas, who can be erratic, is here at her thrilling best. Di Stefano plays Cavaradossi and, best of all, Tito Gobbi plays the villain, Scarpia. This last characterisation, sinister and evil, yet always convincing, has rarely been outshone in opera recordings. This work, more telling musically than many suspect, is ideal for home performances.



ANOTHER complete recording that can be recommended without reservation is of Léhar's *The Merry Widow*, with Schwarzkopf in the name part (CAT 262-3). This is one of the best of E.M.I.'s sumptuous operetta recordings with Viennese casts, and it is good news that the equally fine *Die Fledermaus* is coming this month.

Other complete opera recordings include an excellent version of *Trovatore* with Bjorling and Milanov, on HTA 9-10 (one of the few recorded tapes from American sources) and, on stereophonic tape, Mozart's *Marriage of Figaro*. This is the Glyndebourne production, which is made vividly dramatic throughout. I know the discs well, and that may account for my distraction when, on the stereophonic version, characters appear to move around. That has always been counted an advantage of the stereophonic system, but I am still not quite convinced.

Another complete opera on stereophonic tape is Gay's *Beggar's Opera* (set 1501-4), in a thoroughly lively account under Sargent.

OF all the remaining vocal tapes, the one I recommend above all others is the recital by de los Angeles containing arias by Verdi on one side and by Puccini, Rossini, Mascagni and Boito on the other (HTA 19). This shows the astonishing range of this singer's repertory. Here she is quite the equal of such great singers of the past, all widely different, as Tiana Lemnitz, Rosa Ponselle and Conchita Supervia. Not only is her technique impeccable, the golden quality of her voice is unrivalled, I feel, and it is beautifully caught here.

Other de los Angeles tapes include Falla's one act opera *La vida breve* (HTA 13) and Turina's *Canto a Sevilla* (HTA 11). Her complete recording of Massenet's *Manon* is also announced this month.

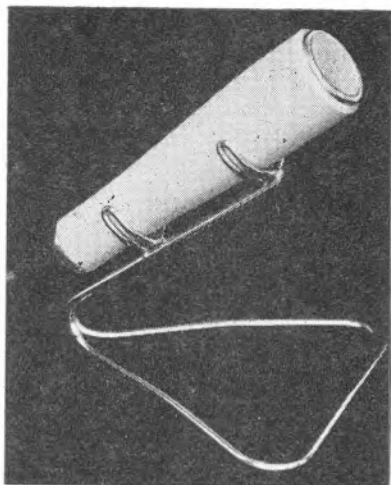
E.M.I. has wisely concentrated its vocal tapes among its favourite star singers, and Schwarzkopf appears not only in the operetta sets I have mentioned, but in two excellent Mozart recitals—one of opera arias (CAT 281) and the other of separate songs (bta 103), this latter on a stereophonic tape.

She also appears in the selection from William Walton's *Troilus and Cressida* under the composer, which makes one long for a complete version of that opera (CAT 283). That masterly lieder-singer, Dietrich Fischer-Dieskau is represented by some of his finest recordings, the lovely Mahler song-cycle *Songs of a wayfaring lad* and a group of Brahms songs on HTB 409, and Schumann's *Liederkreis, Opus 39* on HTB 407.



IN my view, the most impressive stereophonic tapes I have so far heard have been of choral music. There is not the distraction of voices moving about which you get in opera recordings but rather a spaciousness rarely achieved in even the finest single channel system. I would therefore specially commend Beecham's recording of Handel's oratorio *Solomon* for the beauty of sound, if not always for the sprightliness of the singing—or even the music (bta 110-3).

National Tape Recording Contest



The Acos MIC 39-1 microphone, now added to the prize list

STILL MORE PRIZES

Contest excitement grows

THE WINNER OF THE FIRST BRITISH AMATEUR TAPE RECORDING CONTEST IS IN FOR AN EXCITING TIME. THE LIST OF PRIZES HE OR SHE WILL WIN GROWS MONTH BY MONTH.

Since our last issue, two more manufacturers have announced their backing for the Contest. Messrs. Cosmocord will add their new MIC 39-1 pencil microphone to the first prize. And, if the winner has used a Walter recorder, Messrs. Walters Instruments will add £10 in cash.

These prizes will be in addition to those announced earlier: £10 in cash from TAPE RECORDING MAGAZINE, and £10 of tape equipment donated by Messrs. Howard Photographic, of Bromley.

And for the second best entry there will be a Lustraphone LFV/H59 pencil-type moving coil microphone presented by Messrs. Lustraphone Ltd. For five runners-up there will be certificates of merit.

All seven lucky competitors will be able to attend a special celebration luncheon arranged by Electric and Musical Industries Ltd., with a session at the E.M.I. recording studios, and a tour of the Hayes factory where the famous "Emitape" is manufactured.

GET THIS MEMORABLE SUMMER ON TAPE

THE first British Amateur Tape Recording Contest will reach its climax on Friday, October 25. On that day the winners will come to London for the special celebration luncheon arranged by E.M.I. and the evening social gathering at which the presentations will be made and the winning tapes played.

For this function, TAPE RECORDING MAGAZINE has now booked the Cowdray Hall, a handsome hall just off Oxford Street and easily accessible from all parts of the West End. Refreshments will be available. Tickets for this event will be issued later; readers are asked not to send applications until advised.

If you have not yet sent for your entry form for the Contest, do so immediately. Closing date for receipt of tapes entered in the Contest will be Saturday, October 5, 1957.

All you have to do is to produce a feature tape, not exceeding 15 minutes in duration—it can be shorter if you wish—illustrating the theme "Summer 1957".

It may tell of a single day's outing to the seaside, of a holiday on a farm, of the season's achievements of your local cricket club, or of any other event or series of events which symbolise for YOU the spirit of this memorable summer.

Now is the time when you should be making your recordings. Next month you can get down to the editing, the technique of which is explained in an article elsewhere in this issue.

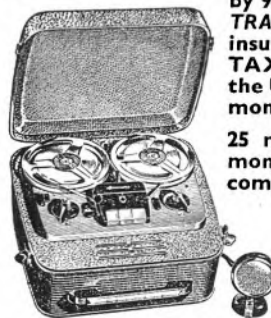
Do not be shy of entering the Contest because of lack of experience. This is a pioneer event; there will be plenty of other beginners trying their luck. And the judging will take account of all relevant factors, such as the potentialities of the particular equipment used by competitors.

The names of the distinguished panel of judges will be announced next month.

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By JOHN E. AMPHLETT

When you have collected your recordings, some of the most fascinating, creative work remains: the editing and assembly of your feature page in its final form. The author was co-editor of the first magazine-on-tape ever published in Britain.



making a feature tape

ONCE upon a time there was a tape recording engineer who could put in "aitches" dropped during speeches he recorded. Whether this story is true or not, it shows us the perfection to aim for when we come to editing our feature from all the items we have collected on tape. While it may be difficult to achieve such perfection, it is comparatively easy to obtain results that are excellent.

We have, to start with, one tape recorder and a number of recorded items, such as speech and music, sound effects and announcements. All these may be on one reel of tape, or distributed among several reels. They need not be in the correct order, for the editing process will cut each one off, arrange them in the right order, and join them together again to make a smoothly running programme.

The joining must be accurate, noiseless and correctly spaced, so that the listener is lulled into the illusion that what he is hearing is happening at the time, and not, as is most likely, recorded at different times and on different days.

The two essential tools are: a small pair of scissors, which may or may not be non-magnetic, and a reel of jointing tape about $\frac{1}{2}$ inch wide. With care, most of the editing can be performed with just these, but the following are very handy: two empty tape reels, a bottle of jointing compound or cement, a small fine paint brush, a bottle of carbon tetrachloride (or CTC), an old clean rag, and (luxury!) a tape jointing block.

Having assembled the tools, let us note the methods by which our tape feature is created.

There are three things to consider before we actually attempt the operation of editing. Firstly, from the programme point of view, it has to be decided how one item is to follow on from another. One may be faded out, and the next faded in after a short pause of a second or two. Or both may be cued to join without a break.

The fading join is best when coupling two different parts of the programme together. Where you want the sound to jump from one to the other, the cued join is made. This entails finding on the tape the right spot to cut, then the splice is made directly.

Secondly, the actual splices may be permanent or temporary.

The "temporary" splice is made by using a short length of jointing tape to hold the two ends together. With care, such a join can last for years, and the strength of the join is very great. The so-called "permanent" join is made by over-lapping the ends and glueing with cement. This type of join has to be done very well, otherwise there is risk of parting and tearing as it goes through the machine.

Finally, the cuts themselves may be vertical or angled, as illustrated. The angled cut is stronger and is virtually noiseless. All these methods are interchangeable, and the choice will depend on the material and type of presentation aimed for. A good programme will ring the changes and prevent monotony.

Using the empty tape reels, it is a simple task to rearrange the items in the right order. It is just a question of shunting the lengths of tape to and fro, like an engine with its coal trucks, until everything comes right. If possible, leave a foot or two at the beginning and end of each section in order to make editing easier. Don't be afraid of wielding the scissors . . . tape only costs a penny a yard, and it is worth a few pence to have a job well done.

15½ MILES OF TAPE FOR A BROADCAST SERIES

B.B.C. producers and technicians have to do their editing on the grand scale. As you concentrate on your efforts, think of the work that went into one recent broadcast series.

Four programmes about the life and work of Mahatma Gandhi were made. And fifteen and a half miles of tape were used to record 27 hours of interviews and other material.

Using two recorders, one was used to replay the desired extracts, the other to re-record in amended order. This task took ninety hours. At this stage, gaps were left—indicated by white tape—where narration was to be added.

Each of the four programmes was then built up with the recorded extracts and the interspersed narration, a day being spent on each.

The experience demonstrates the time and care that is needed if first-class results are to be obtained.

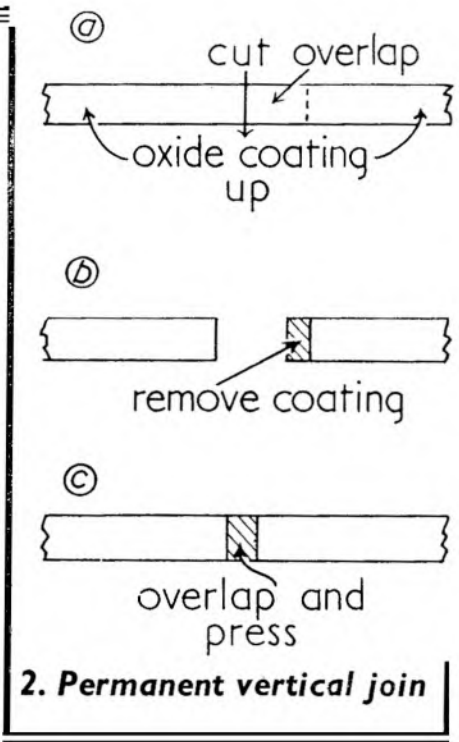
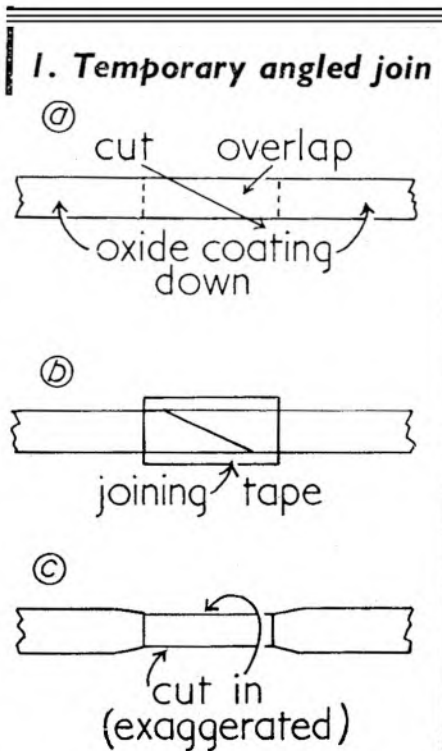
THIS IS HOW TO EDIT YOUR TAPE

Now we have the items on the left and an empty reel on the right and we are ready to start splicing. Supposing the first splice is between introductory music, fading out, and an announcement. The type of joint to choose is the normal fading temporary joint with the angled cut. Run the music on to the empty reel. We want a one-second pause, so trim the two ends to leave 4 inches after the music fade-out and 4 inches before the first word of the announcement. This is, of course, for a speed of $7\frac{1}{2}$ ips. Now follow a series of operations that are best tabulated as below:

- (a) Overlap the two ends of the tapes by 1 inch, with the oxide coating downwards. The tapes must be held firmly and in line.
- (b) Cut both tapes simultaneously at an angle of about 45 degrees and remove the waste pieces (Fig. 1a).
- (c) Cut off about 1 inch of jointing tape and lay it over the join in a rolling action. This is made easy because the jointing tape will curl back as it is stripped from the reel (Fig. 1b).
- (d) Now trim the edges, cutting into the magnetic tape a little to prevent the join from sticking in the mechanism (Fig. 1c).
- (e) Give the join a rub with a rag dipped in CTC. This will remove any excess gum that may ooze out and cause wow.
- (f) Lastly, test the join by playing it through. If it is noisy, that is, if it makes a "click" or "bump" in the loud-speaker, then run it past the erase head by hand.

So our first splice is completed. The next one can be a different type. Perhaps we want to cue directly from the last syllable of the announcement to the first sound effect. Therefore we choose the cued and vertical splice and, just for fun, try the permanent join. This time, cut the tape to within one inch of the recorded sounds and proceed thus:

- (a) Overlap the two ends of the tapes by 1 in., with the oxide coating upwards.
- (b) Cut both tapes vertically (Fig. 2a).
- (c) Pull the ends apart slightly. Apply a little of the cement with the brush to the last $\frac{1}{4}$ in. of one end. This



will loosen the coating, which can be gently rubbed away (Fig. 2b).

(d) Paint a very thin layer of cement over the cleaned end. The other end is now lowered carefully and the two pressed together for about half a minute (Fig. 2c).

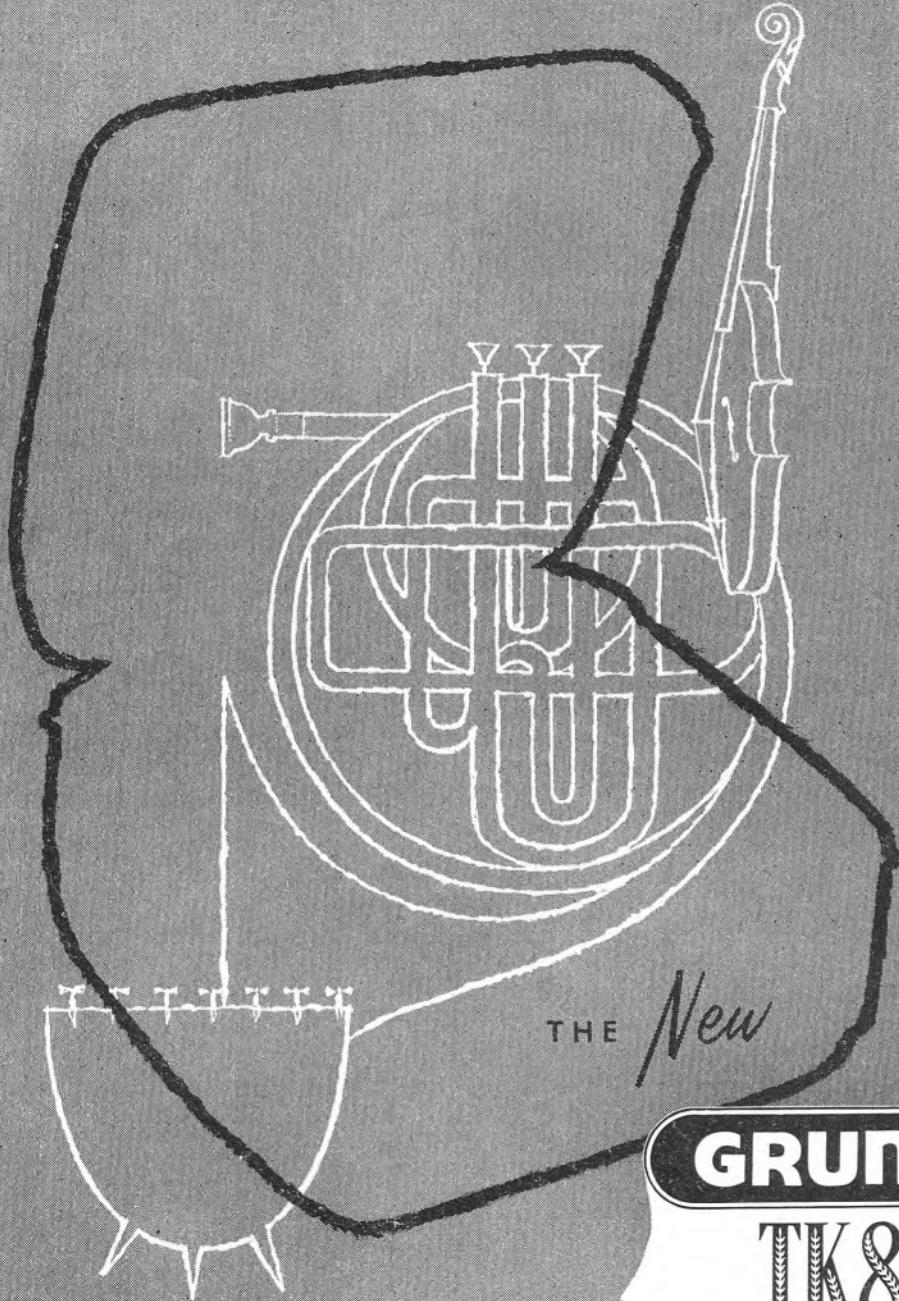
(e) Again test as before.

This editing business can only be done on one track of the tape. The second track must either be left blank, or used to record something that does not require editing. In some ways this is a nuisance, but perhaps you can borrow another recorder and copy your finished programme on to clean tape. The original may then be used for a further programme.

After a time it may be found that the joins will cause sticking and wow. A rub with CTC will cure that. Also a join may pull apart slightly and give you "drop-out." The only thing to do in that case is to remove the old jointing tape and re-splice.

Be careful with this cleaning fluid CTC. Although it is non-inflammable, it is faintly toxic. CTC is a near chemical relation to chloroform, and there is risk of poisoning if the vapour is inhaled in great quantity, especially through a lighted cigarette. However, reasonable care and good ventilation will eliminate the risk.

VIRTUOSO PERFORMANCE



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The new Grundig TK.830 is the most brilliant tape recorder of its kind in existence.

It is probably the first tape recorder to have the facility of superimposition—a simple press-button operation that enables you to record afresh *over* an existing recording and retain both. It also possesses visually indicated frequency response controls, three—covering low, medium and high frequencies—each independent of the others. Recording level is indicated by a magic eye segment and an input selector is incorporated. The TK.830 is two-speed twin-track with instantaneous track change-over and automatic stop mechanism. Three specially mounted elliptical speakers working from a push-pull output stage, create a sense of depth and unusual 'separation'.

The NEW **GRUNDIG**

TK830/3D

TAPE RECORDER

100 GUINEAS

For details of this brilliant new model, please write for illustrated brochure TR 830

GRUNDIG (Great Britain) **LTD.** Advertising and Showrooms: 39/41 New Oxford St., London, W.C.1

Trade enquiries to: Kidbrooke Park Road, London, S.E.3
(Electronics Division, Gas Purification & Chemical Company Limited)

This article introduces a new adventure with tape for those who want to tackle more serious work. You can make recordings of bees and beetles, grasshoppers and cicadas.

PHYSIOLOGIST, systematist and recording engineer meet when we try to understand animal sound communication. The mechanics of sound emission and hearing and the nature of the calls are studied by physiologists; the systematist compares the sounds, and structures which make them, in related organisms; the engineer designs recording and analysing equipment, taking into account frequencies, amplitude and the other physical characteristics of the calls.

With insect noises, a fourth discipline enters, that of the field naturalist. He finds out what species sing, when and where; the animal behaviourist finds out why.

Around 20,000 insect species live in Britain, of the world total of a million. And only a cicada, 30 or so grasshoppers and a few flies, beetles, wasps and bees make noises audible to us without amplification; but a large number of others are far from dumb.

When a big bumble-bee flies, a hum is heard. A water-beetle warming up for flight also gives out a rising buzz. These sounds are adventitious, secondary to a more im-

portant action going on. The high buzzes of female mosquitoes in flight are picked up by males and act as courtship calls.

Sounds of biological significance are of two types. The first are warning calls. These are extra-specific, the message being directed at a species differing from the emitter. At Imperial College Field Station, near Ascot, Dr. P. T. Haskell and the writer experimented with *Coranus*, an assassin-bug. This insect makes a noise by scraping its beak over some ridges placed between the bases of the front legs. When touched, the bug squeaked; after removing the abdomen and part of the thorax we still got this response. After analysing the call and associated behaviour, we concluded that squeaking was a defensive mechanism, a reflex probably useful in frightening off spiders.

This year I experimented with the screech-beetle, *Hygrobia*, common in muddy ponds in south-east England. This screeches by rubbing the tip of the abdomen against two rows of teeth under the front wing: an air-bubble trapped under the wings gives the call resonance. When held, the beetle squeaks a few times, then stops, apparently tired out. But if the head and front of the thorax is chopped off, the animal squeaks each time the abdomen is touched: so the seeming lassitude of the intact insect is a conditioning of the reflex by the brain.



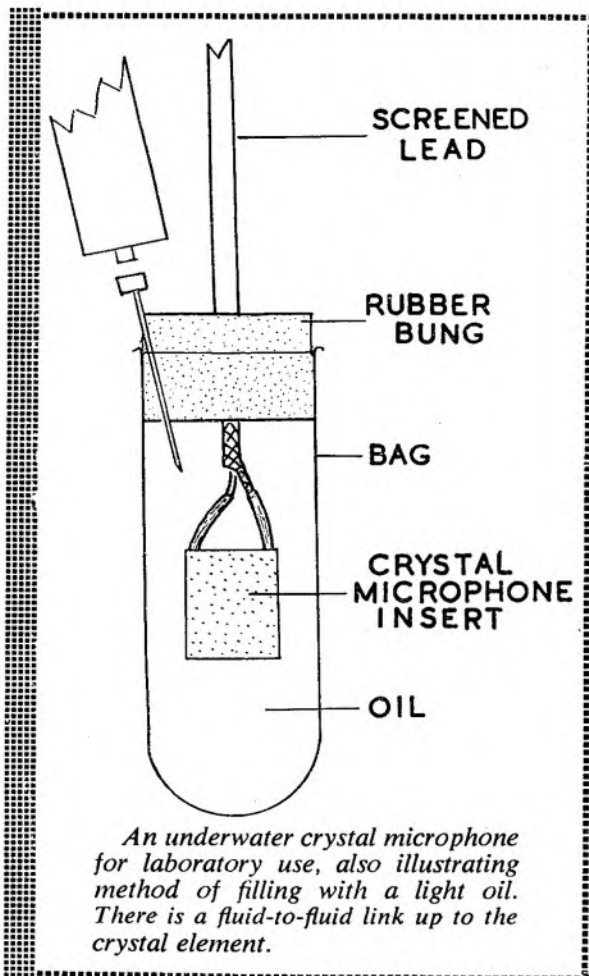
Warning calls are given out under the impetus of an external stimulus, such as contact with a predatory bird, lizard or spider. Often both males and females give out identical warning calls and many larvae and even pupae use sounds for frightening away possible enemies.

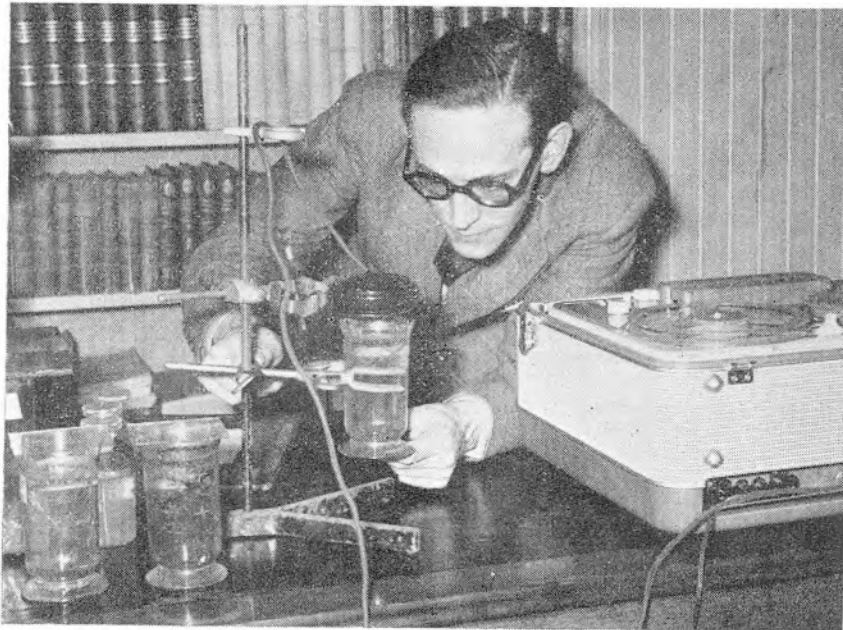
Such calls are easy to record, but beware of experimental animals tiring, and make a note of the temperature—the noise is shorter and higher at higher temperatures.

On analysis, defence calls prove to be a noise with little in the nature of a pure tone or a regular time interval between bursts.

The second class of calls is intra-specific. Aggregated calls bring males and females together, courtship calls facilitate meeting of sexually mature individuals, acceptance calls signify readiness of a female to mate with a selected partner. Faber, with grasshoppers, recognised almost a dozen distinct types of message and Frej Ossiannilsson has found that many of Faber's categories fit very well the tiny sounds of leafhoppers.

Any attempt to record these calls requires knowledge of the biology of the beast concerned; it also needs patience. A common waterbug, *Sigara distincta*, has been auditioned on and off for four years since a German worker said it was incapable of producing sounds. In March this year, two calls were detected from males, but the volume is so low that no useful recordings have been made as yet. This





HOW TO RECORD INSECT SOUNDS

The author, DENNIS LESTON, seen above at work in his laboratory, is a member of the International Committee on Biological Acoustics. He does research work in London on the sounds and behaviour of land and water-bugs. He has a book on this subject—written in collaboration with Dr. T. R. E. Southwood—in the press.

family, *Corixidae*, includes some of our commonest aquatic insects of ponds, rivers and lakes: many emit a common song—aggregation call—over an extended period but courtship singing is confined to narrow seasons.

Tapping on the ground or some other substrate is used, for signalling amongst death-watch beetles—the method is limited to hard insects living on wood. Wind pressure is seldom used, because most insects are too rigidly constructed for its employment. Some of the larger caterpillars, however, squeak when compressed, for example, the Japanese *Rhodinnia*, but how efficient this is in defence is debatable.

The most elaborate method of sound production occurs in leafhoppers, cuckoo-spit insects (adults only) and cicadas. These have a rigid plate which is set in rapid motion by means of a remarkable set of synchronised muscles. In cicadas the noise made is very loud because the body contains large air-sacs. Vibrations of antennae or wings are also, of course, often audible.

The rigid skin of bug, grasshopper or beetle is useful for sound production—wings and legs provide appendages already fitted with a wide range of movements, so that it is not surprising that scraping of an appendage against the body, or another appendage, is far and away the most common method of calling. Usually one or more of the scraping parts is provided with teeth.

Insects are small, their sounds feeble. Field recording

is impracticable, but insects can be kept in the laboratory and they are ideal experimental animals. For recording, a sound-proof room or cabinet is desirable but expensive to construct, and a built-in cupboard makes an adequate substitute.

An omni-directional crystal microphone is best for almost all insect work: an underwater type for recording insects in aquaria is illustrated here. The microphone is connected to a pre-amplifier. I use a Grundig GMU 3 Mixer unit, which gives over 30db amplification. The pre-amplifier should be placed outside the recording cupboard and the tape recorder situated as far from both as possible, with the connection earthed. A Grundig TK 820, because of its range of input and output sockets, monitoring facilities and position indicator, has given every satisfaction. Monitor through high-impedance headphones.

Aim at a good signal/noise, rather than at high amplification; neither the recorder nor pre-amplifier gain controls should be flat out. With insects inclined to sing spasmodically, a lamp is placed near their container to give stimulating warmth, and a 1200 foot standard tape (BASF or MSS) is played over and over again whilst monitoring. Only left-to-right recording is attempted, at 7.5 i.p.s. When a song is heard, the position is noted and a suitable length of tape skipped at the next run-through. In this way a run of some hours is made, with all the songs emitted in that period recorded.

All data should be spoken on to the tape thus: "*Piezodorus lituratus*, two males, 22nd June 1957; recorded with lights on at 21°C; the bugs sexually mature". When the take is completed cut out silences, join the relevant bits so that a short recording results, and add the words "composite recording" to show that the intervals between calls are not the natural time intervals. The final tape has no scientific value unless it is analysed by oscilloscope or at least made available to scientists. Observations on what the insect is doing whilst singing are of great interest: currently scientists are trying to tie up songs with both behaviour and the physiology of hearing.

Leading dealer praises T.R. Mag.

“A GREAT ASSET TO THE TRADE”

STRIKING proof of the value placed upon TAPE RECORDING MAGAZINE by the trade is provided by a letter sent to the Editor by Mr. John Shinn, the managing director of Messrs. John Shinn and Sons Ltd., one of the leading dealers in the North of England.

Mr. Shinn writes: “I must tell you that I consider the June edition even better than ever.

“I have written before saying that I think you are filling a long-felt want, but you are actually doing much more than this. You are helping people to know how to get the best out of their tape recorders and to obtain full use of the money they have invested in one.

“Not only is this a help to the user, but a great asset to the trade generally. So many people buy a tape recorder purely for the novelty, and then put it aside without exploring all the interesting possibilities.

“I have mentioned that all our tape recorder customers are admitted to the John Shinn Recording Club and I have now decided to pay the annual subscription to TAPE RECORDING MAGAZINE for all new members, for your journal is doing a great deal more for tape recorder owners than any Club could possibly achieve alone.”

TAPE AND THE BLIND

I WONDER if your readers would be interested to know about our tape circle. It came into existence about two years ago, through the initiative of Mr. Charles Standen, of London, who is its organiser. We have approximately a dozen members, scattered up and down the country, from the London area, Devonshire, the Midlands, Lancashire, and Northern Ireland. We earn our living in a variety of ways, including light engineering, shorthand-typing and welfare work, and we have a wide range of spare-time interests.

But we each have two things in common—we are all interested in tape-recording and we are all blind.

Membership of our tape circle is free, and there is no obligation, except perhaps the obvious one—to pass the tapes round as quickly as possible.

The literature recorded on tape for us includes well-known magazines connected with tape recording, such as *The Voicependence Magazine*, *Tape Topics*, and the *Tape Recording Magazine*, and also *Science Recorded*, an American tape magazine specially for the blind. We also receive articles of interest connected with blind welfare work, including a monthly reading of *The New Beacon*, which is a welfare magazine issued by the Royal National Institute for the Blind, and *The Blind Advocate*, the magazine of the National League of the Blind.

These tapes are recorded for us by sighted readers. Our first, and for several months our only, sighted reader was Mr. Frank Andrews, of Folkestone, who must have given up countless hours of his spare time reading for us. Now we have other readers, but Mr. Andrews still continues to give his services.

Our tape circle is especially helpful, as most of the literature read on to tape for us is not produced in Braille, so that we cannot read it for ourselves.

We all derive a great deal of pleasure and find much to interest us in the tapes we receive.

Withecote,
near Tamworth, Staffs.

O. WHITE (Miss),



MAY I please ask you if, through your columns, I may help some of your readers? As is well known, several circles exist in Great Britain and America for reading articles on to tape for blind people, and I myself am one of these readers.

I have noticed that there seems to be no correspondence between the groups, and therefore there must be some duplication. On behalf of our own group, I have taken it upon myself to see if we can help each other without this overlapping.

I would, therefore, ask all leaders of circles to contact me and I will see what can be done. It would also help if readers would write to me saying what they usually read, and for whom. In this way I hope to help everyone.

Please understand that I am not appealing for readers or for funds, neither do I want to interfere with the arrangements of any group, but merely to help each one, to give greater enjoyment to those we are trying to help, and to act, for want of a better expression, as a clearing house for available material.

If any reader knows a blind person who owns a tape recorder and who does not belong to a group, please jot this name down on a card, with the name of the recorder, and I will put them in touch with a group.

LEN. W. WATKINS
London, S.W.12.

LETTERS TO THE EDITOR

A RECORDING STAR OF RADIO WRITES ABOUT

An exciting Swiss midget

YOUR magazine should certainly supply a growing need in this important technical and cultural field. As you know, perhaps, I have been recording rather steadily since 1933, and in 1944 I bought one of the earliest portable tape recorders in America, and I have been watching the tape slide by the record head ever since. I believe I did the first all-tape show on the BBC—a big documentary of Scots folk music, recorded in the field, and broadcast in the summer of 1951.

I noticed in your discussion of mini-tape recorders a most important omission which I should like to rectify. There is a clock-work, dry-cell battery operated job, manufactured in Switzerland, which is the field recordist's dream. Not much larger than a good-sized dictionary and no heavier, it turns out high fidelity recordings of music, virtually free of wow and flutter, with a frequency range flat up to around 12,000, under any and all conditions.

I have heard recordings made on it in the Himalayas, in the Sahara, and in tropical Africa, and I have talked to the users, and they swear by it. It is a tough, tropicalized machine, as hardy and as flexible as a Land Rover; I call it the Leica of recorders.

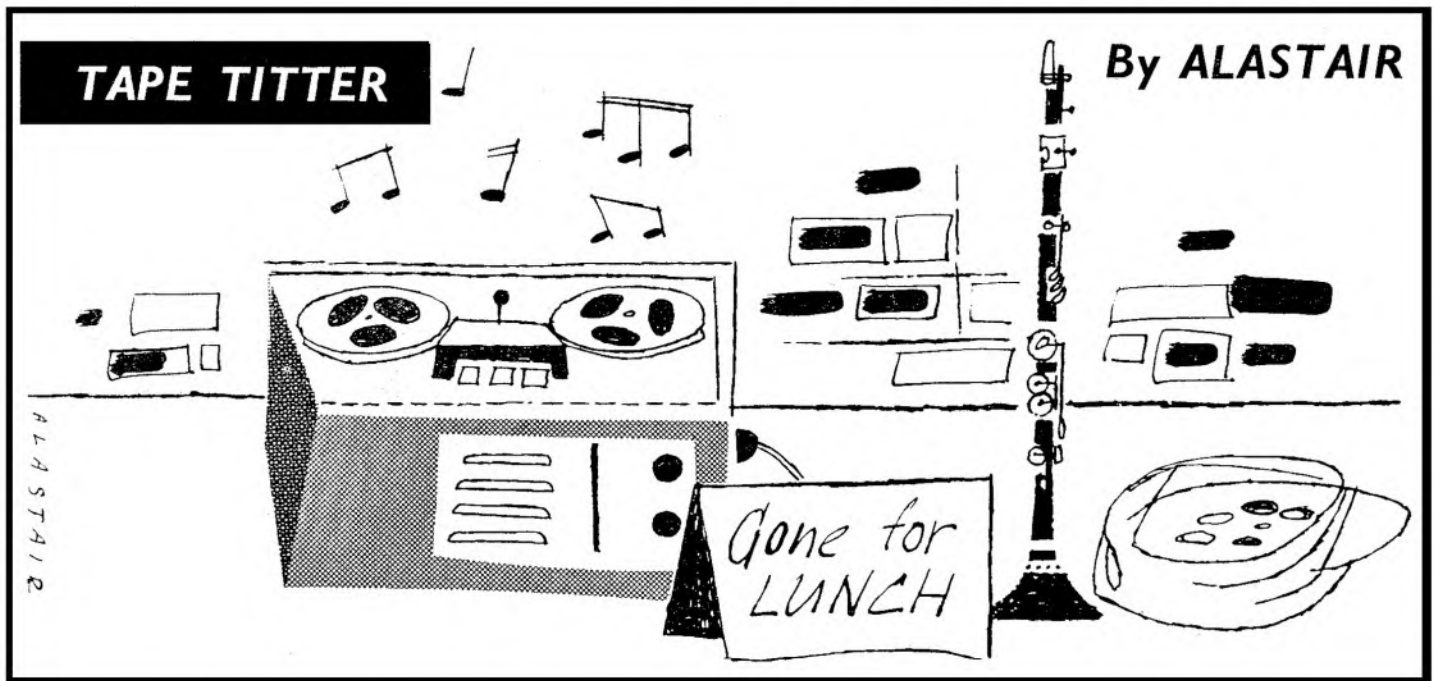
I spent a whole day in the laboratory where it is manufactured, giving it every conceivable practical and technical test, and it survived them all. I should say that it is as good from the performance point of view of any recording machine made which is not a studio fixture.

Its maker, a young Swiss graduate of the watchmaker's university and a high level radio school, set out to build the portable machine and, so far as I am concerned, he has done it. I understand he now has a machine, which I haven't seen, which combines, beside normal features, the following: three speeds; a sync head and system for films; operation on self-contained dry cells, six-volt wet battery or normal house current; playback and monitor. All in a small, slim package.

ALAN LOMAX.
London, N.6.

P.S.—I should like to see an article on vision on tape.

THE EDITOR WRITES: We hope to publish a feature on vision on tape in an early issue.



By ALASTAIR

A BRIGHT NEW COLUMN OF FACT AND COMMENT

"Take a letter . . ."

All sound-recording enthusiasts, whether dictators or not, must be drawn towards those neat little machines for office use that now glint and beckon on every hand; and at this year's Business Efficiency Exhibition I found them more numerous and more fascinating than ever.

After several absorbing hours of fiddling and listening, I was left with the impression that we have in this field an excellent tradition of research, inventiveness and attention to detail that must benefit the recording world as a whole.

It also occurred to me that the introduction of the new lightweight portables will open the eyes of business people to many hitherto unexplored possibilities of the medium; and I'll warrant many of them will be taking them home at week-ends and savouring the joys of creative recording together with the rest of us.

* * *

There was food for thought in the fact that long research can produce conclusions that differ in some respects.

Should there be as many controls as possible on the microphone, for instance, or should they be divided between the mike and the machine, as on the Rex-Recorder? And in the case of a dictating exchange, should there be complete control at the dictating end, or is it safer to have the option of passing some of the responsibility to the operations room?

The human element is always difficult to assess, but the offices are clearly contributing to the work of discovering the

HOMO TAPIENS

by

Douglas Gardner

ideal physical relationship between man and his recorder.

* * *

The E.M.I. stand had a constant procession of admirers for their new 2½ lb. Minifon, which was described in TAPE RECORDING MAGAZINE last month. I called three times! It can be carried about as easily as a camera, and spot tests in bad conditions produced remarkably good results. I am sure that many owners of tape recorders will decide to use a Minifon for carrying around with them, as it is a simple matter to re-record on tape.

The same thing applies to the Dictaphone Company's Dictet, which weighs only a few ounces more and has the same kind of fascination as the Leica and similar elegant precision instruments.

* * *

I noticed some further improvements in the controls of the beautifully designed all-British (E. Shipton & Co. Ltd.) Interecorder. The large-scale time indicator is an excellent feature, and the sensitive remote control easily enables a single word to be changed on the tape.

The Tape-Riter people (Hartley Electromotives Ltd.) reported flourishing business in the Dictating Exchange field, many customers now following up earlier

tentative experiments with orders for typing pool installations covering the entire organisation. The Tape-Riter also has a new finger-tip controlled microphone.

Multi-Recording Ltd. were showing the new and neat Assmann, a development of the Dimafon. The recording material is a grooved magnetic disc.

New to this country is the Edison VPD-3 Voicewriter, using plastic, mailable discs, weighing 11lbs., and shaped like a round-backed book for slipping into a briefcase. The machine aroused a good deal of interest and I found its ingenious controls worth studying.

Dictating machines are slowly but surely taking over where Miss Smith's shorthand book left off, and everybody seems to be happy about it—including Miss Smith.

* * *

I had a surprise the other day when I discussed tape recorder export prospects with Mr. S. Eisler, a director of Tape Recorders (Electronics) Ltd.

"Where do you think recorders are thickest to the square mile?" he asked me.

I might have suggested Britain, America or Germany but, before I could reply, he told me.

"Kuwait," he said. "Lots of money—and anxious to use it for the public good. So they take large numbers of recorders for educational and similar purposes."

In all the Middle Eastern countries, Mr. Eisler told me, there are excellent export markets for the British industry.

NEWS FROM MANUFACTURERS

NEW WALTER STROBE AIDS CINÉ WORK

NEW equipment to enable ciné enthusiasts to secure perfect synchronisation between picture and sound is announced by Messrs. Walter Instruments. It will be on sale in September at a popular price and will be the simplest and most economical sync. equipment on the market.

It uses the principle well known to ciné fans; the intermittent light from the projector is reflected on to a stroboscope driven by the recorder capstan. So long as the 12 black bars on the strobe appear to be stationary, there is synchronisation. If the bars rotate, a simple adjustment is made to projector speed to bring the two machines into line.

Stroboscopes can easily be made at home, but it is often difficult to secure a

satisfactory beam of reflected light from the projector.

The main feature of the new Walter equipment is the lens used for this purpose. It is a $3\frac{1}{2}'' \times 2\frac{1}{2}''$ rectangle of a special plastic, hinged-mounted in a foot-high stand. The beam from the projector passes through this lens on its way to the screen and, by adjustment of the lens angle, exactly the right amount of light is reflected on to the strobe.

As readers with experience in this field know, glass cannot be used satisfactorily in this way because it absorbs so much light that the quality of the picture is affected. The plastic lens used in the Walter instrument shows negligible light absorption.

The Walter 505 machine is now produced with a socket into which the stroboscope drops, to engage with the capstan.



NEW "PLAYTIME" RECORD PLAYER

TAPE Recorders (Electronics) Ltd announce the "Playtime Twin" record player—first of a series of record reproducers planned by this firm.

This model, which sells at 17 guineas, incorporates two matched speakers, a two-valve A.F. amplifier with balanced tone control, and a lightweight pick-up with high gain turnover crystal cartridge.

It is a four-speed machine, for A.C. mains, and is housed in a two-tone leatherette case, with a choice of two colours.

MAESTROVOX LAUNCH NEW MODEL

Latest recorder incorporating the new Collaro three-speed tape transcriber is the new Maestrovox Majestic, a high fidelity machine in a cabinet of dignified design.



This firm has designed an amplifier with an overall frequency response from 70 to 17,000 cps, plus or minus 2 db, to match with the Collaro deck. The amplifier is completely screened and separate from the power unit, to which it is connected by plugs and sockets.

The two inputs—one for microphone and one for radiogram, are intermixable during recording and the radio input can be used for dubbing on replay.

The manufacturers announce three watts undistorted output on a Goodmans 10 by 6 inch elliptical speaker.

The price is 62 guineas, and there is a one-year guarantee.

Cosmocord changes

Messrs Cosmocord Ltd announce changes from July 1, as a result of the extension of the electro-acoustic division. Mr S. C. Hillman, formally Southern Area representative, has become Assistant Sales Manager, and Mr R. Wells has been appointed representative to the wholesale trade in the Southern Area.

Walter price

In the July issue, it was stated in an advertisement of the Walter 303 recorder that the price was 40 guineas—in fact, it costs only 39 guineas—and apologies are tendered to any readers caused inconvenience by this error.

Microphones

It may be of interest to note that the direct recording tests of the Vortexian recorder, published in our July issue, were made using a Film Industries M8 ribbon microphone normally used with this machine, and with an Acos MIC 36 crystal microphone.



The New Grundig TK830/3D

—for the technically minded

VALVES EF 86-ECC 81-ECC 83-3 × EL 95, -EM 71-4 metal rectifiers.

AMPLIFIER OUTPUT: 6 watts approx.

SOCKETS: microphone, diode, radio speaker and gramophone pickup inputs, high impedance output, extension speaker output, Grundig distributor speaker, Grundig remote control, earth connection.

WOW AND FLUTTER: 0.3% at 7½ ips; 0.5% at 3½ ips.

RECORDING SENSE: Top track, left to right.

AND A REMARKABLE OLD GRUNDIG — with endurance

THE Grundig Stenorette shown here is in perfect working order—after the case and push-buttons have been melted away in a fire that gutted the building in which it was used. A Bristol man bought it as scrap for ten shillings.

Out of curiosity, he replaced the mains lead and tape and plugged in. It worked perfectly. Now Grundig have bought it and installed it in a place of honour in their West End showrooms. Their engineers have found that the efficiency of this robust machine was in no way impaired by fire, water, exposure and mechanical shock.

THE NEW GRUNDIG

—with refinements

GRUNDIG announce this month a luxury recorder, the new TK830/3D, with notable refinements. Without microphone, it will sell at one hundred guineas. And among its special features are:—

- One recording can be super-imposed on top of another by simple press-button action;
- A numerical indicator enables any spot on a recorded tape to be found with absolute accuracy;
- Provision is made for remote control of the machine;
- Automatic track change by press-button is possible;
- There are three independently-operated visually indicated audio frequency controls, covering the full bass, medium and treble range.

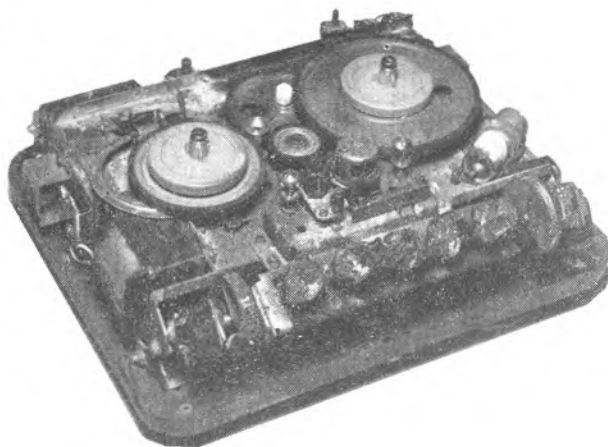
The TK830/3D provides speeds of 3½ and 7½ ips and accommodates 1,200-foot spools. There is an electro-magnet automatic stop switch.

Frequency response at the higher speed is given as 40 to 15,000 cps, plus or minus 3 db. At 3½ ips it is 50 to 10,000 cps. The amplifier output is approximately 6 watts and it can be switched to operate as a low-power public address amplifier from any input.

There is a magic eye recording level indicator, and playback is through three 7"×5½" elliptical high flux permanent magnet moving coil speakers.

There are separate volume controls for recording level and playback. The machine also has three individual microphone, radio and telephone circuit switches.

A full appreciation of this recorder by the Technical Advisory Editor will be published in the immediate future.



B.A.T.R.S.

(The Incorporated British Amateur Tape Recording Society—British Tape Pals)

Personal membership 17s. 6d. for 1957. Affiliated membership for public bodies £1 1s. All subscriptions include a copy of **TAPE RECORDING MAGAZINE** monthly by post

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Next month

RADIO SHOW 1957

A supplement dealing with radio tuners and other equipment of special interest to tape enthusiasts.

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First article in a regular series for readers interested in cine.

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The judges' names—the programme details—a final article on preparing your feature tape.

And all the usual popular features

Classified advertisements

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PSYCHOLOGICAL TALKS AND LECTURES by Theodore Faithfull. Tape Recorded. Speed 3½. Spools 5½. Available on loan. Provisional list on request from: The Secretary, 10 Manor Road, Birmingham 16.

WANTED.—February and March Tape Recording Magazines. A. J. Reynolds, 62, Croham Valley Road, Croydon, Surrey.

Reporter, portable with loudspeaker, microphone, batteries, tape speed 7½, weight 12½ lbs., 1956 model. £30. Box A.12.

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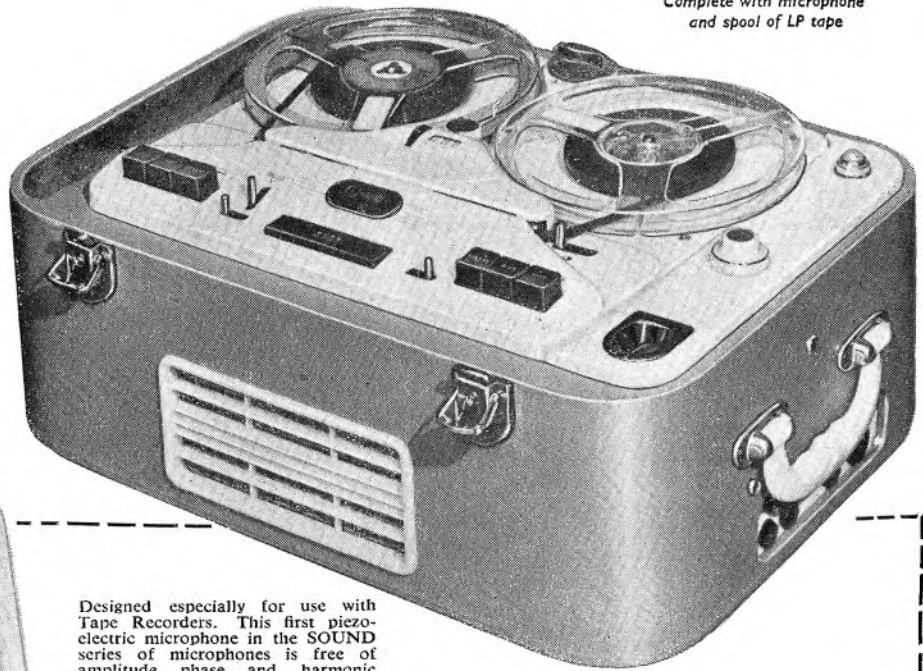
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TAPE RECORDER

- 4 watts output
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Complete with microphone and spool of LP tape

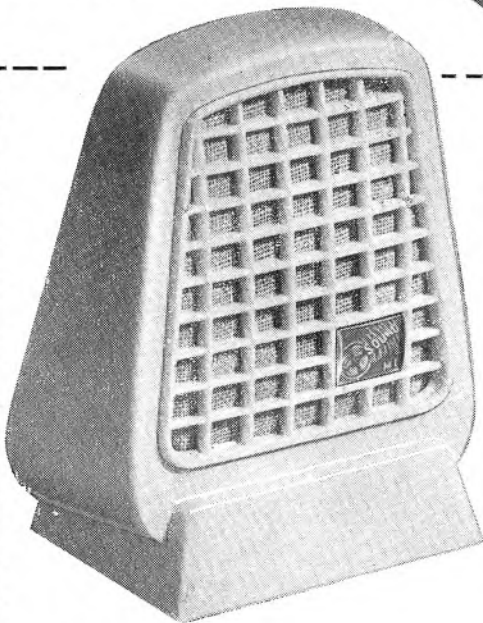
Completely automatic operation instantaneous track reversal ensures tape is not handled. Positive tone range, volume and on/off switch in one easy-to-use control. Superb presentation in contemporary style suitcase. Incorporating the latest Collaro Mk IV Transcriptor.



the new



M.I. CRYSTAL MICROPHONE



Designed especially for use with Tape Recorders. This first piezo-electric microphone in the SOUND series of microphones is free of amplitude phase and harmonic distortion.

55/- Complete with screened lead and screened plug



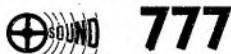
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NEWS FROM THE CLUBS



A group of BATRS enthusiasts meet at Chester: (left to right) Alan F. Woodhurst, Jack Talling, Ted Yates, Peter Copley and Arthur Bagley

Ted Yates on tour

TED YATES, General Secretary of the British Amateur Tape Recording Society, has recently completed a 550-miles tour, visiting many members of the BATRS and others interested in tape recording.

During his stay in London, he spent most of one day at the Independent Television News studios and saw a programme produced and transmitted.

* * *

THE next BATRS Tape Bulletin will be circulated as from the second week in August. There was no issue in July. Contents of the coming number include the Secretary's report, a feature "In London Town" by the roving reporter, a technical piece on the B.B.C. Recording Department, a record and film review feature and a Tape Forum.

* * *

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:—

MO/0504 Leonard and Audrey Hoskins, 4415N 134 Street, Milwaukee 10, Wisconsin, USA. (40 and 26), 3½ and 7½.

MO/0505 William C. Eaton, P.O. Box 1967, Las Vegas, USA. (34), 3½ and 7½.

Miss Ritasarani Teresa Moises, 532-B El Dorado Street, Pasadena, California, USA. (25), 3½ and 7½.

H-0221/T William G. Farquhar, c/o Chase Manhattan Bank, 60 East 42nd Street, New York City. (45).

G-0217/T William J. Rawle, 12 Glenfield Road, Darlington, Co. Durham. (38), 3½ and 7½.

G-0218/T Gerald A. Cowley, Cpl., "B" Sqdn. 11/12 SME Regt., Blompton Bks., Chatham. (28), 3½.

GM-0219/T Duncan R. Stewart, 3 Roseberry Terrace, Kirkcaldy, Fife, Scotland. (21), 3½ and 7½.

G-0220/T John C. Tournant, 46 Hele Gardens, Plympton, Plymouth, Devon. (30), 3½ and 7½.

G-0222/T Leonard F. La-Garde, 14 Rose Hill, Binfield, Bracknell, Berks. (55), 3½ and 7½.

Miss Marjorie Carole Donaghy, 210 Stamford Road, Blacon, near Chester. (19), 3½ and 7½.

GM-0223/T Robert M. Simpson, 13 Marchburn Avenue, Aberdeen, Scotland. (26), 3½, 7½ and 15.

G-0224/T Robert M. Andrews, "Chrea," 82 Gipsy Lane, Kettering. (18), 3½ and 7½.

G-0225/T Stewart W. Muir, Greenacres, 29 Woodlands Way, Ashstead, Sy. (23), 3½ and 7½.

G-0226/T Walter J. F. Loak, 4 Oxford Street, Rothwell, Northants. (26), 3½ and 7½.

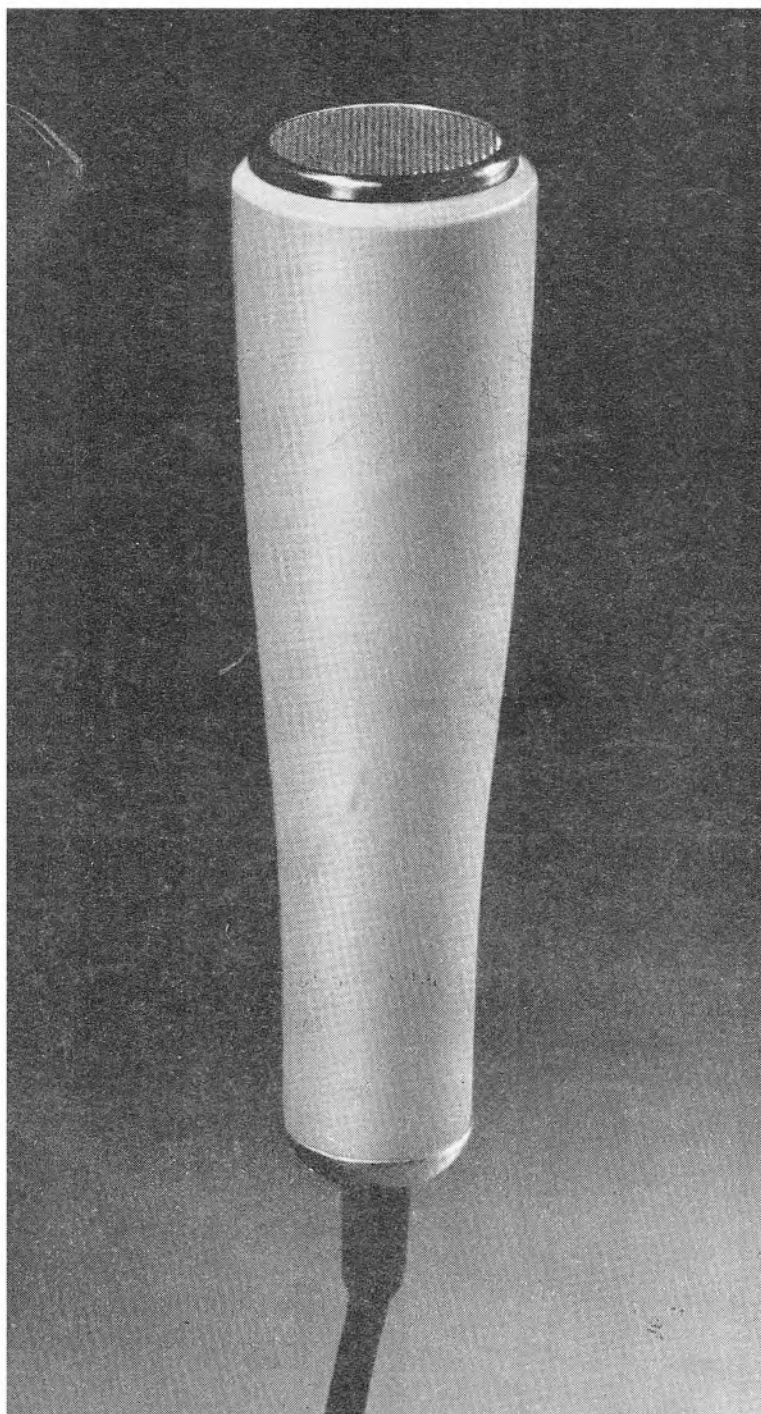
G-0227/T George C. Pawlyn, jr., 21 Whiteford Road, Plymouth. (22), 3½, 7½ and 15.

G-0228/T Theodore J. Faithful, 10 Manor Road, Edgbaston, Birmingham 16. (72), 3½.

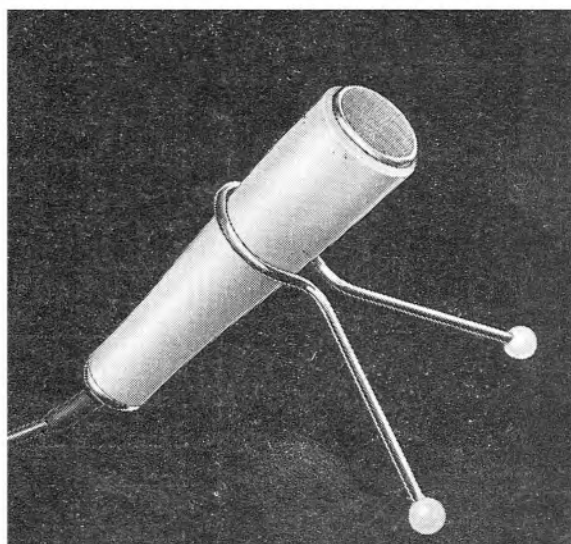
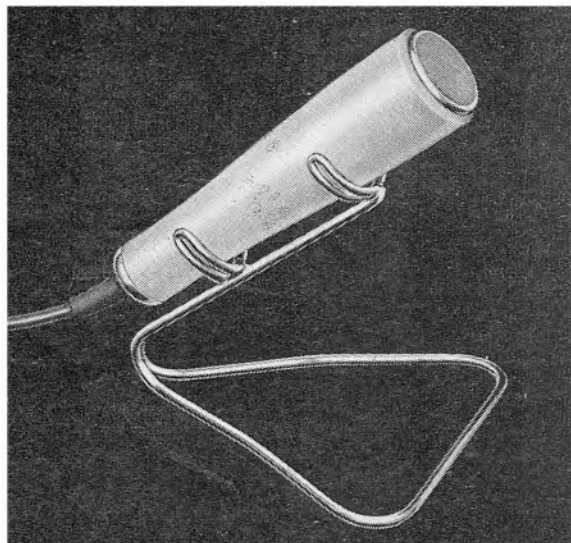
G-0229/T Ian Whiteside, 41 Cromwell Avenue, New Malden, Sy. (34), 3½.

G-0230/T Harry R. Johnson, 17 Burbo Mansions, Burbo Bank Road Station, Liverpool 23. (41), 3½ and 7½.

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