

SEPTEMBER 1964

TAPE

RECORDING MAGAZINE

24



IN THIS ISSUE

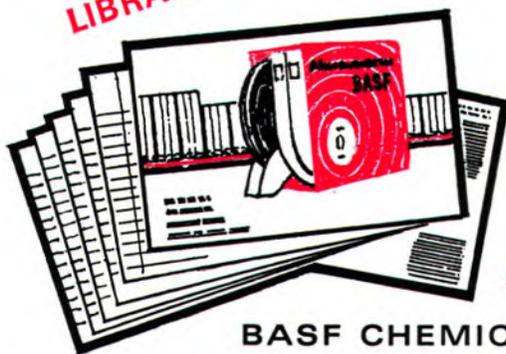
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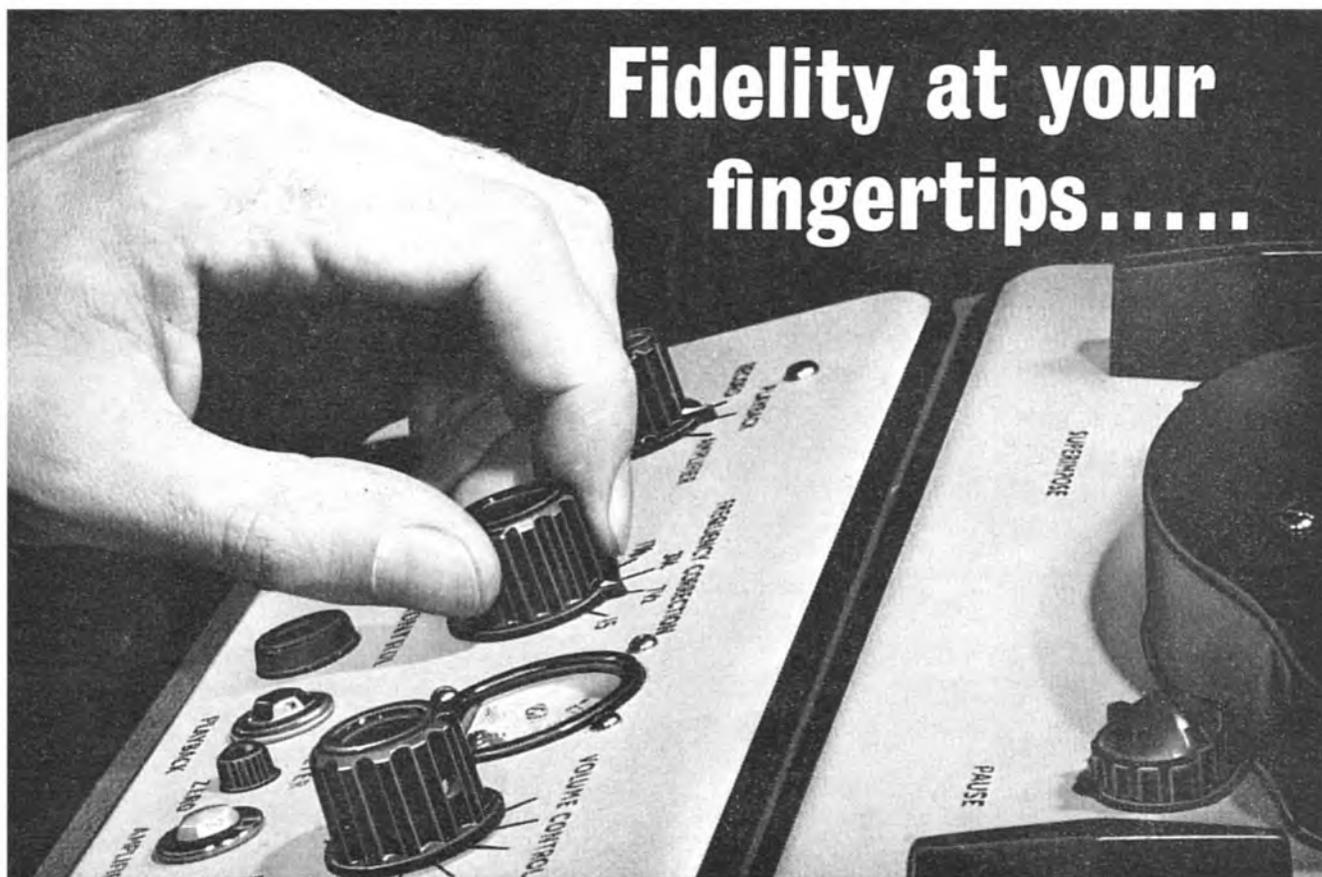
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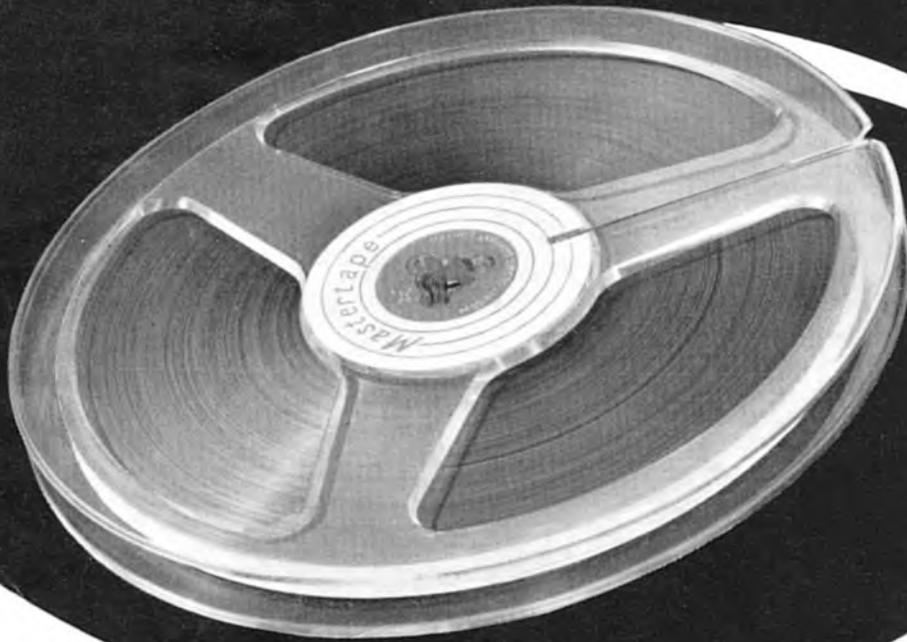
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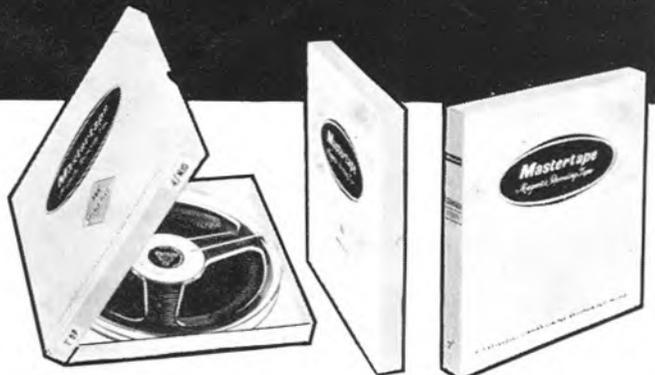
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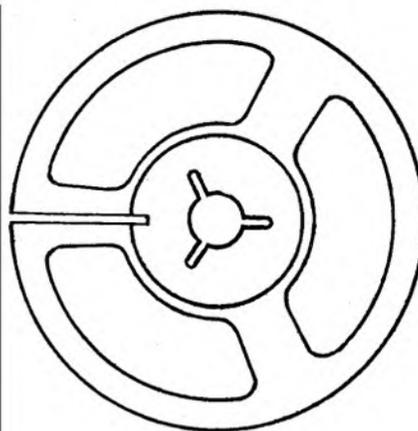
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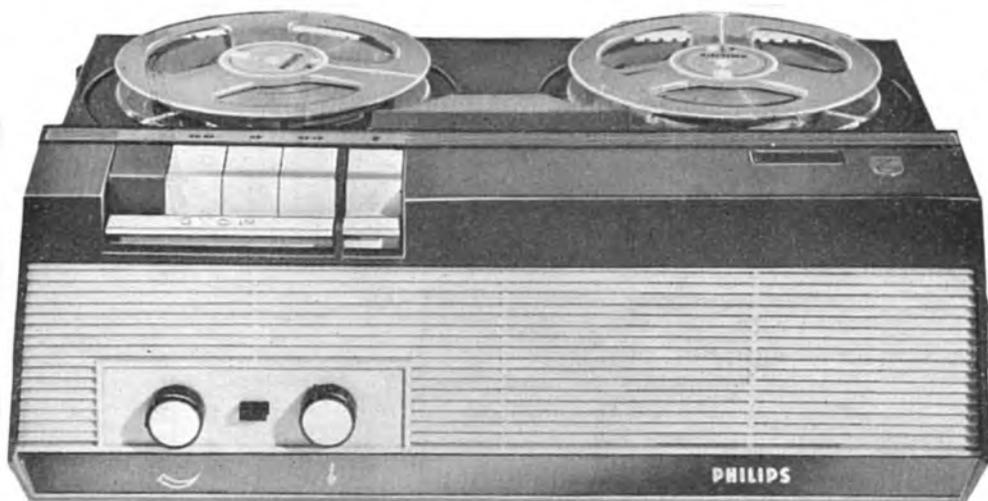
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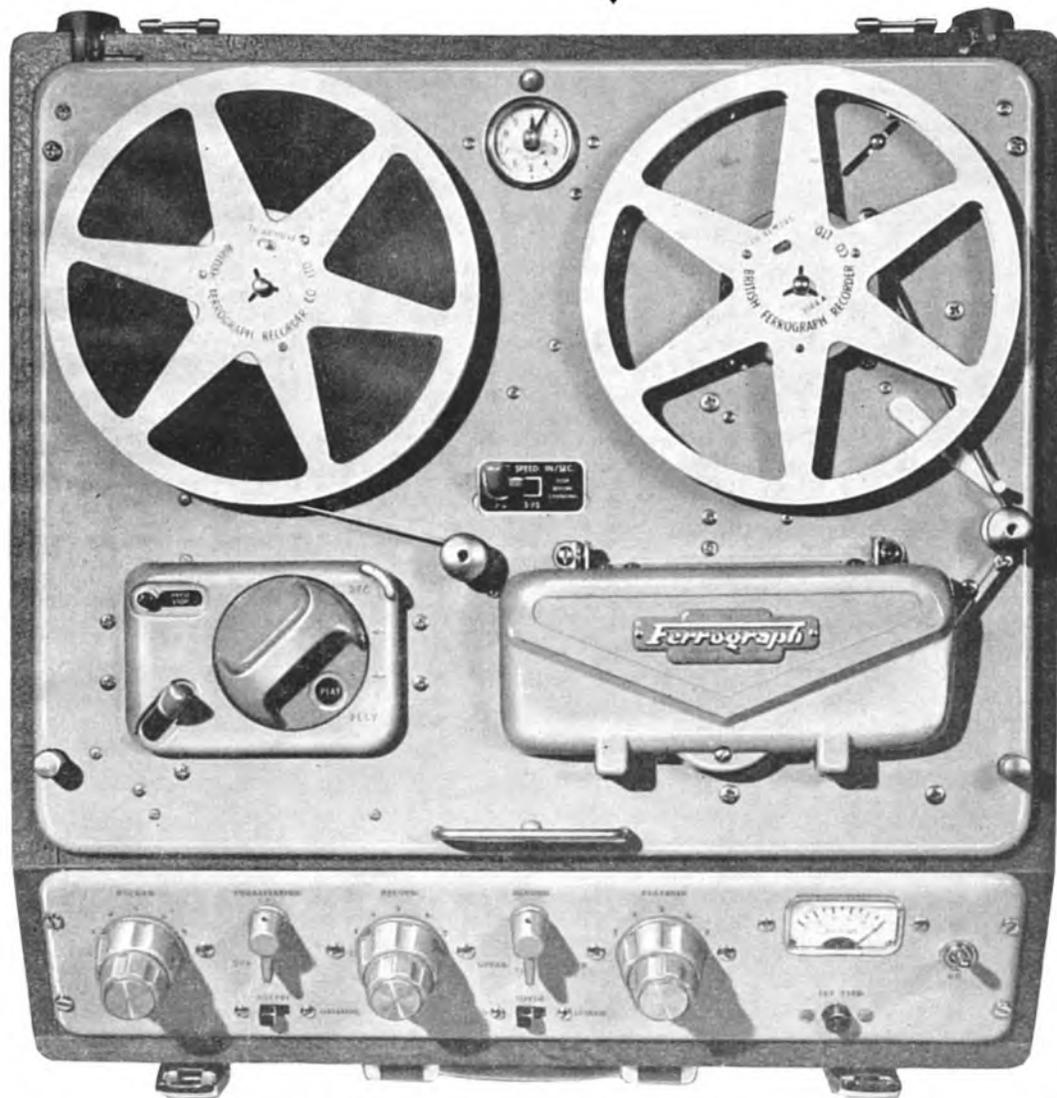
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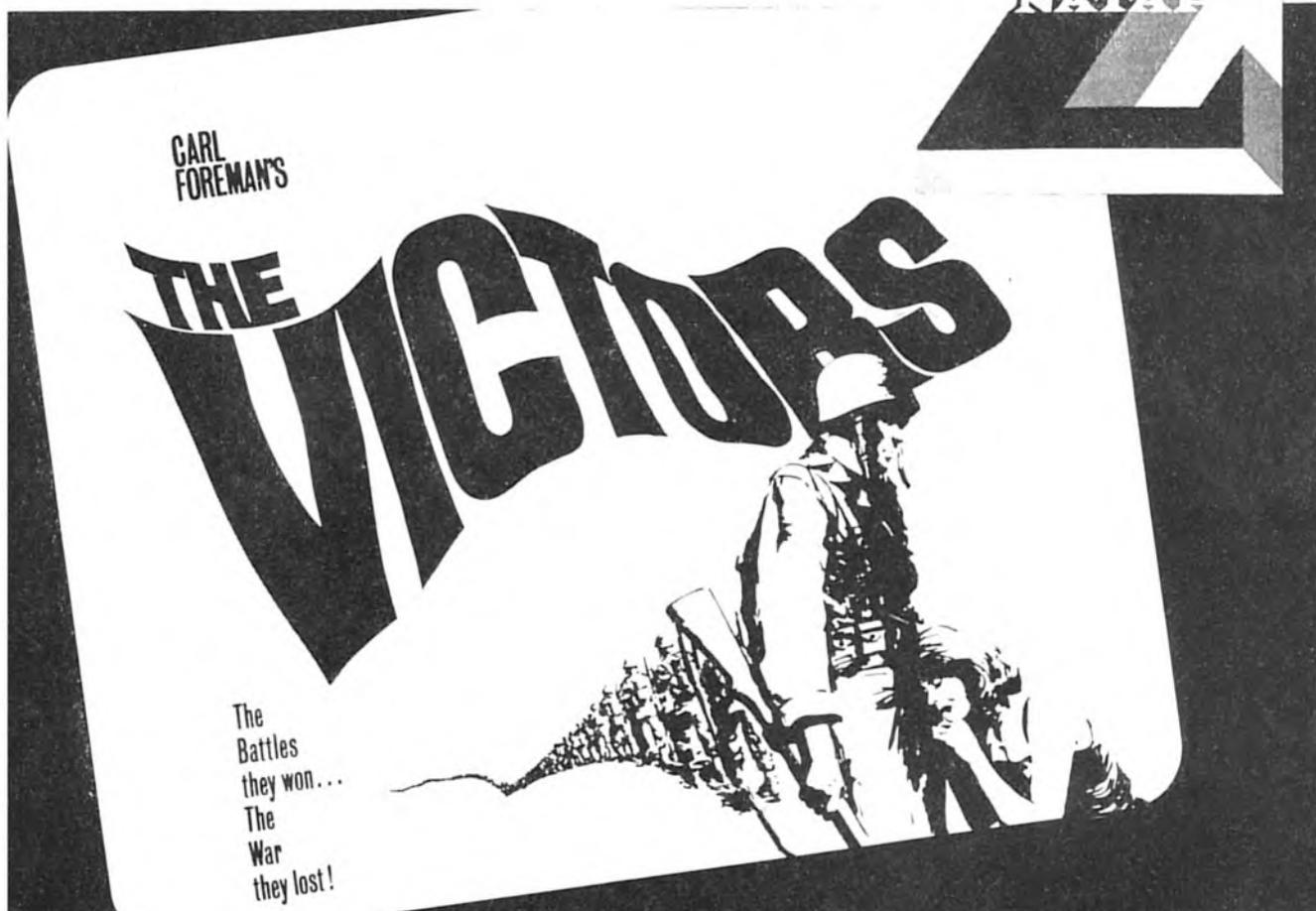
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TAPE RECORDING MAGAZINE

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COVER PHOTOGRAPH: Regular contributors to "Sound" the BBC Network Three programme for tape enthusiasts meet to record the last programme of the present series (see editorial view, page 346). Left to Right are: John Borwick, John Gilbert, Donald Aldous, Peter Walker, producer Richard Keen (standing), Douglas Brown, H. Burrell Hadden, and Fred Judd.

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EDITORIAL

Editor,
R. DOUGLAS BROWN

Assistant Editor, FRED CHANDLER

ADVERTISING

Advertisement Manager,
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Tape trends and tape talk

By the Editor

A PARIS TOURIST agency has added an exciting prize to the list for the International Recording Contest (CIMES) this year. It is a return voyage from Le Havre to the United States on board the liner "France" next Spring.

British competitors who produce the six best tapes in the British Contest are in line for this, as well as for any other prize in the International event.

The closing date for the British Contest was July 31, but on that date the postal services had not returned to normal after the disorganisation caused by the postmen's dispute. In these circumstances the Organising Committee decided to ignore the rule about closing date and all tapes received by mid-August will participate.

Further, in the case of tape recording clubs, entries may be sent until Friday, August 28.

In this way, there is no danger that anyone will lose his or her chance because of the postal difficulties.

The final judging will take place in the Mullard Theatre in London on September 10 and the results will be announced soon afterwards.

The British entries will then be sent forward to the International, which is to be judged in Lausanne, Switzerland, and the results announced on October 27.

The British Organising Committee will then organise a big party in London's West End on the evening of Friday, November 6, when winners will be presented with the prizes in the British Contest

and any which have been won in the International event.

* * *

WHEN THE INTERNATIONAL Federation of Sound Hunters holds its Congress in Lausanne in advance of the Contest judging, invitations will be extended for the venue for the 1965 International judging.

I can reveal that, unless one of the national organisations with a stronger claim announces that it wishes to invite CIMES 1965, an invitation will be issued for the gathering to take place in London.

It was held here in 1959, but at that time the British Contest was only just established and we had a lot to learn. When next the tape recording amateurs of Europe come to visit us, we hope we shall be able to organise a great international rally.

* * *

IT IS PARTICULARLY unfortunate that, with this prospect ahead, the "Sound" programme should have been shelved by the BBC. But the latest news is that the programme has been "suspended"—not abandoned.

It seems probable, however, that if it is to be brought back, it will have to justify itself in the Home Service, which means, I imagine, that it will have to have a wider and more popular appeal.

I repeat the suggestion I have made often before: that the BBC should learn from the French radio and should organise regular audience participation, by building the programmes around the efforts of tape amateurs and having the amateurs in the studio to play their work and to discuss it with experts.

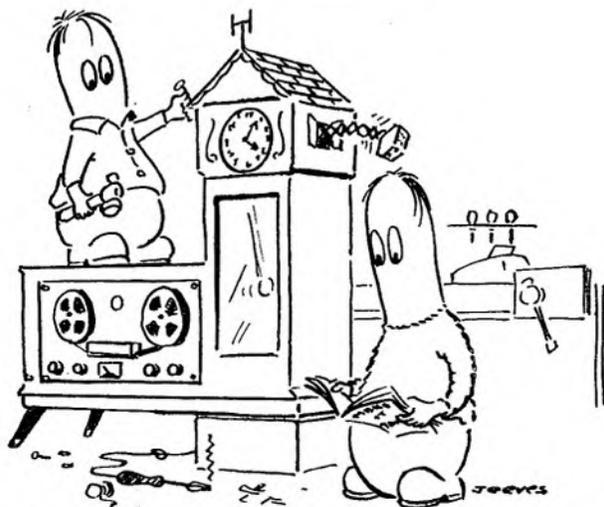
Quite a few people have rung me up or written to say that they have written to the BBC Director of Sound Broadcasting urging that "Sound" should be revived. I hope that the pressure will be maintained.

I can report that we had a happy gathering of regular contributors at Broadcasting House when the last programme was recorded: John Borwick, the first compere, Peter Walker, a frequent contributor, Donald Aldous, John Gilbert, Burrell Hadden, Fred Judd and myself.

A photograph of the occasion, showing the producer Richard Keen giving us guidance, forms our front cover this week.

Incidentally, I should like to pay tribute to the great work done by the three producers of "Sound" during its run: the late Mrs. Marguerite Cutforth, who devised the programme, Richard Keen and George Angell. Each contributed an immense amount to the programme. Their service to audio amateurs was impressive.

LAUGH WITH JEEVES



"I bet you never noticed there were some pages missing from this book of plans."

In his guidance to practical scriptwriting series, the author continues last month's all important subject: shape and structure.

Working on a tape script

by ROY RUSSELL

LAST month we considered the all-important opening sequence of a script: its rôle to immediately create interest, to introduce the programme, and finally to lead-in to the second sequence.

Sequences are to the script what paragraphs were in preparing our school essays. Each one should therefore contain a complete idea. They are not perhaps so easy to see as a whole because they contain several paragraphs (sometimes hundreds in a full-length script) within them. But proportionately they are the script's "paragraphs."

A good rule is to ensure that each sequence progresses the plot forward by one complete step. And when we refer to a plot this is not applicable only to dramas and thrillers of the fictional world. A documentary must be held together with a plot-like "story-line" although this is not to say that it must proceed chronologically or in continuity of action.

On the contrary, give your audience variety and surprise; as Shakespeare did, by cutting away to another part of the forest, and from the serious to the flippant scene. But as the opening leads one to the second sequence, so the second must lead in to the third and so on. If it doesn't, linkage should be inserted, as unobtrusively as possible. Each sequence must make a definite contribution. Something must develop or be fully-pictured in every one, justifying the follow-on of the next sequence.

This development is the most important aspect of the sequence. If it is substituted by such other essentials such as the imparting of interesting information, filling in the background, of development of character, or planting detail necessary in advance of a following sequence, the programme will flag.

All these aspects should be written in such a way that the story is moving forward. Not "The average age of the Rovers is 23" but "The Manager was worried at the inexperience of his youthful team. Their average age. . . ." Not "It is raining quite hard." but "Will this driving rain make the ball too slippery for the superior skill. . . ."

If you wish to impart information in your script, there must be a justification. Bring

the justification into play in the way you bring the information in. If there is no justification, the sequence has no place in your programme. It is irrelevant and should be cut.

Each sequence therefore must be examined to see that it does its job, not cold-bloodedly, but in action. It must be the logical successor to the previous sequence, and lead consequentially to the next. If any of these tests fail, the sequence has to be altered in part or whole, or cut out altogether, or replaced, or made to fit into place by dovetailing in another sequence before or after it.

But the added sequence must also be written in subject matter worthy of inclusion in its own right. It must pass these same tests.

Supposing, in our imaginary tape programme "The Village," following on from the first two sequences we imagined last month, the vicar ends his interview ". . . and the stained glass window catches the evening sun and floods the church with beauty." Say the next actuality we want to bring in was made in the post office. Continuity could be "Mrs. Johnson has seen this lovely sight at Evensong since she was a girl and has been postmistress at the Village shop for nearly as long." Cut to interview with postmistress. It's short, simple, unobtrusive, adequate. There are probably better ways, if one worked on it. A longer passage of linkage may for some reason be desirable. It depends on the programme's treatment and shape.

Obviously there can be no rules for the linking up of sequences and in different programmes different considerations effect your decisions. In a factory programme, manufacturing sequence dictates the order; in a history programme chronology may rule. But one rule governs all: the sequences should point towards and eventually build up to the climactic sequence.

This is known in drama as the obligatory scene. In a documentary it is the crux of the whole story. In general terms it is the "big moment" of the script. It may come in the final sequence, or in the penultimate sequence. In the latter case the last sequence's rôle is that of an epilogue.

After the "big moment" nothing new should be embarked upon. Yes, it is done sometimes. Shakespeare did it in the trial scene in "The Merchant" when after the defeat of Shylock, the rings are given in payment and a new story begins. But a genius gets away with it by sheer magic of

If the climactic sequence is penultimate, the final "paragraph" should round off the programme, crystallising what has gone before. The shining example which springs to mind are the final lines of "Saint Joan": "O God that madest this beautiful earth, when will it be ready to receive Thy saints? How long, O Lord, how long?"

As a further Shavian example of the art of script writing, note that he makes Joan say "earth" in preference to "world." Particularly in this context, there is all the difference between these words of similar meaning. Be precise and accurate in your choice of the important words in your script.

I don't want to give the impression that it is necessary to madly cut and chop your script and/or tapes about in order to get a good structure. If you have the equipment, the copyright clearance and your basic idea calls for it, you can go the whole hog and do a Jack Jackson but that is only one Treatment. Much as his is to be admired, there are others.

A fast read-through will often give a good idea as to where reshaping is necessary. Whilst making such a test, resist the temptation to stop to make minor alterations. This can be done later when they will again occur to your critical faculties. Once you are happy with the general shape, all sorts of improvements in detail can be made without disturbing the overall framework.

Some very minor surgery is often necessary on interview material, even if it is only a question of topping and tailing or both.

Many people, faced with answering to a microphone, reply at first with some embarrassment and are inarticulate, but end up beating their favourite hobby-horse to a point of ineffectiveness. Topping and tailing the tape after careful weighing-up of where and when (with accompanying heartaches) is usually the answer, although there may be the exceptions where the inarticulation or the overdone or repetitious tub-thumping may be used to good effect.

In general, only reshape or cut if the result is going to improve your programme. On the other hand never shrink from excising anything which has merit in itself but is obstructing the general flow of your story-line.

It is disappointing to have to severely criticise tapes entered in competitions or heard during visits to tape-recording clubs when there is so much that is good in them. The technical achievement, both in use of equipment and in ingenuity, the quality of the final recording, the demonstrable patience and skill of the production team in editing, etc., may all be of a high order.

Yet, overall assessment is not at all high because "It seemed to go on too long" or "The idea was not properly developed" or "It ended abruptly" or "It got lost half-way through" or "The interest flagged in the middle."

Unfortunately, however high the other qualities, these phrases are far more important, and they are adverse reflections on the shape and/or treatment of the script and go back to the early days of conception and development of the idea. This is when competitions are won or lost, when tape programmes are made or still-born. Get these fundamentals right and, if you have the resources, success must follow because you are working on sound basic ideas.

Of course, there are problems in the dialogue-writing stage, too. Next month we will get down to working on dialogue in detail and some of the practical ways we assist ourselves in this fascinating work. As a clue, never use an exercise book. We'll talk about "why" in our next "sequence."

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Sony 464 CS—7½ and 3½ ips	£98.14.0
Philips EL.3534—7½, 3½, 1½ and 15/16 ips	£96.12.0
OUTSTANDING TWO TRACK STEREO RECORDER TELEFUNKEN M98—SEPARATE RECORD/REPLAY HEADS—ALL FACILITIES	£99.15.0

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*Ferrograph 424 U, ¼T playback 7½ and 3½ ips... ..	£115.10.0
*Tandberg Series 6, 2 or 4 track 7½, 3½ and 1½ ips	£115.10.0
Sony 464 (one replay amplifier) 7½ and 3½ ips	£75.12.0

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*Telefunken M.96—7½, 3½ and 1½ ips	£72.9.0
Philips EL.3549—7½, 3½, 1½ and 15/16 ips	£65.2.0
Philips EL.3541—3½ ips only	£37.16.0
Philips EL.3541/H—3½ ips only	£44.2.0
Elizabethan LZ.29 (illustrated)—7½, 3½ and 1½ ips	£37.16.0
Elizabethan Popular 400—3½ ips only	£26.5.0

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*Reflectograph Model A (3 head system)—7½ and 3½ ips	£110.5.0
*Vortexion WVB (3 head system)—7½ and 3½ ips	£110.3.0
*Vortexion WVA standard system—7½ and 3½ ips	£93.13.0
*Ferrograph SA/N (modernised)—7½ and 3½ ips	£89.5.0
*Telefunken 85 "The Classic"—7½ and 3½ ips... ..	£87.3.0
*Telefunken 95—7½, 3½ and 1½ ips	£61.19.0
Elizabethan LZ.30—7½, 3½ and 1½ ips	£33.12.0
Optacord 403 (with monitoring)—3½ and 1½ ips	£47.5.0
Elizabethan Popular 200—3½ ips only	£23.2.0
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*Telefunken "Automatic" with automatic modulation control	£52.10.0

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A lone tape recorder is not enough

By NORMAN PAUL

WITHIN a few weeks of buying your first tape recorder, and after the initial novelty of recording and hearing your own and your friends' voices has begun to pall, there is little doubt that subconsciously you will begin to search round for some way in which to expand your recording activities. You will quickly discover that a tape recorder on its own is not enough. This, of course, is assuming that you did not buy your recorder in a sudden rush of inexplicable recklessness and it is now lying forgotten in the cupboard under the stairs. As you are a reader of this magazine this is obviously not the case.

It will become increasingly clear that if you are to widen your sphere of recording work, the cheque book is going to be pretty active. Do not let this deter you! If the tape recording bug has well and truly bitten you, nothing will stop you spending money on the blighter and you might as well capitulate with an easy conscience.

Seriously though, there are quite a few items of useful equipment which can be purchased reasonably cheaply.

The first on the list is probably a splicer. This is an essential instrument, and no recording enthusiast should be without one. There are those, mostly new to the game, who look at you with terror in their eyes if you suggest they should cut their precious tapes. This is short-sighted policy and if you have never attempted to edit your tape recordings, you are missing half the fun of the hobby. That "fabulous recording" you made at the children's party will be improved one hundredfold by some judicious cutting here and there.

To do this satisfactorily you need a splicer. There are various makes on the market, ranging from a simple metal

groove in which the tape is placed, to the more complex affairs fitted with clamps and cutters and a built-in roll of adhesive tape to fix over the cut. Generally speaking the simple types are equally as effective as the more ambitious and are usually less "fiddling." They are used extensively by the BBC, and it is a lesson in itself to watch the speed with which a BBC technician can, with a cheap splicer, deal with a reel of tape.

This type of splicer is usually provided with screw holes for fixing to the tape deck. Once again, the thought of drilling holes in a brand new tape deck causes consternation among the less adventurous, but it really is an advantage to have the splicer firmly fixed in the most useful position—and also to know exactly where it is!

In addition to the splicer you will need leader tape of various colours, and some jointing tape. It is important that you only use adhesive tape specially manufactured for this purpose. The sticky tape used for packing up parcels and suchlike is quite unsuitable. In time the adhesive oozes out and spreads over successive layers of tape, so that each layer catches on the subsequent one resulting in a series of jerks as each splice breaks away from the revolving feed reel. As can be imagined, this does not improve either the recording or the playback quality.

Different coloured leader tapes are used for fixing to the beginning and end of tape lengths being made up on to separate spools, which so often happens if you are editing a complicated programme. The usual procedure is to use green for the start of the reel, and red for the end. White and other colours can be used for splicing into the main portion of the tape if you wish to

isolate various sequences. This is particularly useful if you are compiling an effects tape for a stage play and wish to identify the various cues. The cue number can be written on the coloured leader tape with a suitably coloured chinagraph pencil. These are specially made for writing on shiny surfaces and are obtainable in various colours. For editing purposes they are indispensable, as you *must* know the exact point to cut the tape, and you can only do that by marking it. If you really do not wish to cut the tape you can buy small adhesive labels which can be fixed to the tape itself, and are easily removed.

All the items mentioned so far may be obtained quite cheaply. A complete editing set, with splicer, coloured leader tapes and jointing tape is available for under £2, or, of course, each article may be purchased separately. Chinagraph pencils cost no more than a few pence.

Moving into the slightly more expensive scale, a most useful accessory for the recording enthusiast is a bulk eraser. This piece of equipment, when plugged into the mains, produces a strong magnetic field and, on holding it against a reel of tape, it completely removes the signal from the whole reel within a matter of a few seconds. This is particularly useful when a clean tape is required and one does not wish to waste time by running the tape through the recorder in the usual way. A bulk eraser may be obtained for as little as £2, the more expensive models running to about £7.

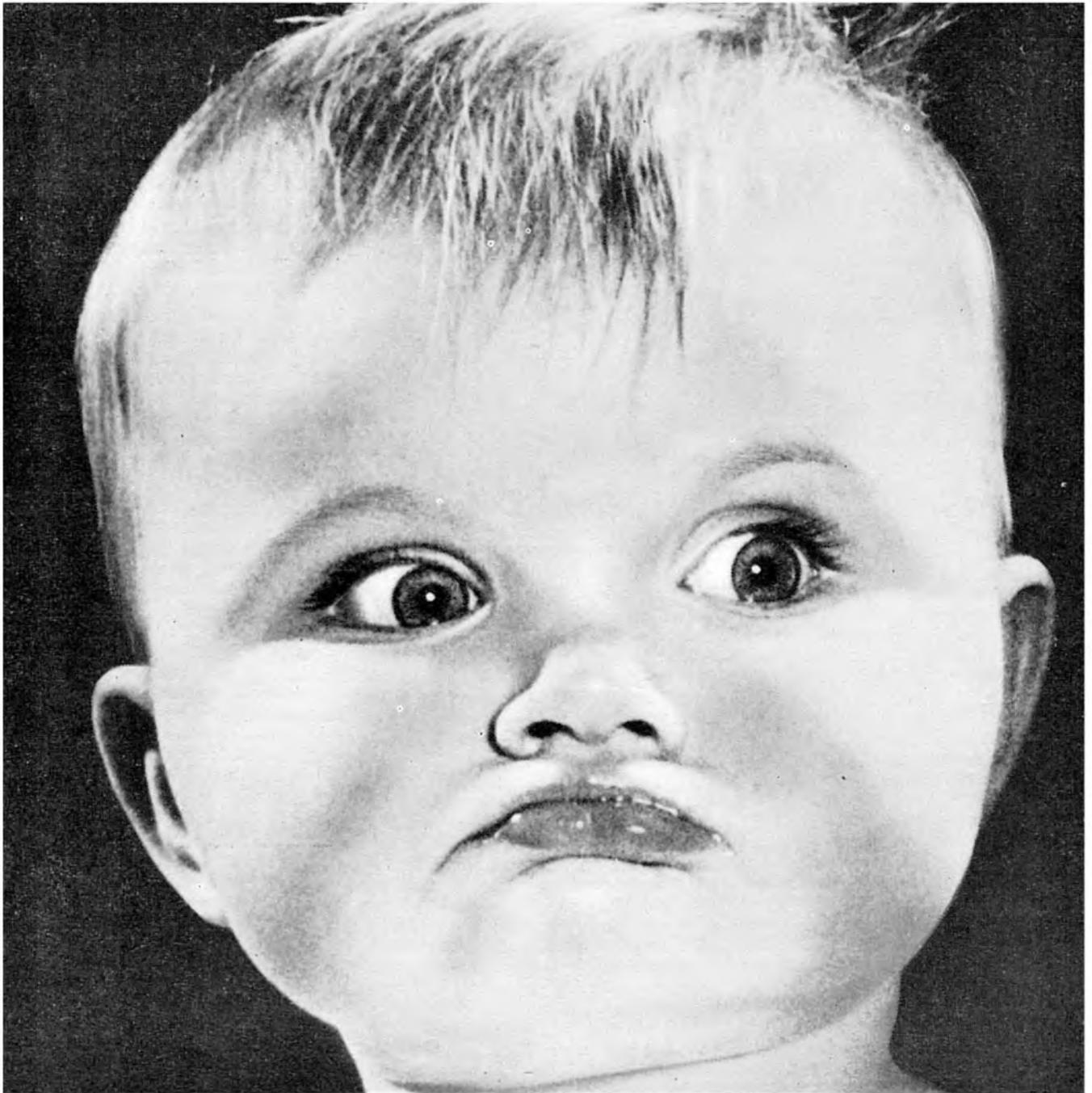
Have you ever noticed that after your recorder has been in use for a few months, the background hiss becomes more distinct? This means that the record/playback head has become magnetised. A magnetised head not only records poor quality sound, but can also damage an existing recording when the recorder is in the playback position by gradually removing the shorter wavelengths from the tape. If, therefore, your friend has lent you a pre-recorded tape he will not thank you when you return it to him if the head in your machine is magnetised.

A simple remedy is to use a defluxer. This unit is plugged into the mains, and demagnetises the head in a few seconds simply by being held against it. This is an essential piece of equipment for the serious amateur recordist and well worth the few pounds it costs.

Moving further up the scale, a really useful accessory is the mixer. These come in all shapes and sizes, ranging in cost from a few pounds to a sum equal to, and sometimes exceeding the cost of the recorder itself.

A mixer opens up wide vistas to the

(Continued on page 356)



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TAPE RECORDING IN NEW ZEALAND

By John E. Hyndman

NEW ZEALAND has seen the odd tape recorder scattered through the community since the late 1940's, these being single-track machines usually of German origin. It was not until the mid-1950's that tape recorders were seen more frequently and since then many machines have been sold throughout the country. Many of these were bought for their "gimmick" value, but the owner soon found that interest flagged and the machine began collecting dust in the corner.

Down through the years various well known makes of tape recorders have been available. Collaro, Philips, Grundig, Telefunken, Ferrograph, Truvox, Brenell, Tandberg and Wyndson are popular, and more recently Akai, Elizabethan, National Robuk and Sony models have been obtainable.

With an upsurge in interest in TV and a degree of buyer resistance to tape recorders, importers are using available funds for the importation of TV components. As a result the selection of imported tape recorders available for purchase is rather limited and much effort is often required to obtain a desired model. However, several tape recorders have been produced by New Zealand manufacturers, in some cases using imported decks such as the BSR and Collaro Studio, although one company has manufactured the complete machine. This is the MRI made by Mowat Radio Indus-

tries. Other New Zealand-made models in the medium price range (£70-£90) are the Ultimate made by Ultimate Ekco Ltd., and the La Gloria manufactured by Dominion Radio and Electrical. This firm also produces the Drego which is in the low price range (below £50).

To buy a good tape recorder is quite a financial outlay to the average person. Sales tax, freight charges, and profit margins make New Zealand prices often more than double the UK retail price. The following are typical examples: Akai M7 £235; Grundig TK60 £220; Elizabethan 200 £51.

MAGNETIC TAPE

The majority of magnetic recording tape is imported from Europe and America but some Japanese and Australasian tape is sometimes available. It is possible to obtain Agfa, EMI, BASF, Scotch, Mastertape, Irish, Zonatape and Sony makes. Tape is made in Australia and New Zealand by the Rola Company but is not as readily available as some of the well-known European tapes.

Prices for standard-play seven-inch reels are EMI, Scotch, Sony 46s., Agfa 56s., Rola 49s. 6d.

TAPE EXCHANGE CLUBS

There are at least two tape recording clubs operating in New Zealand. Both have their headquarters in Auckland, but have affiliated branches in many parts of the country. These two clubs are the New Zealand Tape Recording Club, P.O. Box 7060, Auckland, W.I and the New Zealand section of World Tapes for Education, P.O. Box 878, Auckland. Both clubs have steadily increasing memberships, and through the efforts of these clubs, more and more persons are daily making contact with other enthusiasts in all parts of New Zealand and all over the world.

TAPE RECORDERS IN SCHOOL

The first use of a tape recorder in a classroom was noted about 1955. Articles

published in "National Education," a teachers' magazine, by Mr. John MacDonald described how he had used a tape recorder quite successfully in a small country school just outside Auckland City. The education authorities realised the great value of a tape recorder as a teaching aid, and were prepared to subsidise locally-raised funds to a maximum amount of £40 on a shared basis with the school.

This subsidy is used to obtain desirable articles, cine and film strip projectors, playground equipment, radio receivers and library books, etc., for our schools. Within a few years it has been estimated that fifty per cent of New Zealand schools have obtained tape recorders. Some are using these with success, but others, like many private owners, have not realised the potential of the machine, and are only using them occasionally.

In addition to the Education Department subsidy, a machine declared as being used for educational purposes has the sales tax excluded from the final price to schools. One large importer of tape recorders was able to sell machines retailing at £109, for £47 to schools via the education authorities. When subsidised, the total price for the school became £23 10s. Tapes are also included in this sales-tax exemption, and the purchase of long-play tape on a seven-inch spool means a saving of ten shillings.

The Wellington Education Department has a Supervisor of Teaching Aids, and since 1956 he has periodically distributed a Tape Recorder newsletter and Exchange Directory. With the circulation limited to a mailing list of schools interested in tape recording, this newsletter has included hints on taping; uses for a tape recorder in the classroom, with articles sent in by teachers; as well as a directory of schools willing to undertake class exchanges. Schools on the mailing list have each received a copy of John Weston's booklet "The Tape Recorder in the Classroom" and also a booklet compiled from hints printed in newsletters.

The "Broadcasts to Schools" section of the National Broadcasting Corporation has each week for many years broadcast singing lessons over a network of radio stations covering the whole of New Zealand. Teachers are able to obtain a dubbing of the piano accompaniment of all the songs taught in a year by sending a reel of tape to the National Film Library where copies are made and the tape returned to the school for classroom use. There is now the hope that this service will be extended to include dubbings of documentary programmes which could be held in this library.

OTHER USES

In addition to tape recorders being used by club enthusiasts and teachers, machines are used for many other purposes here.

Speeches at conferences are recorded and filed for reference purposes; while those of notable personalities are kept for their historical value.

Many religious sects circulate tapes of sermons among their adherents while societies interested in certain fields of activities also circulate tapes and tape-slide shows.

Tape recording has been used experimentally to record Court proceedings; and of course, many machines used in office equipment, such as dictating machines and automatic telephone-answering devices.

A Language Laboratory is operating at Victoria University in Wellington to teach English to Columbo Plan Students while at major airports automatic recorders record all messages passed between aircraft and control towers.

BOOK REVIEW

LOUDSPEAKERS. By E. J. Jordan. Published by Focal Press. 227 pages, price 42s.

THIS is one of six books forming a comprehensive survey of the whole field of sound reproduction. The Editor and Authors of the series were able to meet and discuss the entire project before setting pen to paper and the result, if it can be judged by this work, is an important contribution to the art (and science) of audio engineering.

E. J. Jordan is a well-known writer and lecturer on the subject as well as an accomplished engineer and it is not surprising that this book should be written with the idea of dispelling the notion that loudspeaker design is compounded of black magic and mathematical mystique.

Nine chapters cover the technique of loudspeaker design, starting with the consideration of the "ideal" piston set in an infinite wall and going on to the derivation of the complete electro-mechanical analogy. A refreshing feature of the book is that the mathematics involved are not relegated to an appendix but form an integral part of the text. Moreover, each stage is explained fully with none of the sudden jumps into the realm of rarefied theory so dear to the "advanced" textbooks.

It is generally agreed that there is no

completely satisfactory way of predicting the performance of a cone and its associated suspension but the author gives a good account of the properties of the various materials he has at his disposal and the means he uses to control them.

The section on loudspeaker design closes with chapters on multiple systems, cross-over networks and the specialised units which are required by the industry. The need for tailor-made units will be readily appreciated by anyone who has used a commercial tape recorder with a high fidelity loudspeaker.

The second part of the book is concerned with the design of suitable enclosures and the emphasis here is on the presentation of sufficient data and an approach to design rather than specific examples. Listening rooms and distribution systems are considered and also included is a chapter on the electrostatic loudspeaker written, I suspect, with a certain amount of love.

This is not a book for bedtime reading; there is hardly a superfluous word and no anecdotes. Perhaps the severity of presentation could have been softened by the inclusion of a few photographs and the scope widened to cover current manufacturing techniques but these are small criticisms. This is a welcome addition to the bookshelf of the serious amateur and the audio engineer.

P. Milton.

DO-IT-YOURSELF

By J. B.
COX

An enthusiast's outfit for only £60

I WANTED a large console containing a tape recorder, FM tuner, quality amplifier, record player complete with speakers all for £60.

How this was achieved is described in the sincere hope that it may prove encouraging to my enthusiast friends.

THE RECORDER

To begin with, a recorder costing no more than about £30 was required and it was decided that a single-speed model would be suitable provided it had a fair frequency range. These requirements were found in the 29-guinea Fidelity Argyll recorder, which has since proved itself to be a reliable little stayer.

A slight modification was found to be necessary to the recorder as a suitable output with which to feed the amplifier was not provided. Since an extension speaker was not required it was decided that the socket would make an ideal outlet.

The two cross-headed screws either side

of the deck were first removed which allowed the whole recorder to be lifted from its case. Next the two wires connected to the extension socket were removed and a length of co-axial cable was connected from the socket to the outers of the volume control (screen to earth's end). It was decided to take the output from across the volume control for two reasons, firstly, the output was required to be constant with the recorder control at zero and secondly, since there is no D.C. present at this point no blocking capacitor was required.

Fidelity Radio Ltd. were most helpful in supplying me with a circuit which made for easier working but this modification can be completed, quite easily, from the above instructions.

There are numerous recorders on the market now which would serve equally well but do make sure the one selected has a fair frequency range of from about 50 to 10,000 cps and also a reliable deck such as the B.S.R.

Don't be guided too much by the appearance of a machine, after all, gilt push

buttons and rev. counters are not musts and are not heard anyway.

THE AMPLIFIER AND SPEAKERS

Previous experience indicated that an amplifier with about ten watts output was necessary in order to reproduce a nice "full bass" and a kit was purchased from R.S.C. (Leeds) type A11 for eight guineas. A ready built unit is available for an extra 45s.

The amplifier is rated at from 12 to 14 watts with a frequency range of from 30-30,000 cps which was quite adequate. There are two inputs with separate volume controls, bass and treble lift controls and also an output socket from which H.T. and L.T. supplies can be taken to supply the tuner.

The output transformer is constructed with tappings which make for a simple cross-over filter when using two three-ohm speakers.

The twelve-inch bass speaker used was made by Plessey and costs about 30s, whilst the six-inch one was obtained from a disused radio set. There are three outlets on the amplifier for speaker connection, the centre and one outer being used to supply the small speaker whilst the large speaker was connected between the other outer and centre.

A 12 μ f paper capacitor was connected in parallel with the large speaker in order to by-pass the higher frequencies, the smaller one behaving quite nicely on its own.

Again, there are many amplifiers on the market from which to choose but the one used was considered best value for money.

THE TUNER

Lasky's Radio offered a printed circuit version of the Osram F.M. plus tuner for seven guineas in kit form which was chosen mainly for simplicity of construction. At the time of purchase the instruction book was out of print but the suppliers included a copy and the tuner was completed with little trouble. All the components are soldered directly on to the printed circuit which occupies most of the chassis top.

It did occur to me that care was necessary to ensure that coils were correctly placed before soldering, as once the tags were passed through the board and soldered, removal was only possible by heating all four tags at once!

Alignment of the completed unit is quite straightforward provided the instructions are followed and a friend with a signal generator will usually help out. The drift on this unit was very little and only slight refinement of the tuning was required after about five minutes from switching on.

The dial is large and clear and provided a small lamp is used for illumination a little current can be stolen from the L.T. supply.

THE RECORD PLAYER

An old 78 rpm type turntable unit was used in conjunction with a die cast pick-up by Acos at 26s.

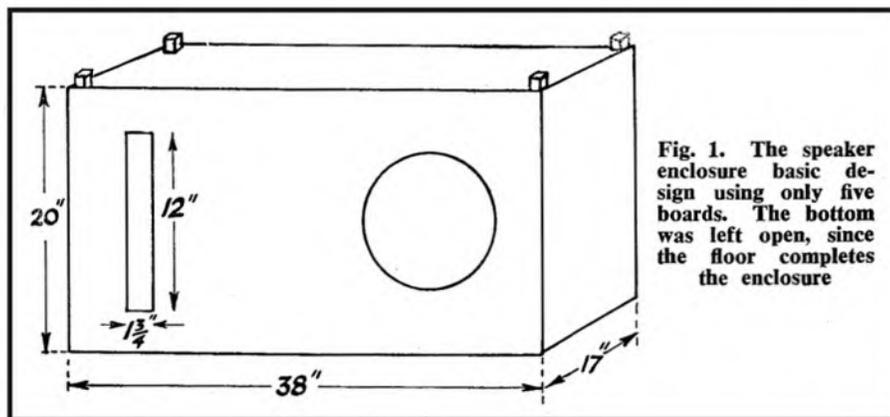
The turntable was purchased secondhand for a few shillings and when regulated down to 45 rpm remained quite stable; although at 33 rpm it was unsatisfactory.

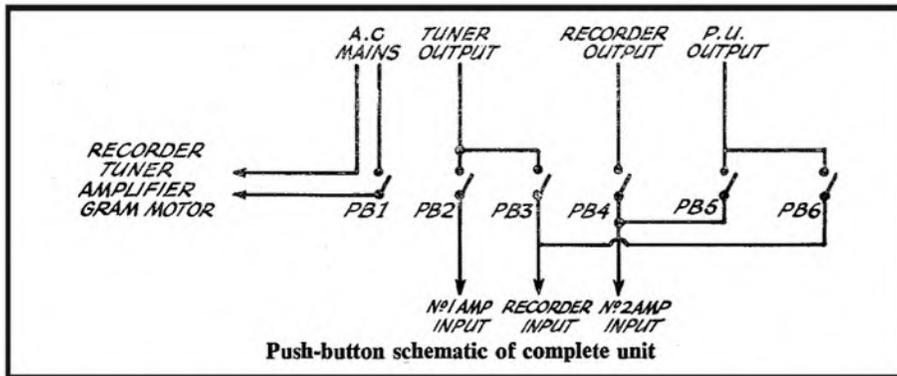
For the more exacting constructor I would recommend the Birmingham Sound Reproduction T.U. 9 unit complete at 90s.

THE CABINET

The speaker enclosure was considered the most important feature; it had to be as large and solid as was practicable in order to preserve the lower frequencies.

The material chosen for the whole





cabinet was $\frac{1}{4}$ -inch "Weyroc" which being of a resinous nature was fairly heavy and easily drilled for assembly purposes.

The boards were ordered cut to size and cost £6 and about twenty-five of $1\frac{1}{4}$ -inch square planed timber was obtained to enable the boards to be screwed and glued at the corners.

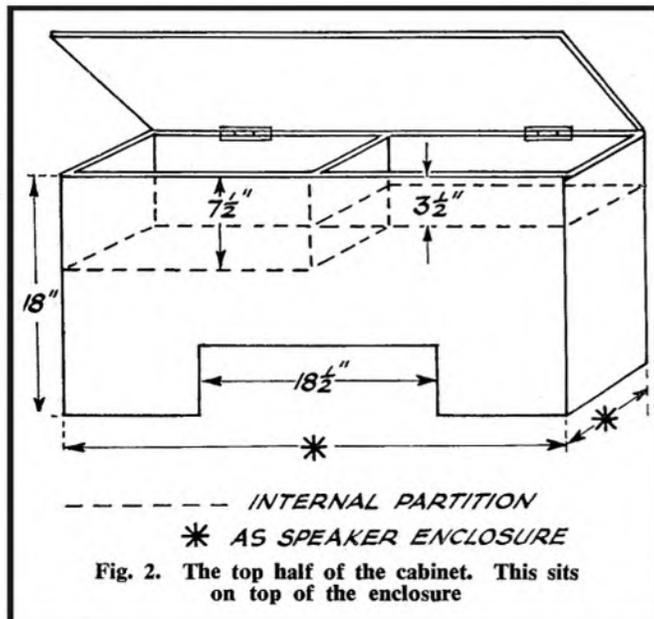
Enough contact adhesive material of wood grain design was purchased to cover the complete cabinet including the inside of the lid but further economy was effected by leaving the back uncovered.

Please note that the dimensions may have to be modified if equipment other than that described is used.

The speaker enclosure was built first using five boards as shown in Fig. 1, the bottom being left open since the floor completed the enclosure. The square wood used in the corners was deliberately left an inch long in order to provide a location for the top half of the cabinet. It was easier to cut the speaker and bass vent hole after the enclosure was built, its own weight preventing movement.

All screw holes were filled, a coat of size applied and the whole thing given a rub down with glass paper.

The speaker was next screwed in position and the two wires from it brought up through a hole drilled in the top near the right-hand corner. Front and sides were now covered with the wood-grain material, leaving an inch or so to turn over the top and under the bottom.



The final touches were given by covering speaker and vent openings with suitable material, using some picture moulding for framing.

The top half of the cabinet (Fig. 2) was constructed using eight boards including the lift up top in a similar way to the lower half, care being taken to leave the corner wood one inch short at the bottom.

Front, back and sides were first screwed together with a partition placed centrally in the top to a depth of $8\frac{1}{2}$ inches. Two boards were then lowered in to each half to a depth of $7\frac{1}{2}$ inches on the left and $3\frac{1}{2}$ inches on the right. Some small blocks screwed to the inside served as a stop for the boards.

The compartments were now formed for recorder and record player.

An $18\frac{1}{2}$ x 6-inch cut-out was next made at the lower edge of the front being for the control panel made from a piece of $\frac{1}{4}$ -inch black faced hardboard. The control panel was made slightly larger than the cut-out as it was to appear on the inside. A hole was now cut in the front behind which would be fitted the small speaker. The most convenient position was below the gram motor board 2-3 inches from the right edge. A couple of

hinges were fitted to hold the top which together with front and sides was processed and covered as the lower part.

A final word on the cabinet, when ordering your boards make sure that the sizes calculated allow for the $\frac{1}{4}$ -inch overlap at the corners.

FINAL ASSEMBLY

Having placed the speaker enclosure where required, stand the FM tuner and amplifier centrally on the top about two inches apart. If the control panel is offered up to these it will be apparent as to where drilling and cutting is required. Space will be left in the top right hand corner for a row of six single pole push buttons with which to select operations (see schematic).

The buttons may be labelled left to right as follows: On/off; tuner/amplifier; tuner/recorder; recorder/amplifier; pick-up/amplifier; pick-up/recorder.

The upper part of the cabinet may now be lifted into position, the control panel screwed to the inside and the wiring completed from switches to units. Access can now be obtained by lifting out compartment boards. I recommend the use of coaxial for inter-connecting as screened wire tends to a high capacitance with a slight high frequency attenuation. Should the output from the recorder be a little high for the amplifier a 220K resistor soldered behind the control buttons from recorder output to earth will effect a cure.

Make sure all your screening is commoned and to earth and the hum problem will not arise.

If you do decide to build it, may I wish you all the luck that I had!

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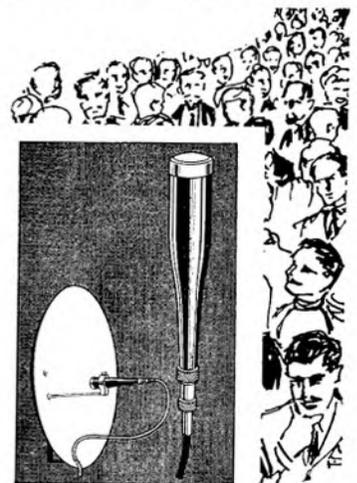
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SOUND EFFECTS



The last of three articles on sound effects by ALEC NISBETT in which he concentrates on techniques for giving the professional touch to some of the more commonplace effects.

Left: Water effects for "The Enemy Below." But however convincing the Korvettenkapitän, the sound effect could endanger the illusion. A rectangular tank of this sort may produce a recognisable water-tank sound. When simulating one sound by another, listen particularly for such things as the tinny colorations and dimensional resonances that could occur in this case

A SOUND effect is a building brick, not a finished article. It fulfils its purpose only when it is combined with other sounds, and (usually) speech. It is not a picture in its own right.

When we think of using a sound effect in a programme we can consider it in relation to its context, in seven different ways:

1. **NECESSITY.** Do we want it at all? Does it really add to the programme? And only when the answer is yes do we move on to:

2. **TECHNIQUE.** How do we create the illusion of the sound (i.e. the "effect"), and physically get it into the programme? Do we do so manually or by using a recording; and if the latter, do we play or cut it in? If only a poor representation of the sound is possible, go back to square one. If some means other than using the actual sound is to be employed, consider next:

3. **CHARACTER.** Are the simulation and the original similar in both frequency content and the way in which volume changes with time? Do we want them to be, or would we prefer to emphasise one characteristic at the expense of another? This must be considered in conjunction with:

4. **LOUDNESS.** The sound may be one which would normally lie outside the

programme material we consider together with:

5. **ACOUSTIC AND PERSPECTIVE.** If wrong these will confuse the picture or destroy the illusion.

6. **TIMING.** If wrong this will at best disturb the flow; at worst make nonsense of everything.

7. **EMOTIONAL COLORATION.** Natural objects are "neutral" but the words we use to describe them may be emotionally charged. A cigarette might be referred to as a fag (indicating casual familiarity), a drag (addiction), or a cancer stick (bravado). Similarly an effect may be changed in some way to indicate our attitude towards it. (But remember that in general the style of a piece should be consistent.) The most obvious case is the funny "cod" effect, all out to help along the laugh. Another subjective attitude we may have towards a sound is total lack of interest—in which case we return full circle to item one.

Now, obviously, it would be nonsense to sit down and analyse every effect in detail before trying it out—we'd never get anything on tape. It's much more important to develop a sense of what is right. But this takes time. Monophonic sound is a *sophisticated* medium; one's senses have to be schooled. (Oddly, this is perhaps less true of stereo, which more closely approaches the natural.)

But if you are self critical you may decide that your own effects are in some way different from those you hear on the radio—in particular that yours draw attention to themselves more, and so emphasise other defects which may not be your fault at all, but due to limitations in your sound making equipment. Then is the time to ask

yourself why, and to consider the sound analytically. Similarly, analyse effects you hear on the radio according to the same criteria. Try this over a number of plays (some producers may use more effects than others.) Sometimes even a deliberate "mistake" in technique is employed for a special reason. For example—one particular effect may be stylised when others are kept naturalistic—a case might be footsteps that are given a mechanical, dragging, ringing quality to denote the fatigue of a long journey, heard against normal street sounds. Here we have a deliberate inconsistency of style, which may or may not succeed in its purpose.

But leaving aside such refinements, which all too easily divert us from our study, concentrate on the more elementary qualities listed above and it should soon be possible to isolate the cause of an ugly effect.

Of course, for many effects, several of the questions on our list present no problem, while others arise in a particularly acute form. In previous articles I have taken the examples of footsteps (question 1), doors (questions 1 and 6), opening a letter (question 3) and horses' hooves (questions 2 and 3). One that we haven't yet met in a big way is number 4: whether the loudness of an effect is to be natural, or much louder or softer.

The case of the too-quiet sound is relatively easy. We can take a close-up, as it were; see it from a point close to the presumed source of the sound. Slight exaggeration of something we would normally see, but which makes little noise (e.g. the door opening) is generally desirable in any case. But if exaggeration would be ludicrous we can cut the effect completely and rely on reaction ("Quiet! What was that?").

But the over-loud sound is a problem. Let's take the case of a gun-shot. The natural sound of a close shot would be unobtainable on most reproducing equipment. The loudest sound that could be made would be heavily distorted, and would possibly break up. Moderate distortion might not be too serious though only a limited volume would be acceptable to an A.M. radio transmitter.

One partial solution is to persuade the listener to set his volume control higher than normal by recording everything else low. The effect will then be say, 10 dB more than would normally be possible (though again risking distortion at the output end. Now, at least, our noise is moderately loud, though still not when com-

SOUND EFFECTS

pared with natural sound. But tape hiss and amplifier noise, etc., will be correspondingly higher, so that the remaining available dynamic range will be severely limited.

More serious than this, we shouldn't really want to impose such a loud sound on the unsuspecting listener. The natural sound would alarm him, or at least make him jump. It's bad enough for this to happen in real life; if it happens in supposedly controlled conditions, the listener's resentment may be turned on you. Or with a milder shock the result may merely be to "wake him up," that is, shake him out of the semitrance in which his imagination was fully occupied by the programme.

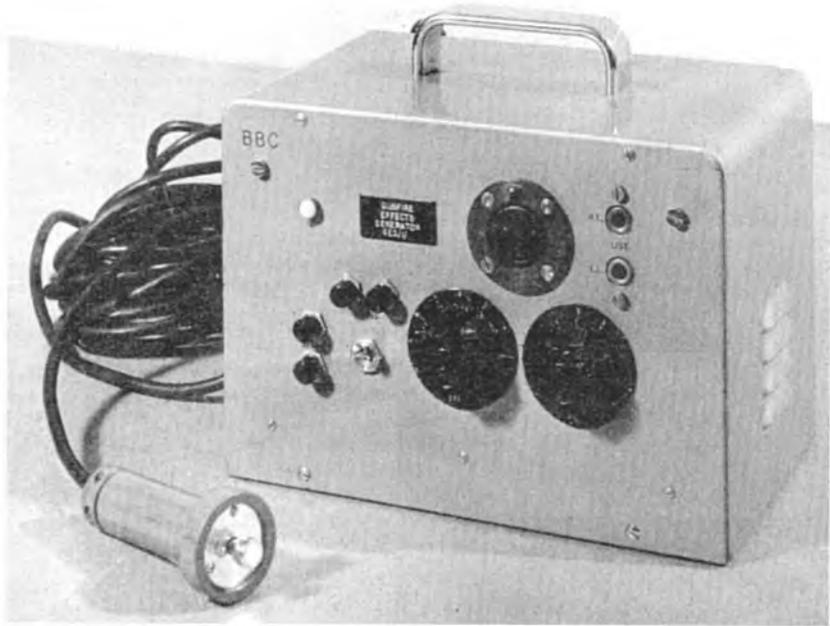
So we need to study the character of the sound and see if by modifying this we can make an acceptable noise at lower volume.

Basically, a gunshot is a single, very large pulse of sound. In fact it's a shock-wave, but since the loudspeaker or microphone diaphragm which will reach the speed of sound has yet to reach the hi-fi shops we won't be able to reproduce that quality of the sound anyway. However, let's see how close we can get.

In mathematical terms we have a single pulse square wave of great amplitude and short duration. And the mathematical analysis of that gives us a sound in which all frequencies are present—in other words, noise. If we were to amplify the sound of say, a noisy valve, this would give us the right sort of quality, though it would of course be continuous and not a pulse of sound, unless we were to switch it quickly on and off.

But even this will not solve the problem, because such a pulse, if controlled to acceptable volume, will remain just a puff of noise, not a bang but a click. Indeed the same will probably be true of a real gunshot recorded at a level which does not go off the meter. The replay is likely to sound like an apologetic cough. However, if we continue to experiment with, say, a starting pistol, we may eventually be able to make it sound somewhat like a gun. For a start, take it out of the room that the microphone is in, preferably to some reverberant room such as a bathroom or music room. If the microphone is directional turn it dead side to the door, which is then partly closed (using it as an acoustic volume control). Then shoot to record.

This gives us a clue to our next step in gunshot simulation. We define reverberation time as the time a single pulse of sound takes to decay through 60 dB—about the time a loud handclap takes to die to inaudibility. On a very quiet sound we do not get the full benefit of reverberation, as inaudibility is reached in only a fraction of the time. But a very loud sound gives us double value—reverberation may be audible for more than twice the normal reverberation time of a room. And out-of-doors the sound is powerful enough to wake echoes



An electronic gunshot generator that will provide anything from single pistol shots to a machine-gun. The left-hand switch gives a variety of shots, some with ricochet; the right-hand switch is a filter. Press button to fire

(BBC photographs)

that may join together to give a single dying echo.

This then is the vital, identifying characteristic which we can use. If we design an electronic noise generator it means that what we need from it is not a single burst of white noise, but a sharp leading edge and gentle decay (the time of decay can be varied electronically).

We can apply the idea to any other short, sharp noise source. A slapstick, or a cane struck on a chair seat might, if the reverberation is handled correctly, get us somewhere on the way. Even the sharp flick of a gramophone needle plus acoustic reverberation might do it. The difficulty is that most such sources produce sound which does not have the purity of the gunshot pulse; and most smaller rooms which are available for long reverberation also produce distinctive coloration—a bathroom effect.

In earlier articles I concentrated on effects that are technically easy to produce. Let's round things off by taking an example of something which is technically difficult: a railway crash. And let's assume that the only subjective attitude we want to project into it is the normal one of dramatic excitement. The same principles apply when we consider the effect as a whole, but before we reach this we must consider the sound, element by element.

First we have to have the normal train running (heard from inside or out, as appropriate); without this the crash would be meaningless. The initial crash itself is followed by individual breaking noises and crashing sounds. The first impact would presumably be a very loud metallic noise and what follows might just be loud and confused. I say "presumably," because, like most people, my only experience of a major crash is the fictional film version. In terms of real life experience all I can offer is a rather mild derailment (in Spain) which was over before I'd realised it; and I wouldn't recommend that one as a sound effect to anybody. All I remember now of the occasion is that the line in my Pocket Polyglot phrase book that I'd voted least likely to be useful suddenly came into its own, as I was able to announce to the company: "El tren ha descarrilado."

In that case what had happened was not obvious from the noise. In our case it must be. Our crash needs a few changes. First, the listener must be prepared. If the sound effect of constant running has been there all along try to alter its quality very slightly, and lift it in volume. If we want to pile on the agony at this stage, add a metallic scream of braked wheels and possibly a hiss representing the vacuum system in operation. As a final preparation for the crash put in a wait-for-it dip in the volume—such a dip also helps to separate the preliminary sounds from the crash.

The impact sound will have to be constructed according to the principles outlined for the gunshot—with the difference that it must have heavy metallic coloration. To follow, a few additional clunks at lower level and with different coloration will be needed; also a few distinctive tearing-of-wood sounds and heavy thumps, spread irregularly in time, but with more separation towards the end. Add also the heavy hiss of escaping steam, possibly after a slight pause.

At this point I have a confession to make. And this is that for once I'm not writing from experience: I've neither made up a rail crash in this way nor seen it done. True, I have made a car crash according to roughly similar principles and that worked well, but not a rail crash. In fact when I wanted one recently to go with a still of a splendid artist's impression of the Kentish Town collision of (I think) 1867, I turned to the BBC recorded effects library. Unfortunately, however, the best they could offer was not as good as I could have wished, but there was no time to make or find any alternative.

It would obviously take a great deal of both patience and equipment to get a good sound. But if any reader cares to try it he may have the satisfaction of knowing that few professionals have made a success of it.

On the other hand if there's anyone who thinks this is all really too easy, he could try building a family of crashes, trying to anticipate variations in the possible demands made by a script. Include a funny one, that would fit into a comedy show situation leading up to the phrasebook gag, "Senores e Senoras, el tren ha descarrilado."

A lone tape recorder is not enough

(Continued from page 349)

recorder. It enables him to combine the signals from two or three microphones and direct inputs on to one track of tape. With a mixer he really assumes the role of the sound engineer. If he is recording a group he can, by manipulating the controls, maintain the correct balance between singer, electric guitar player, drummer and bass player. If he is recording a wedding he can pick out the responses of the happy couple, the majesty of the organ, and the singing of the choir, independently, or mix in one with another.

When investing in a mixer you are strongly recommended to buy an electronic model. There are cheaper jobs on the market costing only a pound or

two. These consist merely of two or three volume controls, and the results obtained are not to be compared with those of the precision made electronic apparatus—which, alas, costs considerably more.

The speaker in an average sized recorder is fairly small and, accordingly, the reproduction necessarily restricted. Try plugging a good speaker into the extension sockets of your machine and you will be surprised at the improvement in quality. Your recorder has put the signal on to the tape, but the internal speaker is incapable of reproducing it to its full value. A good extension speaker does just this. But be sure the speaker impedance matches the output of your

recorder. Your dealer will advise you on this.

Microphones, too, should claim your attention. Although the microphone provided with your machine is no doubt adequate, it stands to reason that a really good microphone costing around the £20 mark is going to make a vast difference to the quality of your recordings. Here again, consult your dealer before buying.

Returning to the other end of the scale again for a moment, did you know that for a pound or so you can convert your tape recorder into a radio? A radio jack plugged into the microphone socket does the trick and, of course, if you wish you are able to record the programme while listening to it.

No doubt, in due course, you will be considering combining tape with cine or transparencies, and you will now begin to wonder which is the accessory, the tape recorder or the various pieces of ancillary equipment you are gathering around you. And what wide vistas would open to you with *two* tape recorders, not to mention a battery model for location work!

As you were warned at the beginning of this article, if you are a true amateur recording fiend you will be continually reaching for your cheque book. You will, however, be mighty pleased with the improvement in quality you are achieving by the acquisition of your bits and pieces, not to mention the widening horizons you will be witnessing.

Oh no, a lone tape recorder on its own is not enough!

Learning to answer the phone with a tape recorder

By H. CHARLES

LARGE commercial organisations which aim to keep on good terms with the public find it is essential to have a first-class telephone service staff. They must be intelligent, have a flair for the work, and be well trained in using the telephone. A lot of harm can be done to the prestige of a firm if incoming calls are not well handled; every reader must, at some time or other, have had aggravating experiences of indifferent service to inquiries made by telephone.

I work for an organisation that is fully aware of the danger of poor telephone representation and all employees engaged on dealing with inquiries or complaints are given special training.

For this type of course we have produced at our training centre a number of recorded telephone conversations on tape which are designed to stimulate group discussion, as well as a talkie filmstrip on the technique of using the telephone and making and receiving calls.

Part of the course is devoted to the commercial aspects of our organisation and the necessary technical information which the trainee must have in order to be able to do the job.

After each trainee has heard her own voice the rest of the time is spent on the practical use of the telephone by the trainees themselves. To get the maximum benefit from the exercise, we use two telephones on a closed circuit, with an amplifier and loudspeaker, and a tape recorder connected into it. Thus it is possible for the telephone conversation to be overheard and recorded.

We use a classroom which has a small annexe with a kiosk in it for the incoming calls, equipped with a telephone, chair, table and writing pad. A trainee is detailed to man the kiosk and the instructor makes the call from the classroom where the rest of the group is sitting listening to the conversation over the loudspeaker.

The calls are typical of the work they will be doing eventually, and are intended to test the ability of the trainee in giving accurate information in a pleasant, efficient and helpful manner.

During the conversation, the trainees in the classroom are expected to make notes of any points of criticism they would like to make during the discussion which will follow at the end of the call. When the "customer" has rung off, the trainee rejoins the group and produces a written message which is checked for accuracy.

Then follows a general discussion when points are raised regarding the trainee's manner, approach, and attitude towards the "customer." This discussion is usually brisk and constructive, but frequently there is divided opinion among the group as to what was actually said, and it is at this time that the tape recording is played. The trainee is often surprised to hear what she said and how she said it, and hearing herself in action helps her in making an assessment of her own efforts.

As the exercises proceed, with everyone in the group taking part, the standard of the telephone technique improves, and at the passing-out test at the end of the course the results are usually very good.

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An important tape recording conference

JOHN BORWICK reports on the "International Conference on Magnetic Recording" held recently at the Savoy Place headquarters of the Institution of Electrical Engineers and organised jointly by the IEE, IERE, and IEEE.

NO less than 64 papers were presented at this Conference which was probably the most important recording symposium ever held, and which I attended in company with some 400 delegates from 14 countries. Mr. Quintin Hogg, Minister for Science and Education, formally opened the Conference, and then it was "brows knitted" for five days of technical talk and discussion.

Many new techniques were described and, while they were more directly interesting to professional engineers (in television and industrial recording as well as sound), we shall not doubt see the effects of these deliberations spreading out as ripples on the surface of domestic tape recorders too.

TAPE IN BROADCASTING

The BBC contributions gave an idea of the huge scale of tape operations in broadcasting. It seems that about three-quarters of our sound radio and TV programmes now come from magnetic tape, and more than eighty per cent of recorded programmes require editing, five joints per tape being the average.

The BBC runs a tape reclamation service, using special machines to locate splices and other flaws which an operator can cut out and reweld. It appears that one operator can reclaim about £160 worth of tape a week, and the total value of tape reclaimed in 1963 was £63,384. As my own contribution to these statistics, I have just worked out that this corresponds to 21,862½ miles of tape. And this is just the tape they manage to salvage and plough back into the system.

The BBC's own design of bulk eraser was also described. This looks for all the world like a chip fryer, with its perforated roll-back lid. You simply pop the tapes under this lid, still in their cardboard boxes, and they are erased in fifteen seconds. Bulk erasing is the final stage in tape reclamation, and is also carried out on all tapes not being held in "archives," as a part of the copy-right contractual agreements at the end of a stated period from recording.

We also heard of a new BBC system

for automatic stop and sequential control of tape reproducers. Much use is made of short tape inserts in radio and television programmes, to supply sound effects and incidental music or speech, and it is often necessary to cue in several sounds simultaneously or find a new cue in double quick time.

The new device first evolved relied on the reflection of a light beam from small pieces of metal foil strip (of the type often used for automatic stop on domestic recorders). A special assembly consisting of a lamp and a cadmium sulphide cell is mounted on the tape path, and effectively stops the tape after each insert, while leaving the operator free to concentrate on starting other cues in time with the production. The next insert on each tape is automatically brought to rest ready for cueing in when required.

But an important advance on this technique has now been made. By scraping away a short portion of the oxide coating, it is possible to direct a bright light through the clear base film and so get automatic stop action during fast winding, if required, and in addition activate an insert counting mechanism. The stop action is inhibited during searching for a given insert, the operator running the tape forward or back through as many digits on the counting mechanism as he knows are necessary.

EDITING WITHOUT CUTTING

A delegate from Netherlands Radio described a fascinating system they have developed for editing sound tapes without cutting. The first reason for this research was to avoid the wastage of tape caused by normal cut-and-join editing, but they have found that the new technique has reduced the editing time per hour of real programme from twenty to about 4.5 hours.

The method implies the dubbing or copying of tapes, of course, and uses a very accurately driven stroboscope disc. The procedure to cut some words out of a sentence, for example, is roughly as follows:—

1. A copy is made of the whole sentence from Machine A to machine B.
2. Machine A is set to the first word after the cut, and B to the last word before the cut.
3. Both tapes are wound back a certain number of turns of the strobe disc, say five.

4. Both machines are started in Replay and, after five turns of the disc, B is switched to record. Tape B then carries the edited version as required.

There are other refinements, such as a tape lifting device that moves the tape smoothly on and off the erase and record heads, and special circuitry to eliminate clicks on switching on and off.

EQUALISATION

The subject of equalisation, to counteract the inherent frequency distortions in magnetic recording, was discussed by a delegate from French Radio. At present, as most readers will know, various standards exist and though the differences are small they make it difficult to interchange tapes between Europe and America, etc. Expressed as a time constant, the slope of the replay characteristic for 7½ ips is 50 microseconds (American—NAB), 100 microseconds (European—CCIR and BSI) and since 1962 there has emerged a new European standard of 70 microseconds (IEC and CCIR).

The French delegate made a convincing plea for a universal 50 microsecond standard, to give the best compromise between background noise and saturation distortion. This gave rise to a wide-ranging discussion from the floor, though we must wait to see whether one standard characteristic will ever be agreed. For 3½ ips, where a 200 microsecond replay slope has been unofficially in operation, the IEC recommendation (and DIN Standard No. 45513) is 140 microseconds.

TELEVISION RECORDING

Video recording had an important place at the Conference, and a number of new TV recorders were on permanent display. No domestic TV sound-and-vision recorder has so far appeared, following the brief demonstrations of the Telcan machine some months ago, but at least Philips broke through the £1,000 price barrier at the Conference. Their new recorder is directed at the increasing outlets for closed-circuit television in industry, banks, hospitals, police, security and even babysitting.

It uses one-inch wide tape, running at 7½ ips and has a single record/replay video head on a rotating drum. The turning speed is fifty revs per second, so that a complete picture frame is recorded on each slanting track.

This helical scanning method was used on the Japanese Sony TV recorder at the Conference too, and of course on the portable video recorders marketed by Ampex of America. It means that you can do something with a TV tape machine that you cannot do with sound. If you stop the tape, but leave the drum rotating, you can actually keep viewing a single frame for minutes at a time. Or you can move the tape slowly forward and back and single out any part of the recorded picture you like. This stop and slow motion facility on replay is very useful for studying x-rays, machine processes, etc. And it is in sharp contrast to our ordinary sound recorders, where if you stop the tape, the sound stops too!

The Ampex team were well represented in the papers presented at the Conference, as befits the originators of simultaneous recording of sound and vision. Indeed, in the week preceding, I had attended another four-day Conference organised by Ampex themselves, to which they had invited over 100 representatives from all over Europe.

Clearly these are stirring times amongst the professional makers and users of magnetic tape. And equally clearly we shall see in turn their effects on the domestic recording scene.

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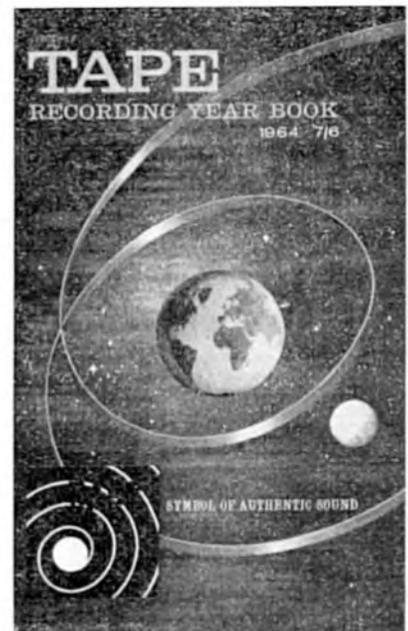
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Dramatape miscellany

By PERSPECTIVE

WATCH the actors on a stage. They light cigarettes and mix drinks . . . these simple actions are known as "business."

For dramatapes, business can only be *audible*—hence the term "audible business." As a dramatape producer, you can often invest a play with "audible business" and bring it to life. But it's best if you practise "lining up" this business *before* the winter production-session.

Start by recording simple actions if you're a newcomer: winding a clock, filling a hot water-bottle, sharpening a pencil. You'll be surprised at the surplus noise you create. A struck match, for example, will often suffice for "lighting a pipe." We don't want your rustling sleeve and jingling pockets! That's why ordinary "stage action" is generally unsuitable for drama-in-sound. You'll soon appreciate this when you decide to include slightly more complex business.

He crosses the room to sideboard. He pulls a cork, pours a drink and returns.

Typical, isn't it? But what happens if you perform such business as if on a stage?

Well, listen to the playback . . . the foot-steps, perhaps, are marvellous. But the cork-pop is a shade too soft. And, inexplicably, the drink-pouring is far too loud!

In short, all the sounds are in disparity to each other—unless you're very lucky. Also, there are *too many* sounds: you only need about one-third. You should, therefore, modify "stage action" if you want to produce perfect dramatapes.

Begin like this. Select a strict minimum of sounds to convey the action. "Pouring a drink," for example, might need a mere six units of sound. Write them down as a numbered list: (1) *Footsteps to sideboard*; (2) *Twisting corkscrew*; (3) *Cork-pop*; (4) *Drink poured*; (5) *Bottle put down*; (6) *Footsteps returning*.

Now make your first recording of the plot. (In theatrical jargon, your list is called "a plot.") Take your time. Pause as long as you like between your actions. Surplus tape can always be cut out afterwards—a truism I can't hammer home too often.

But don't try to be too clever. Be content to start with ordinary "stage action." You can then modify it in successive "takes."

So listen carefully to this first recording—and analyse the disparity on an *audition chart*. This has three columns for "correct modulation," "too loud" and "too quiet." Each unit of sound, as heard, is entered in its appropriate column.

Ideally, all six units should run down the first column. Your job is to transfer them to it—one by one. Consider each unit as a *recording in itself*, each requiring (possibly) several "takes." Apply to them the different methods of achieving correct modulation. You have a choice of four. They are: (a) *adjusting the gain-control*; (b) *adjusting the microphone-distance*; (c) *adjusting the acoustics*; (d) *modulating the sound-source (i.e., pouring the drink into a small glass)*.

Finally, splice the best "takes" into place—and cross out the units as you successfully transfer them. Your reward: pleasure in an artistic exercise. You'll also know, from the data, exactly how to line up the business for the subsequent production.

But results are always a compromise, depending on conditions and equipment. A cheap crystal microphone, for example, can't reproduce certain sounds with fidelity. But an audition chart does help to minimise (and exploit) its deficiencies.

And no matter how good your equipment, an audition chart serves a principle you can't ignore. *All sound-effects should be constructed in logical order.*

Or do you think this too fanatical? Do you prefer to rattle the cutlery and hope for the best?

TALK IS ON DRAMATAPE

I'm now arranging my first lecture series, on a small scale, for the coming winter. I

shall widen its scope, if successful, subject to the exigencies of work. I've already been obliged to rent an attic as a sort of dramatape bureau! One room overlooks the sea and is quite bohemian—here I bury myself each night to prepare slides and gadgets.

Of the groups I shall visit, however, I'm afraid there won't be any tape-clubs. None of them, to date, has responded to my offer (*July issue*) of a lecture. Does this confirm my view that tape-clubs are not interested in dramatapes? Possibly they are more committed to social work; and their interest, outside this, is in maintaining their equipment.

All the response, in fact, is from sources already known to me. And here's the curious thing. Drama groups express an understandable interest. But I'm astonished by the interest shown by almost all my cine acquaintances.

Dramatapes and cine can certainly go hand-in-hand, as I suggested in the *Cine Camera* of October last year. But the cine man's interest is chiefly aroused by aural mime. He welcomes a lecture on the subject and sees it as a separate hobby. This gives me much food for thought. Do sound-effects, as a hobby, belong primarily to the world of cine?

Despite this suspicion, however, I hope next year's tape-clubs will discover an interest in making aural mimes. It's a most absorbing pastime, second only in fascination to making dramatapes.

* * *

The sketch "Oh, Sir Jasper!" (*May issue*) has puzzled many people, owing to the dis-effect printed before the opening line. Needless to say, it shouldn't be there. My apologies.

Two-minute tape sketch by David Haines

THESE monthly sketches are not necessarily complete in themselves. Mostly, they're portions from longer sketches. The intention is to give you a basic idea to work on. "The speaker," for example, can be old or young, male or female. Build extra dialogue for him by rehearsing extempore.

You only need three sound-effect discs—HMV 7FX7, HMV 7FX8, HMV 7FX12. The "tearing" effect is *made spot*—simply tear off a strip of emery cloth.

AT THE GARDEN FETE

[*Open-air applause rises and subsides.*]
Speaker: (*brightly, close - microphone*) Thank you, ladies and gentlemen. I have much pleasure in declaring this garden fete well and truly open. [*distant thunder*] I must say, the weather doesn't look too promising. Still, it's very nice to see such a splendid turn-out—sales of work, penny bazaars and a fair amount of donkeys. [*thunder, nearer*] You people really are the backbone of the party, especially, if I may say so, in this particular area—which is, of course, my—ah—constituency. [*thunder, very near*] So do

spend as much as you can. It's all in a good cause, remember. Ha, ha! [*thunder overhead*] My goodness . . . did you see that flash? Must be right overhead. I wonder if it's going to rain? [*drumming rain begins*] Oh, what a shame! I wonder if we should adjourn to the marquee? Is there a marquee? [*dramatic tearing of canvas, followed by gigantic thunder*] Oh, no marquee. Well, perhaps one or two of you ladies would like to share my umbrella? [*immediate ripping of cloth, plus savage clap of thunder*] Oh, no umbrella. . . .

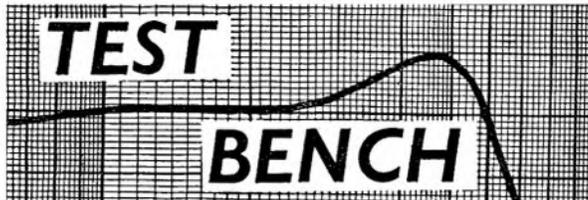
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SABAFON TK230-S

By John Borwick

THE Sabafon TK 230-S is a full stereo/mono, four-track recorder with the popular speeds of 7½ and 3½ ips. Its price of 95 guineas puts this new machine in the class favoured by serious tape users and critical lovers of recorded music. But I would say that the handsome design, the high standard of technical performance and the versatile choice of record/replay facilities will give the owner a pride of possession that fully justifies the cost.

The name of SABA will not be new to many readers; some earlier recorders and the Saba Regiemixer have been imported for years. The "Schwarzwälder Apparate Bau Anstalt" originated as clockmakers over a hundred years ago, and have now made arrangements under the name of Saba Electronics Limited to introduce a range of high fidelity radiograms, etc., into the UK.

LAYOUT

All the controls on the Sabafon TK 230-S, except the speed selector/mains switch, are arranged on a matt metal platform forming the front half of the deck. Push keys are used for all functions, the symbols being covered in clear plastic to avoid wear, and these are flanked by a pair of dual concentric knobs for volume, mixing and mode selection.

The inner left-hand knob controls the recording level from pick-up (Phono) or the second track during trick recording; and the outer left-hand knob selects playback or one of several record modes. The inner right-hand knob controls the recording level from microphone or radio; and the outer right-hand knob is for loudspeaker volume

during record or replay. The push keys give the usual play, stop, fast wind and re-wind conditions, there being extra keys for "Pause" and record safety lock.

Track selection is also by keys and, although the conventional layout of the four tracks is used, they are numbered 1, 4, 3, 2 instead of the 1, 2, 3, 4, reading from the top of the tape which is usually adopted on British machines.

The three-digit tape position indicator has a re-set to zero slide switch; and another slide switch symmetrically placed alongside



the magic eye level indicator is a top-cut tone control. Spinning tape guides are fitted, and another unusual but valuable feature is a tape cleaning pad which bears against the coated side of the tape during fast winding. You may judge the usefulness of such cleaning from the fact that I found a considerable quantity of oxide dust had collected on this pad (instead of on the heads) after two or three weeks of normal use. The measured fast wind and rewind times were within the claimed times, being 3 ft. 18 in. and 3 ft. 43 in. respectively for the 1,800 feet spool of long play tape supplied.

CONNECTIONS

Continental five-pin sockets are used for all inputs, wired to cope with stereophonic recording as well as mono from all sources.

Recording from a record player via the Phono socket for instance, the two pick-up or pre-amplifier outputs for stereo will automatically be recorded in stereo if you push down both track selector keys. On the other hand, a mono disc or the output from a mono pick-up will be recorded on one track (or simultaneously on two tracks if you wish) according to which track selection you make.

It is the same for recording from radio via the radio socket, though the circumstances in which you will have a twin stereo radio signal are limited at present to the BBC experimental transmissions.

There are two microphone sockets, to allow you to record from a pair of mono microphones for spaced stereo or simultaneous mono on two tracks. But each socket is wired for stereo, so that you can plug a stereo microphone into either socket, the only difference between the two being that the left and right channels are wired in the reverse sense.

Three-pin reversible sockets are fitted for left and right external speakers; turning the plug enables you to mute the internal speaker or not as required. The output power is greater than one usually finds on portable tape recorders. A pair of ECL8000 valves in each channel gives ten watts mono or 5+5 watts stereo. The two 6 x 3½ inch elliptical built-in speakers are mounted at opposite sides of the chassis.

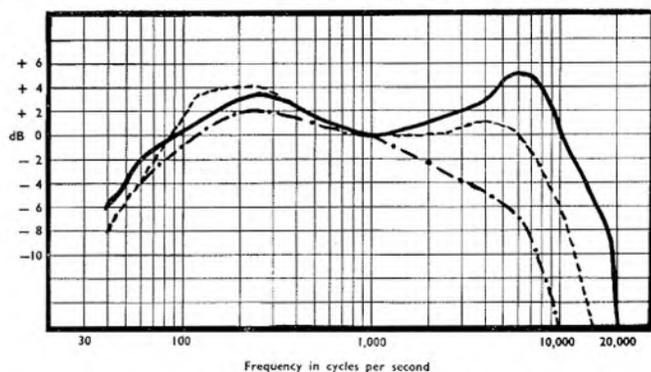
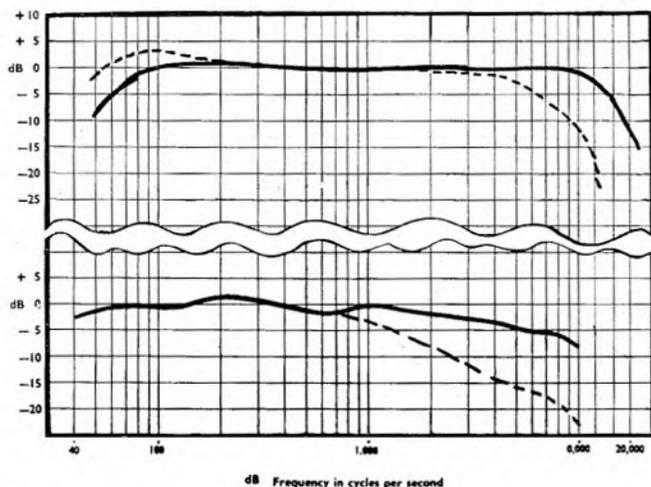
They give acceptable reproduction on mono, and it is possible to get a fair stereo effect by standing the recorder in a corner of the room so that the sound bounces forward off the two walls. But for better stereo, and to do justice to the wide frequency response of the machine, separate loudspeakers, of as good quality as you can afford, are obviously desirable.

Even adding one hi-fi loudspeaker is a vast improvement, as I discovered, muting the appropriate internal speaker. It is then possible to space the speaker and recorder for stereo; but I naturally found that adding a second matched speaker, suitably positioned, gave the best reproduction of all.

There is an auxiliary output on the radio socket, to permit recording and playback via a radio, many Continental radios and radiograms being fitted with special sockets for this purpose (British manufacturers please copy).

VERSATILE

The mixing and trick recording possibilities on the Sabafon TK 230-S are extremely versatile. The two control knobs allow you to mix any inputs to the microphone or radio sockets with the phono input. And



Left: Sabafon TK 230-S. Fig. 1 (top) Record/replay response via radio socket. 7½ ips —; 3½ ips - - -. Fig. 2 (bottom) Replay response, via socket, at 7½ ips. Tone switch in: - - - -. Above: Fidelity Playmaster Major. Record/replay response at 7½ ips —; 3½ ips - - -; and 1½ ips —, —, —.

the latter can also be fed, for example, from another tape machine.

If you are nervous about getting the right balance between music and speech, say (or perhaps one of the sounds is one that you cannot repeat), you can, of course, make the recording on twin-track. Replaying both tracks simultaneously will let you hear the mixed effect and, if there is some mistake, you simply rewind the tape and correct the second track.

A "Pb" position on the selector switch allows you to listen to one track on headphones or loudspeaker while recording the other. This gives plenty of scope for recording soloist and accompaniment separately, etc.

But there is a multi-playback device which extends the possibilities even further. You can re-record the second track on to the first track, superimposing it on the first recording, while you monitor on the loudspeakers and control the volume as necessary. You now have both recordings blended on track 1, and you can then make a third synchronised recording on the second track (erasing No. 2). This can then be superimposed on track 1, and so on.

PERFORMANCE

I put the machine through an exhaustive series of recording tests in all the above modes, using a selection of amateur and professional microphones. The operations were easy to perform, though a fair supply of different connecting leads is necessary. The quality of reproduction was excellent. The inherent lack of bass, which must be a feature of all built-in speakers on portable recorders, meant that recordings sounded slightly top heavy. But this soon disappeared when external speakers were used. Background noise is inaudible on normal listening, indeed the gaps between musical passages produced the best "silence" I have heard on any machines reviewed for this magazine. It is also to the credit of the mechanical precision that wow and flutter have been reduced below the level at which they can be detected on music.

I checked the frequency response in the usual way. Fig. 1 shows the record/replay performance plotted by recording and reproducing tones from a test oscillator via the radio socket. The responses at 7½ and 3½ ips are shown and are seen to be effectively flat over a very wide range. The tone key is not included in the signal sent to the low level radio output (nor is the volume control, so that one employs the controls on the radio when replaying in this manner) therefore I also show in Fig. 2 the replay response obtained at one of the external speaker sockets (loaded with 7.5 ohms) when reproducing E.M.I. test tape TBT1.

To sum up, the Sabafon TK 230-S is well designed and capable of good quality reproduction of mono or stereo. The multi-track recording facilities make the machine very flexible in use and suitable for the serious recording enthusiast.

MANUFACTURER'S SPECIFICATION

Speeds: 7½ and 3½ ips.

No. of tracks: Four.

Maximum Spool Size: Seven-inch.

Magnetic Heads: Standard quarter track giving mono, stereo, or simultaneous two track recording and playback.

Power Supply: Switchable 117/220/240 volts AC.

Audio Output Power: Ten watts mono, 5+5 watts stereo.

Frequency Range: 40-20,000 cps at 7½ ips, 40-15,000 cps at 3½ ips.

Inputs: Microphone (0.1 mV/200 ohms); Radio (10 mV/100 K ohms); Pick-up (200 mV/1 M ohm).

Wow and Flutter: ± 0.15 per cent at 7½ ips; ± 0.25 per cent at 3½ ips.

Signal-to-Noise Ratio: 48 dB.

Dimensions: 16½ x 14½ x 7½ inches.

Weight: 30 lbs.

Accessories included: seven-inch spool of long-play tape, empty spool, two-pin mains plug, spare fuses, pad for cleaning heads, speaker plugs and fine-pin microphone/radio lead.

Price: 95 guineas.

Distributors: Saba Electronics Limited, Eden Grove, Holloway, London, N.7.

FIDELITY PLAYMASTER MAJOR

By H. Burrell Hadden

THE Fidelity Playmaster Major is a moderately priced mains-operated tape recorder, housed in an attractively styled wooden case with a grey leather cloth finish. Its dimensions are 19½ x 16 x 8 inches, and it is quite easily portable. The machine will accept tape reels up to seven inches in diameter, and will operate at three speeds, 7½, 3½ and 1½ ips.

This recorder operates on the four-track principle, and using the slowest speed, 1½ ips, and a full reel of double-play tape,



over sixteen hours of recording are possible. Fast forward and rewind are provided, and a seven-inch reel of standard tape (1,200 ft.) took three minutes and ten seconds to rewind. The rewind was tight and even, in my view a much more important consideration than high speed.

The amplifier has four valves and one transistor, and delivers five watts into the 9 x 5-inch elliptical loudspeaker, for a total mains consumption, including the deck, of ninety watts. The mains lead is stored in a large compartment at the rear of the machine, accessible by the removal of the whole rear panel, which is held on spring clips. The compartment is large enough to carry, in addition to the mains lead, the crystal "stick" type microphone, in its own clip, the lead for radio or gramophone input, and two reels of tape.

All the operating controls and input and output connections are accessible immediately the top cover of the machine is removed. They are all mounted on the deck

plate itself. Two input sockets are incorporated, one for the microphone having a sensitivity of 2mV, the other for radio or gramophone pick-up, with a sensitivity of 200mV, both at high impedance. Two output connections are provided, one for extension loudspeaker and the other enabling the output of the second half of the four-track head to be used—with an additional amplifier—for the playback of stereophonic tapes. Insertion of a plug into the extension speaker socket mutes the internal loudspeaker. An unfortunate omission is a socket to feed a high fidelity amplifier; I wonder why this was forgotten. The plugs for all these input and output sockets are of the small "phono" type.

The tape deck employed is the new BSR three-speed unit. This is operated by means of only three controls. On the right-hand side is the now familiar BSR joystick control, allowing for "play," "fast forward," and "rewind" conditions. On the left-hand side is a lever giving the "record" condition, and this has to be operated in conjunction with the joystick control to set the machine recording. Spring-loaded interlocks are provided in order to prevent the accidental erasure of valuable tapes. The tape position indicator is of the digital type.

The amplifier controls are all arranged along the front edge of the deck plate, in a readily accessible position. From left to right, the first of these is the push-button track selector, and this is followed by the microphone gain control, used on record only. Next comes the radio/gram gain control for recording, which is also the playback volume control when the machine is reproducing. Thirdly, there is the bass tone control, operative on playback only, and with this is combined the mains on/off switch. Next is the treble tone control on playback, which operates as the monitor volume control on record. Lastly, there are two more push-buttons, which serve to switch in the superimpose facility. All the rotary controls are of the edgewise thumb-operated type. Record level indication is by means of an easy to read, centrally mounted meter.

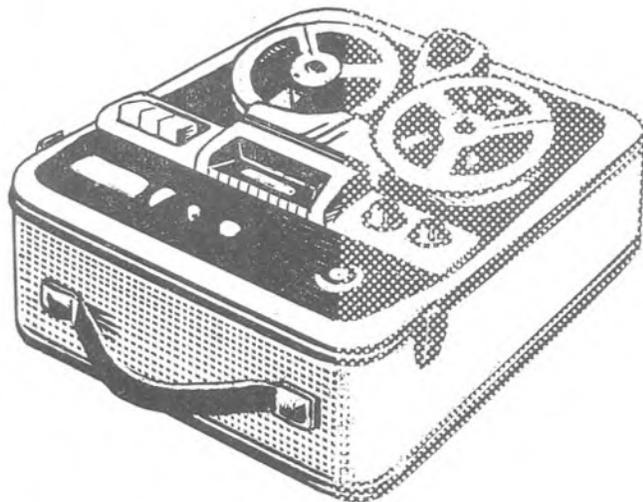
The Playmaster Major responded well to the usual series of practical and technical tests. The quality of reproduction of music was very good for a machine in this price range. The record/playback frequency response at the three speeds is shown in the accompanying diagram, the curves being taken at the setting of the tone controls which produced the most level response. The treble tone control produces a peak in the response curve, and in each case I would have liked this peak to occur at a somewhat higher frequency, when an extended high frequency response might have been possible. In fairness, however, the makers do not make wild claims for frequency response, and the machine tested was well within their specification. The signal-to-noise ratio fell somewhat short of the specification, at 40 Db, but this is fairly good for a machine in this price range.

The microphone supplied with the machine is of the crystal "stick" type, and once again I have to say that the quality of the machine is rather better than that of the microphone. The combination should, however, give good results on speech, with a fair reproduction of music.

All in all, for 35 guineas, the Fidelity Playmaster Major is a machine that I can recommend for the newcomer to the art of tape recording, and a machine which can give very rewarding results.

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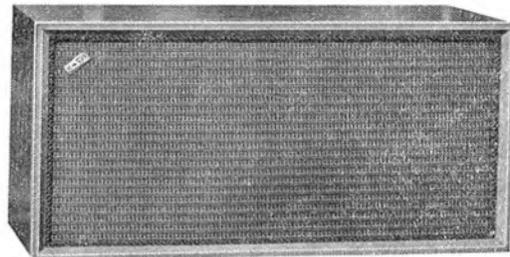


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MUCH has been written in these pages, and elsewhere, about the need for clean recording and erase heads. Most readers will be aware of the

Letters to the Editor

I READ with interest N. A. Bargery's article "Starting Tape" (*March issue*), particularly as I am familiar with the three tape decks mentioned.

There is a fourth tape deck giving excellent results, especially with music at the lower speeds; namely the Planet U1. I use this deck now as a main recording source, and a Magnavox Studio for copying. The Planet is quite suitable for the Mullard C Pre-amplifier, and similar equipment to that mentioned by Mr. Bargery. I have been well pleased with its performance over the last eighteen months.

RON BARRINGTON.

Harpenden, Hertfordshire.

* * *

WITH great excitement I read in a recent issue of *Tape* that the BBC and Council for Nature are sponsoring a competition for recordings of natural sounds of British wild life. But I am very disappointed to learn that one of the conditions of this competition is that all tapes must have been originally recorded at a minimum speed of 7½ ips, and this must also be the minimum recording speed at which entries are submitted.

Many of us can manage to buy a battery/mains model as a second as long as we are content with a maximum speed of 3½ ips, but battery/mains portables with a speed of 7½ ips costs from 66 guineas upwards. For many of us it is financially impossible to undertake such a large, additional expenditure.

I live in a most beautiful country area where, within a radius of a few miles, wild life sounds can be heard in abundance, but these few miles also separate me from the nearest "power point," so instead of encouraging me, this challenging competition has left me disappointed and frustrated and I am wondering if any other enthusiasts are sharing my feelings.

MRS. JOAN SHOVELTON.

Chipping Campden,
Gloucestershire.

* * *

SHORTLY after taking delivery of my new Ferrograph 5A, the paint on the selector-switch control panel started to strip off whenever the plate was touched by finger nails.

I wrote to Ferrograph asking for some touch-up paint. They replied offering to send me a new plate, complete with Allen keys, and including full and precise instructions on how to fit it.

This I regard as being first rate after-sales-service and a very good example which could be followed by more than one firm of manufacturers.

PETER L. BASTIN.

Bourne, Worcester.

dangers of bringing a permanent magnet near them and will ensure that moving coil microphones and loudspeakers are kept at a safe distance. The result of having a magnetised head is to impose noise on the tape in the form of an extra noise signal that was not present before the tape passed over the faulty head.

If the reader wishes to listen to noise produced in this way he should unwind a few feet of tape and draw it slowly over the pole piece of a magnet. On playback you will hear "DC noise," and it is this noise which a magnetised head produces.

If, like me, you have a recorder in the 65-guinea class you too may fondly hope that all will be well and your heads cannot become magnetised. Nothing can be further from the truth. The best commercial method of producing a magnet is to put the specimen of steel in a coil of wire and pass a current through the coil. This is precisely the arrangement we have in our recording heads. The high frequency bias and erase currents are there specifically to magnetise the heads. If they die away slowly the head is left demagnetised, but if they cease abruptly there is a very good chance that the head will be left magnetised. This results in DC noise being added to all tapes then passing over them during playback.

If therefore you find that a tape which at one time had very little background noise suddenly develops it, pause, stop, and consider. If your machine has a separate oscillator valve and can operate the loudspeaker whilst recording, the trouble should not be DC noise. But if your machine uses the same valve for both functions, so that you switch from record to playback in one operation, beware.

Examination of the manufacturer's circuit diagram for my recorder shows that operation of the deck controls changes the connections to the output valve very abruptly from the recording to the playback condition. Other circuits using a single record/playback button show the same thing, and all must leave the heads in varying states of magnetisation.

There is however a simple remedy. It works like magic. With your machine switched on, remove the tape, and depress the record button. There is now a high frequency current in the heads which you can reduce slowly to zero by simply switching the mains supply to the machine off. The oscillating valve produces a decreasing current during the time that its heater is cooling and the HT smoothing condensers are discharging, and this will very effectively de-magnetise the heads. The machine should not then be switched on for two or three minutes, and the stop button should not be depressed during that time; but for heaven's sake (and the sake of your machine) don't go away without depressing it after the time interval.

Machines with two sets of heads, such as fitted in the Collaro Transcriber, should have the de-fluxing process applied to each set of heads in turn. It would be good practice to carry out the procedure when switching off after every recording session.

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CLASSICS



By Edward
Greenfield

BRUCKNER. *Symphony No. 4 (Revised Version).* Vienna Symphony Orchestra conducted by Franz Konwitschny. WRC (TCM 52), 3½ ips, mono, 29s.

Anyone who still thinks of Bruckner as a long-winded old bore and wants to be converted should certainly try this tape. This is the most approachable of Bruckner's symphonies, though not the shortest, lasting an hour as it does. The nickname "Romantic" may be misleading in that all Bruckner's symphonies are romantic and this no more than the others, but it may provide an added indication of its vivid contrasts and memorable ideas. For all his length, Bruckner, particularly in his first movements, is a great one for spreading a whole range of different attractive ideas before the listener. At first hearing they may sound disjointed and badly organised but repeated hearings show the essential strength and continuity behind the diversity.

Konwitschny gives a vigorous and convincing performance on this tape, not always quite as polished as it might be. The recording (from the continental firm of Ariola) is a little restricted but there is some background atmosphere to make amends. Bruckner made many revisions of his symphonies, and it is sometimes hard for the non-specialist to find out exactly which version is which, but Konwitschny uses the revision of 1889 which was published during Bruckner's lifetime.

The note by Peter Gammond is most helpful, and I hope other companies issuing tape will follow WRC's new example of giving the sort of information a disc would have on a sleeve-note.

WALTON. *Shakespeare Film Scores for Henry V, Hamlet, Richard III.* Philharmonia Orchestra conducted by Sir William Walton. Columbia (TA-33CX 1883), 3½ ips, mono, 40s.

Walton's collaboration with Sir Laurence Olivier on his three Shakespeare films produced some of the most attractive and memorable film music ever written. These extracts stand up remarkably well on their own, not exactly for musical argument but certainly in their colourfulness and immediate attraction.

The Henry V music was the first written, and that remains the most strikingly memorable with the atmospheric music to go with the shots of the Globe Playhouse, the touching passacaglia for Falstaff's death, the charge and battle of Agincourt and the final rousing chorus on the Agincourt Song. The one disappointment here—apart from the lack of Olivier's voice in the relevant

places—is that the terrifying sound of arrows being fired in a concerted volley has not been reproduced as it was on an earlier recording.

The Hamlet Funeral March, a magnificently stately ending to the film, sounds even better when people are not rushing for cinema doors around one, and the Richard III music, though it has passages of self-imitation, again has the attraction of the best ceremonial light music. The recording—of very recent vintage—is first-rate with a very good transfer.

HANDEL. *Water Music complete.* Bath Festival Orchestra directed by Yehudi Menuhin. HMV (TA-ALP 2028), 3½ ips, mono, 40s.

Those who know Handel's Water Music merely from Harty's arrangement for modern orchestra will be surprised at the riches they have been missing. Harty admittedly did select most of the more immediately attractive items out of the full suite written by Handel for the King's progress down the river, but by no means all.

In all on this tape you have eighteen items divided into three separate suites, compared with the six which Harty selected. In addition there is a clarity about the original version that Harty for all his skill in orchestration did not achieve. The allegro which Harty chose to open his suite is here given by Menuhin a stylishness very hard if not impossible to achieve with a full orchestra. This is one of the very finest of Menuhin's Bath Festival recordings, and it is good to have it on tape. The transfer has been well done to give the right bloom to the important oboe solos.

PUCCINI. *Tosca—Highlights.* Callas, Di Stefano, Gobbi, La Scala Chorus and Orchestra conducted by Victor de Sabata. Columbia (TA-33CX 1893), 3½ ips, mono, 40s.

These lengthy extracts from Puccini's vivid opera are taken from a recording made originally over ten years ago. Callas had then achieved her peak vocally and already she was displaying the searing intensity of characterisation that has made her unapproachable in this part of Puccini's jealous opera-singer. Di Stefano was at his best, too, with a hint of the charm of a budding Gigli (something which he has, alas, not fully followed up) and Gobbi, also at the peak of his vocal powers, provided another incomparable performance.

Since then the engineers have refurbished the original master-tape, and the sound on this 3½ ips transfer is astonishingly forward with the right bite on the voices. The very opening on an unaccompanied remark "Dami i colori" by Cavaradossi just before his aria *Recondita armonia* hits the ear almost brutally, but it is a fault on the right side. As for the performance, one could go on listing its beauties and excitements almost indefinitely, and this selection has been very well made with generous stretches and not just the set-numbers. The label, however, is misleading; the more so when EMI still fails to give any notes on the music (surely the sleeve-note could be turned into a leaflet). From the information here you would not know that from

The tapes reviewed this month are issued by the following companies:

"Columbia" and "HMV," Lt., 20, Manchester Square, London, W.1.

"Recotape": Esoteric Productions Ltd., 22, Coastal Chambers, Buckingham Palace Road, London, S.W.1.

"WRC": The World Record Club Ltd., Box 11, Parkbridge House, The Little Green, Richmond, Surrey.

Act 3 you have not merely Cavaradossi's *E lucevan le stelle* but the whole love duet following it which brings some of Callas's very finest singing.

This tape will bring back memories



By Mike J. Gale

THE DORSEY LEGEND (Vol. 2). Tommy Dorsey and his Orchestra. WRC (TT 283), 3 1/2 ips, mono. 29s.

Tommy Dorsey was born in Pennsylvania, USA, fifty-nine years ago. He died in 1956. In his span of fifty-one years he achieved great commercial success and, together with Miller, Goodman, Whiteman and a few others, his name became a household word.

In the early thirties he recorded *I'm Getting Sentimental Over You* and it was this number which led both to his nickname ("Sentimental Gentleman") and characteristic style. Over the following years he associated on and off with his brother, Jimmy, forming in 1933 the famous Dorsey Brothers Band which lasted almost two years. He played, basically, a dance band type of music with a slight trace of jazz.

By 1947, Hollywood had contributed to the legend by manufacturing "The Fabulous Dorseys" before, in the mid-fifties, their own TV series reached the ultimate in audience saturation.

Constantly in the limelight with their public clashes of rivalry, the brothers completed the legend, sadly and dramatically, when in 1956 Tommy choked to death and his brother died of cancer the following year.

This recording, from the 1944 period, has a very vague and distant relationship with jazz. Personally, I dislike the vocal groups of the forties, and *On The Sunny Side Of The Street* with "The Sentimentalists" (of course) made me wince.

The main interest for me was the individual talents, principally Stoller's dynamic drum efforts and Shaver's rich trumpet work. 'Accepting the unabashed commercialism, what is left? A reflection of the war years and the desire to escape from troubles, or, if nothing else, a showcase for Dorsey and his complete mastery of his instrument.

Among the other titles are: *Song Of India, Swanee River, Losers Weepers, There Is No Breeze To Cool The Flame Of Love, Minor Goes Muggin', Well Git It, Rest Stop, I'm In Love With Someone, and That's My Home.*

If you like Dorsey you will like this, but it leaves me cold.

PEE WEE RUSSELL PLAYS PEE WEE RUSSELL. Personnel: Pee Wee Russell, clarinet; Nat Pierce, piano; Steve Jordan, guitar; Walter Page, bass; George Wettling, drums. WRC (TT 308), 3 1/2 ips, mono. 29s.

Born a year later than Dorsey, Pee Wee Russell (real name Charles Ellsworth) studied at the Western Military Academy

and the University of Missouri. By 1927 Russell had made his first recording but unlike Dorsey, his career remained unspectacular for nearly thirty years.

It was only in 1957 that Russell was finally recognised to be the great jazz musician his talent deserves; appearing on an experimental TV programme "The Sound of Jazz" he shrugged off the Dixieland image and emerged to critical acclaim. Within a few years he headed the International Critics Poll as the finest clarinet player in the business in 1962 and again in 1963.

I like Russell very much and I value this album because as far as I can check, this is the first time any of his own compositions have been released in this country.

Powerful in impact, fluent in execution and widely contrasting, Russell displays his talent with great ease gliding through developed solos and extended improvisations. And all the time, the rhythm section works away without any harsh sounds.

There are not any really weak compositions on this album, and *Pee Wee's Song* is exceptionally interesting and well worth analysis. A word of praise for Wettling; imaginative and enriched, he adds a lot of strength to this session.

It seems a pity that so many years were wasted.

The titles include: *Muskogee Blues, Pee Wee's Song, Exactly Like You, I'd Climb the Highest Mountain, Over The Rainbow, I Would Do Anything For You, I'm in the Market for You, The Lady's in Love.*

NEW ORLEANS DIXIELAND. Esoteric. Personnel: Rosie McHague, clarinet and sax; Tommy Thunen, cornet; Warner Smith, trombone; Larrie Marcus, piano; Lew Drummond, drums. (RML 230), 3 1/2 ips, mono, 30s.

A raw and unsophisticated album played in a warm style with little contrast, but, nevertheless, a valuable addition to any jazz collection.

The compositions are among the most famous in the world, and although they are almost too well known, it does not do any harm to hear them as they were played in the early days.

YOUR GETTING TO BE A HABIT WITH ME. Personnel: Ruby Braff, trumpet; Don Lamond, drums, Don Eliot, vibes; Mundell Lowe, guitar; Milt Hinton, bass; Hank Jones, piano; Nat Pierce, piano. WRC (TT 312), 3 1/2 ips, mono, 29s.

Ruby Braff is yet another musician who started at an early age, when in 1936 at the age of nine, he got his first professional job with Whistling Sam, the Piano Man.

Although very much an individualist, he has been strongly influenced by a wide range of people, especially Armstrong, Goodman and Getz, and with such a mixture, his style is immediately recognisable. His outstanding quality is a wonderfully relaxed technique which keeps the melodic line refreshingly clear.

You'd be so Nice to Come Home To is a fine example of Braff at his best, quietly romantic, full of charm and stopping short of clichés.

The group is exceptionally well blended with Hank Jones earning a special word of praise for his remarkable ability to blend with any rhythm group and yet not lose his identity.

Other titles are: *Someday Sweetheart, When Your Lover Has Gone, Your Getting to be a Habit with Me, Let's do It, Swing that Music, You'd be so Nice to Come Home To, Taking a Chance on Love, Cabin in the Pines, Lazy, and If Dreams Come True.*

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NEW PRODUCTS

FIVE JAPANESE RECORDERS IN EAGLE RANGE

FIVE tape recorders, a range of dynamic microphones, and various tape recording accessories are included in the range of Eagle Products manufactured in Japan and imported by B. Adler and Sons (Radio) Ltd.

First on the list is a two-speed, battery-operated tape recorder, Model TP703, selling at £21. Accommodation for three-inch spools provides a playing time of twenty-six minutes on each of the two tracks using triple-play tape at 3½ ips. Twice this amount of playing time is available using the second speed of 1½ ips. Push-button operation, powered rewind (1½ minutes), and a battery life of ten hours continuous use, and a signal-to-noise ratio quoted as -49 dB are among the features of the TP703. Other facilities include remote control switch on the microphone, VU meter recording level indicator, earphone, and an output of 150 mW.

Six transistors, one diode, and a thermistor are included in the tube line-up. The TP703 measures 9 x 8½ x 3½ inches, and weighs 4½ lb.

Four transistors, diode push-pull amplifier and built-in dynamic speaker are incorporated in the £8 19s. 6d. Model MT1000 battery-operated machine.

This features a playing time of fifteen minutes for each of its two tracks. It measures 7½ x 6½ x 2½ inches and weighs only 2 lb. The similarly-priced Model TC601 measures 10½ x 3½ x 2½ inches. This two-track battery model also incorporates four transistors, and has a single function control for rewind, stop, playback, record, with a second volume control.

Two other recorders are the TR563 (fourteen guineas) and UN406 (ten guineas).

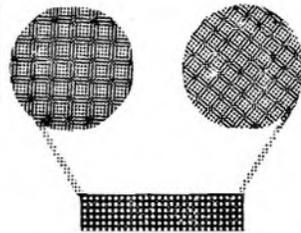
First of their microphones is the Model SM. D100 stereo dynamic unit selling at nine guineas. This has a quoted frequency range of 50-15,000 cps, with the output impedance of 50 K ohms, and sensitivity rated at -60 dB.

It measures 8½ inches high, the microphone is 2½ inches wide, and it stands on a 4½-inch diameter detachable table base. At fourteen guineas there is the unidirectional microphone Model UD. 19HL. The frequency range is given as 100-14,000 ± 15 dB, and sensitivity as -75 dB ± 3 dB at 600 ohms; and -55 dB ± 3 dB at 50 K ohms; 0 dB = 1vμ Barr.

It is ten inches long and 1½ inches in diameter.

Other microphones include the DM 17HL and DM 16HL, both dual impedance (50 ohms and 50 K ohms) dynamic units at seven guineas. The quoted frequency is 40-15,000 cps, and sensitivity is -52 dB and -62 dB respectively. The former measures 7½ x 1½ inches and the latter is 6½ inches high, 1½ inches wide, and 2 inches deep.

The DM 11 dynamic omni-directional microphone with base sells at five guineas, has a quoted frequency response of 60-12,000 cps, sensitivity rated at -54 dB and high impedance (50 K ohms) only. It



is nine inches long, two inches diameter at the head tapering to ¾-inch. The stand is five inches in diameter.

Full details of each of these units, plus the wide range of accessories including microphones, desk stands, stereo headphones, mixer units, plugs and sockets are available from the UK Agents.

B. Adler & Sons (Radio) Limited, 32a, Coptic Street, London, W.C.1.

DANSETTE ANNOUNCE THEIR LATEST MODEL

THE latest addition to the Dansette range of tape recorders will be shown for the first time at the Radio Show.

The new model, illustrated below, is the Empress, a four-track three-speed recorder which incorporates the new BSR TD10 tape deck.

Accommodation for up to seven-inch spools is available, providing a playing time of 64 minutes per track, using standard-play tape at 3½ ips. The other tape speeds are 7½ and 1½ ips.

Among the features are independent microphone and radio controls, meter recording-level indicator, recording light



indicator, facilities for superimposition, monitoring and straight-through amplification.

Spool storage is provided, and an unusual feature is the availability of legs (two guineas extra) which screw into the base of the cabinet.

The Empress operates on 220-250 volts, AC only, and is available in a wide variety of two-tone colour schemes. Further details regarding performance are not obtainable as we go to press.

Dansette Products Limited, Dansette House, Honeypot Lane, Stanmore, Middlesex.

SHOWTIME IN LONDON

A round-up of the exhibitions
being held later this month

DURING the period of the National Television and Radio Show this year, a number of individual trade shows are being held at nearby venues, and some manufacturers have arranged a group exhibition for leading distributors of imported equipment.

To enable readers to plan their visit to these previews next month, the following list of the various exhibitions has been compiled.

The National TV and Radio Show is to be held at Earls Court, London, S.W.5. Trade previews: August 24-25 (11 a.m. to 7 p.m.) August 26, 27, 28, September 1, 2 and 3 (9.30 to 11 a.m.). Open to the public August 26 to September 5 (11 a.m. to 9 p.m.).

The exhibitors (with stand numbers in brackets) will include: Alba Radio & TV (70); Amalgamated Electric Services (27); Belling & Lee (16); BBC (78); British Radio Corporation (42); Bush Radio (59); CWS (35); Cossor Radio & TV (36).

Dansette Products (58); Daystrom (32); Decca Records (39); Dynatron Radio (60); E.M.I. Tape (55); Ekco Radio & TV (68); Ever-Ready (75); Ferguson Radio Corporation (67); Ferranti Radio & TV (13); Fidelity Radio (74).

Garrard Engineering (5); G.E.C. Radio & TV (15); GPO (63); N. Goldsmith (47); Kodak (28); Kolster-Brandes (19); Mullard (38); Murphy Radio (34); Philips Electrical (21 and 61); Pye (76); Radio & Allied Industries (14); R.G.D. (4); Regentone Radio & TV (12); Stella Radio & TV (69); Tape Recorders Electronics (65); Ultra Radio & TV (41) and W. Wood & Sons (48).

International Radio and Electrical Trades Exhibition, Prince of Wales Hotel, De Vere Gardens, London, W.8. August 24-29 (10 a.m. to 8 p.m.). Among the exhibitors here will be Welmecc (showing the Telefunken range of equipment); Tellux (Sony); Celsa Electric (Dual); Argelane (Clairtone/Braun); TAK Continental Importers (Nordmende); Lee Products (Hitachi); United Africa Co. (National); Marubeni-Iida (Sanyo); Hall Electric (Toshiba) and Denham & Morley (Standard).

Bosch Ltd., 205, Great Portland Street, London, W.1. August 24-28 (9 a.m. to 8 p.m.).

Brown Brothers Ltd., Bailey's Hotel, Gloucester Road, London, S.W.7. August 24 (2 p.m. to 10.30 p.m.), August 25 to September 4, except Sunday (9 a.m. to 10.30 p.m.).

Celestion Ltd., Rembrandt Hotel, Thurloe Place, London, S.W.7. August 28 (noon to 9 p.m.); August 29 (10 a.m. to 9 p.m.); September 4 (noon to 9 p.m.) and September 5 (10 a.m. to 9 p.m.).

Daltrade Ltd., May Fair Hotel, Berkeley Suite, Berkeley Square, London, W.1. August 24 to September 3 (including, Sat. and Sun. (9 a.m. to 7 p.m.).

Elizabethan (Tape Recorders) Ltd., May Fair Hotel, Monte Carlo Suite, Berkeley Square, London, W.1. August 24-29 (9 a.m. to 9 p.m.).

Falcon (John Street (Manufacturers) Ltd.), Café Royal, Domino Suite, Regent Street, Piccadilly, London, W.1. August 25 to September 3, except Sat. and Sun. (10 a.m. to 9.30 p.m.).

Grundig (Great Britain) Ltd., London Hilton, Park Lane, London, W.1. August 25-29 (10 a.m. to 10 p.m.).

Highgate Acoustics, Kensington Palace Hotel, De Vere Gardens, London, W.8. August 23 (4 to 7 p.m.); August 24-28 (10.30 a.m. to 9.30 p.m.) and August 29 (10.30 a.m. to 4 p.m.).

Lugton & Co. Ltd., Café Royal, Regent Street, London, W.1. August 24-27 and August 31 to September 3 (9.30 a.m. to 9 p.m.).

Saba Electronics Ltd., Dorchester Hotel, Park Lane, London, W.1. August 25-27 (10 a.m. to 10 p.m.).

St. Aldate Warehouse Ltd., Carlton Tower Hotel, Cadogan Place, London, S.W.1. August 24-29 (9 a.m. to 8 p.m.).

NEWS FROM THE TRADE

THE Sony Corporation of Japan announce that St. Aldate Warehouse Ltd., who recently expanded to handle the Danish Bang & Olufsen hi-fi equipment, will take over the distribution of Sony equipment as from September 1.

Tellux Ltd., will continue to implement the guarantee and provide service and spares for Sony until August 31. Tape recorders, radios and all future Sony products to be introduced into the UK market will be included in the new agreement.

THE combination of industrial activities Gevaert Photo-Production N.V. and Agfa A.G. into a single unit, announced earlier this year, is now effective. Two new operating companies, in which the respective parent companies are participating, on a fifty-fifty basis, have taken over the business previously conducted by these firms.

FIVE Grundig tape recorders, and 150 Grundig tapes will be the prizes in a competition organised by Grundig and Columbia Pictures to tie-in with the H. G. Wells epic "First Men in the Moon," just released on the Rank Circuit.

A booklet containing artist's impressions of scenes from the film will be handed to competitors who will be asked to select seven objects beginning with the letters that spell Grundig. Also in the foyer of each cinema will be a TK14 relaying the unusual sounds and striking music from the film. The first prize is a Grundig TK41, and four TK14s go to the runners-up. Fifty tapes carrying the sound-track of the film will be given as consolation prizes.

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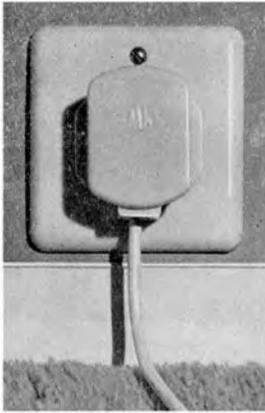
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BOSTON

During the second AGM of the Boston Soundhunters club, members discussed their first venture into charity work for the blind and local hospitals. Plans were also laid to seek co-operation with a local drama group to experiment with Dramatape possibilities.

Apart from official activities, club members have been active recording open-air madrigals, pop groups for a national talent competition, and a mammoth recording of the Triennial Choir Festival of 1,350 voices in Lincoln Cathedral.

Earlier, members welcomed Mr. Pontzen of Lustraphone Ltd., who demonstrated his company's products, and described the design, performance, and application of the various types of microphones. Of particular interest to the Boston Soundhunters were a ribbon stereo, a noise-cancelling model, and a prototype miniature ribbon. Mr. Pontzen concluded his demonstration with a tour by Radiomic of the fifteenth-century Guildhall, in the Old Council Chamber of which the meeting was held. The differing acoustics from the claustrophobic cells where the Pilgrim Fathers were imprisoned, to the entrance hall and antique staircase, were most fascinating and illuminating.

A competition for battery-portable owners, set in the annual May Fair, was won by Ian Charlton, who had recorded the fairground organ.

Secretary: Philip P. Towell, 107, Spilsby Road, Boston, Lincolnshire.

BRIGHTON

Experiments to see how many tape recorders can be fed by one microphone, so reducing the number of microphones needed for some recordings, were made at a recent meeting of the Brighton tape club.

A signal was fed through a mixer to the input sockets of three tape recorders, and it was found the system worked satisfactorily. The technique was later used when members recorded at the Fiftieth Anniversary of the Sussex Organists' Association. Fair results were obtained, including a separate stereo recording.

The club was to visit the printing works of the local newspaper *Evening Argus* on August 13.

On July 1, member E. Savage gave a talk on the various types of microphones in use today; this was followed on July 8 with another talk, when he spoke about output meters as applied to tape recorders.

Secretary: K. W. Upton, 47, Kingsley Road, Brighton 5, Sussex.

CARDIFF

The Cardiff club members are currently engaged in producing a documentary tape entitled "A sound picture of Cardiff." They have already made recordings at the Central Fire Station and the City Hall, and have successfully recorded the Cardiff City Police Choir singing at the Law Courts.

Secretary: A. J. Mansfield, 94, Moorland Road, Splott, Cardiff, South Wales.

CATFORD

A change of meeting place is announced for the members of the Catford tape club. They now meet weekly on Thursdays at 8 p.m. at 104, Fordel Road, Catford, S.E.6.

May saw members preparing their entry for the B.A.T.R.C. They also organised a get-together between five local clubs to propose the formation of a group to exchange taped productions, exchange programmes, and produce a monthly tape magazine. Discussions on these proposals are now taking place at each of the clubs represented.

News from the Clubs

Earlier, members had removed to the garden shed of one of their members. This was being converted to a control room; the studio being in his front room. Members busied themselves installing cables so that they can run a microphone, talk-back system, cue light and monitor system between the control room and "studio."

One of the more recent practical recording sessions included the production of a news item for local broadcasting. A "reporter" interviewed five persons involved in a flooded village. The interviews were then edited to give a five-minute spot for the news. We have no news of the success or otherwise of exercise "Operation Flood."

Members have also compiled a tape entitled *Calling Australia*. This programme described the workings of the tape club, and also included two feature tapes produced by its members. Other contributions came from individual members.

Secretary: B. W. Blakeney, 246, Ardgowan Road, Catford, London, S.E.6.

COTSWOLD

A major change in the organisation of the Cotswold society results from its admission as a section of St. Mark's Community Centre, Cheltenham. The club's HQ has now moved to the new venue. Meetings are to be held there on alternate Mondays (next: August 31).

One of their most recently reported meetings was an evening devoted to a demonstration given by Mr. D. Wise of Modern Radio, local dealers. The latest Revox Model 736 and Quad amplifiers were used for a stereo tape demonstration. For the loudspeaker demonstration Mr. Wise showed the Radford BLS, the KEF Slimline, and the Radford Auditorium.

During the second part of the evening, member Ray Tingley demonstrated his home-made transistorised, transformerless amplifier. It more than held its own when compared to a commercially produced amplifier of similar design. Members' stereo tapes were played, and one by Colin Woods—a jazz ensemble—was notable for the depth and spread of the stereo effect. This was followed by a recording of a church organ which effectively showed the greater realism obtainable from stereo tapes.

Other recent demonstrations have included a visit by representatives of Daystrom Ltd., who presented their range of tape deck, amplifier, speaker, turntable, and pick-up kits. Stereo was demonstrated throughout on equipment issued in standard form in the company's kits. Messrs. Alan Evans, D. Smith, and P. Eldridge were thanked for their show, and members learned that this had been the first occasion when Daystrom had been able to demonstrate their tape equipment. The Truvox Series 90 deck was used with the Heathkit TAI tape amplifier.

Secretary: Peter D. Turner, Frampton Mansell, Stroud, Gloucestershire.

FERROGRAPH OWNER'S CLUB

News of the formation of the British Ferrograph Owner's Club is received from Cheshire. The club is independent of but recognised by the Ferrograph Company who have offered any technical assistance required.

Open to any owner of a Ferrograph recorder. Further details are available from the Secretary.

Secretary: R. D. Littler, "Kingswood," Silverne Drive, Ellesmere Port, Wirral, Cheshire.

LEEDS

The Leeds members are planning a beginners' course for tape recording for the month of September. On alternate Friday evenings they will present illustrated talks covering basic principles and including live recording sessions. Further details are available from the secretary.

During July, members were given a tape/slide show by Ernest Pease; and a talk on programme compilation by

chairman Mike E. Plant. June had been devoted to the planning, scripting, and recording of a programme on the history of the Yorkshire Federation clubs.

A three-minute tape competition held during May brought a comical but moving sermon on the nursery rhyme "Little Bo Peep" (shades of Johnny Stanley), preached ably by W. H. Rowe. The producer states the fact he is a member of the Methodist Preaching team had nothing to do with his choice of subject.

Secretary: W. H. Rowe, 34, Bristol Road, Leeds 7, Yorkshire.

LONDON

At the July meeting of the London tape club, Roger Aslin one of the founder members, spoke about the history of the club since its formation in November 1957. He illustrated his talk with recordings from the archives, including excerpts from the very first meeting.

Ken Blake then described his practical use of a tape recorder, a talk held over from the previous meeting.

During July, members attended a Grand Fête in Luton. Both recordists and film enthusiasts were in evidence to record and film the proposed Donkey Derby. The club intended to collect material for use in a documentary programme to be entered in the British Amateur Tape Recording Contest.

At an earlier meeting, BBC producer Richard Keen visited the club to offer advice and criticism on the tapes entered in the McManus Cup competition. First place went to Pat Stavenhagen for his tape *Hot Money*, Ron Tucker took second place with *Mr. Lane*, and the third prize went to Ken Blake and *Statistics*. Visiting the club for the first time in three years was Frank McManus who first suggested the competition, and who presented the cup to be awarded annually.

During May, members were invited to visit the Central Office of Information for another practical recording session. During their visit, the club devised, produced and recorded a sixty-minute continuous programme.

Secretary: Douglas J. Morris, 80, Tangier Road, Richmond, Surrey.

MIDDLESBROUGH

A change of secretary is announced for the Middlesbrough club, with Irene E. Goodhall taking over from John Allan.

Freak July rainstorms which flooded many parts of the town kept the crowds away from their "showrooms" in the Settlement Community Centre for the club's Audio Fayre, organised on the lines of last year's highly successful "Audiorama."

Those who attended were treated to a comprehensive display of tape recorders and equipment complete with owners to demonstrate and answer questions. The stereo demonstration was a new feature for the club, and a new slide and cine show, compiled from members' holiday material, took visitors on a tour of Paris, London, and Switzerland. A synchronised commentary was provided by G. Stephenson, G. W. B. Harrison and D. Trubshaw, while J. Wintingham operated the film controls.

A. Smith was in charge of the curio corner, which featured a seventy-year-old gleaming horn gramophone complete with wicker carrying case and a box of cardboard records.

Plans are now under way for recording sessions in and out of their studios. Battery-portable competitions, play recordings, film shows, tape quizzes, demonstrations and practical nights are also proposed. Their new season starts in September, and interested readers are invited to drop in any Friday at 130-132, Newport Road.

Secretary: Irene E. Goodhall, 8, Ottawa Road, Middlesbrough, Yorkshire.

NORTH MANCHESTER

The North Manchester Soundtrackers celebrated their first anniversary on

May 23 with a cocktail party, prior to their AGM. Both events were held at the secretary's home, and during the afternoon awards were presented to the year's competition winners. During his annual report the secretary spoke of the many activities of the club members. Festivals, exhibitions, drama-tapes, and the regular competitions were particularly mentioned, and their monthly sound journal *Concord* continues to be issued. A reorganisation of the club's production groups was planned during the evening.

The secretary also spoke of the inter-club contacts achieved during their first year in formation. Urmost club members are regularly contacted, and Mr. Lomas invited further contacts from other club secretaries.

During August, the chairman, J. B. Cartmell, and secretary are to tour the Scottish western islands on a motorising-recording expedition armed with a Grundig TK6.

Secretary: A. Lomas, 2, Hamer Hill, Chapel Lane, Blackley, Manchester, Lancashire.

RUGBY

Extracts from some of his famous radio ballads were played by Charles Parker during the evening of the Rugby tape club's convention held in June. *The Ballad of John Axon*, about a runaway train crash in the Peak District in 1957 in which the driver was killed; *The Song of the Road*, about the construction of the M1 motorway; *The Body Blow*, dealing with polio victims; *The Big Huer*, coalmining; and *The Travelling People*, about the life of the gypsy and tinker, were among the tapes played.

Earlier in the evening, those attending, heard Trevor Gilbert describe some of the activities of the Midland Association of Tape Recording Clubs.

Len Stevens used his Vortexion WVB to record the proceedings for the club library. Playback facilities during the evening were provided by Bob Pick's Brenell Mk. V recorder, the club's Paraline speaker unit, and Bob's home-made speaker unit.

The following meeting, held on June 18 was the club's AGM, and this was followed on July 2 by the first meeting of the new club year.

For this, members welcomed Mr. H. J. P. Fell, a G.P.O. executive engineer of the Post Office ship-to-shore radio service. Mr. Fell described the eleven coastal radio stations and spoke about the function of this service. He used diagrams to illustrate his talk which covered weather bulletins, regional navigational and medical assistance, and world-wide communications.

During the latter part of the evening, members discussed arrangements for a visit to the Warwick and Leamington club, scheduled for July 15. The meeting was concluded with John Bannister's demonstration of the new Philips EL3300 cartridge-loaded tape recorder.

Secretary: Michael Brown, 219, Clifton Road, Rugby, Warwickshire.

WORLD TAPE PALS

The AGM of the U.K. Section of WTP, whose parent body is World Tapes for Education, of Dallas, Texas, was held on May 30, at the Sutton Coldfield home of one of the members.

After the business side of the meeting the members were entertained with a tape/slide show from the Texas home of Harry Matthews, the club's founder. This was followed by a preview of the tape/cine film "This is Britain" which is being prepared by the tape and cine section for viewing by friends abroad. Finally, there was a show a very fine stamp exhibition prepared specially for the occasion by the Director of the Stamp section.

The U.K. Section of WTP hold their annual meetings at various venues each year to encourage different members to attend, and also to foster local pride of achievement.

Secretary: John N. Davies, 19, Wythenshawe Road, Sale, Cheshire.

CLASSIFIED ADVERTISEMENTS

TAPE EXCHANGES

TAPE RECORDER OWNERS who wish to contact others with similar interests, to exchange news and views by tape are invited to fill in and return the form provided below giving their name, age, address, special hobby or interest for this section.

Details given here also include speeds and spool size to be used, name of recorder, and special area to be contacted.

Booth, John (37). 11, Rose Gardens, Neston, Cheshire. Photography, pop music of the 1940s. 7½, 3½ ips. 7-inch spool. Brenell Mark 5. Female contacts only preferred in Manchester.

Brown, Chas. (36). Studio One, Woodland Avenue, Birchington, Kent. Electronic organ, records of Ella Fitzgerald, Peggy Lee, 15, 7½, 3½, 1½, 15/16 ips. 4-inch spool. Brenell Mark 5, series two; Mark 5, deck and three-star recorder.

Buck, Ronald (29). 41, Newry Road, St. Margarets, Middlesex. Sound 8mm cine films. 3½, 1½ ips. 7-inch spool Stella ST458, four-track.

Casson, David (22). 15, Cameron Drive, Northampton. 8mm photography, music, cinema. 7½, 3½, 1½ ips. 7-inch spool. Grundig TK20, Telefunken 96. UK, Continent.

Dutton, K. B. (22). Male Nurses Home, All Saints Hospital, Birmingham 18, Warwickshire. Pop music, reading. 3½, 1½ ips. 7-inch spool. Civic T72, Philips EL3548. Female contacts preferred in England and Canada.

Froud, W. (49). 34, Woburn Avenue, Theydon Bois, Essex. Motorcycle racing, camping, music. 7½, 3½, 1½ ips. 7-inch spool. Sony 521, Stella recorder. Male contacts preferred in UK and USA.

Hadley, Don (34). 19, Salters Avenue, Milton, Southsea, Hampshire. Radio, cars and music. 7½, 3½, 1½ ips. 5-inch spool. Civic recorder. Female contacts preferred in UK and Europe.

Howe, John (61). 84, Sprout Detroit, Michigan, USA. Documentaries, organ music. 7½, 3½ ips. 7-inch spool. Electro-Wollensak 2/4T.

Kaye, Frank (35). 13, Edinborough Road, Walthamstow, London, E.17. Jazz and r & b music. 1½ ips. 4-inch spool. Philips EL3585, battery portable. Female contacts only in Scandinavia and USA.

Lane, J. (25). 33, King's Close, Thame, Oxfordshire. 7½, 3½ ips. 7-inch spool. Telefunken recorder. Japan, Russia, UK.

MacDonald, John (24). 2, Bethel Road, Sevenoaks, Kent. Photography, travel films and pop music. 7½, 3½ ips. 7-inch spool. Simon SP5. USA, Australia, UK.

May, David (44). 16, Marsh Road, Wilmette, Stratford-on-Avon, Warwickshire. Electronics, music. 15, 7½, 3½, 1½ ips. 7-inch spool. Phonotrix 88, Sound 777.

Mooney, Everard (32). P.O. Box

Rate.—Sixpence per word (minimum 5s.); Trade, ninepence per word (minimum 10s.); box numbers, one shilling extra. Payment with copy. Copy should be sent to Advertising Department, "TAPE Recording Magazine," 7, Tudor Street, London, E.C.4.

7416, Johannesburg, South Africa. Christian messages, music. 7½, 3½ ips. 7-inch spool. Grundig TK42, two- and four-track.

Morris, Leonard (34). 37, Woodcote Lane, Omagh, Northern Ireland. Photography, skin diving. 3½ ips. 5-inch spool. Grundig TK20.

Newport, John (20). 98, Ridsdale Road, Anerley, London, S.E.20. 7½, 3½ ips. 7-inch spool. Sony TC200.

Phipps, Eric (20). 31, Quentin House, Fitz Hugh Estate, London, S.W.18. Chess, walking, pop music. 7½, 3½, 1½ ips. 7-inch spool. Corsor, four-track, Civic De-Luxe, two- and four-track. Female contacts preferred in UK.

Powell, Barry (20). 219, St. George's Avenue, Sheerness, Kent. Sound effects, guitar playing, pop music, The Shadows. 3½ ips. 3-inch spool. Robuk 3. UK.

Russell, Ken (37). The Square, Stockton, Rugby, Warwickshire. Tropical fish. 3½ ips. 5-inch spool. Grundig TK24, four-track.

Russell, Ronald (20). 6, Blythwood Road, Tyseley, Birmingham 11, Warwickshire. Photography, scooters and pop music. 7½, 3½, 1½ ips. Robuk RK4. USA, UK, Australia. All tapes answered.

Sims, Ron (42). 30, Admiralty Street, Keyham, Plymouth, Devon. Photography, all music. 7½, 3½, 1½ ips. 7-inch spool. Tanberg 64 Stereo, 4-track. Male contacts only in UK.

Sinclair, Thomas (26). 1, Glenclair Road, Langbank, Renfrewshire. Theology, photography, reading, music. 7½, 3½, 1½, 15/16 ips. 7-inch spool. Philips EL3549. Letters first please.

Wymore, Philip (32). 60, Edinborough Gardens, Windsor, Berkshire. Books, people, theatre, music. 7½, 3½ ips. 8½-inch spool. Truvox P993. Male contacts only in UK, USA, Continent. Letters first please.

TEENAGE EXCHANGES

Fong, Tommy (19). 53, Hull Road, York, Yorkshire. Thrillers, comedy and pop music. 3½, 1½ ips. 7-inch spool. Corsor CR1604. Hong Kong, New Zealand.

Hall, Peter (17). 30, Manor Road, Worthing, Sussex. 16mm photography, driving, cinema, pop music. 3½ ips. 7-inch spool. Philips EL3541. Female contacts preferred in UK, USA and the Continent.

Odell, Jeffery (15). 117, Hancock Road, Alum Rock, Birmingham 8, Warwickshire. Satire, politics, and The Rolling Stones. 7½, 3½, 1½ ips. 7-inch spool. Elizabethan LZ29. France and USA.

FAMILY EXCHANGES

Adams, John (30). 30, Grayshott Road, Southsea, Hampshire. 3½ ips. 5½-inch spool. Grundig TK23, four-track. Commonwealth countries. No letters please.

MISCELLANEOUS

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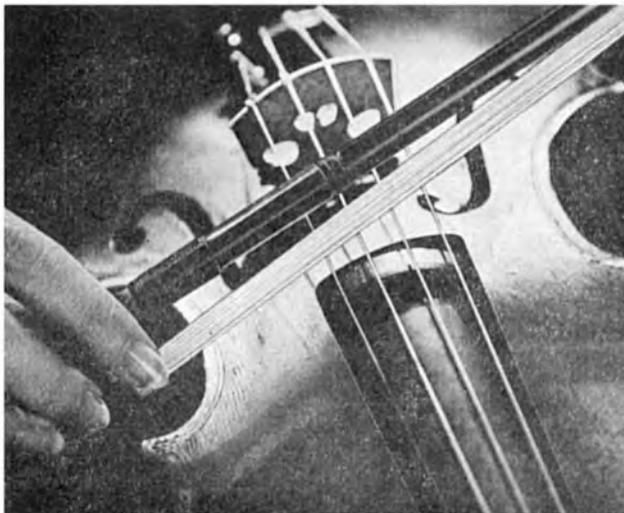
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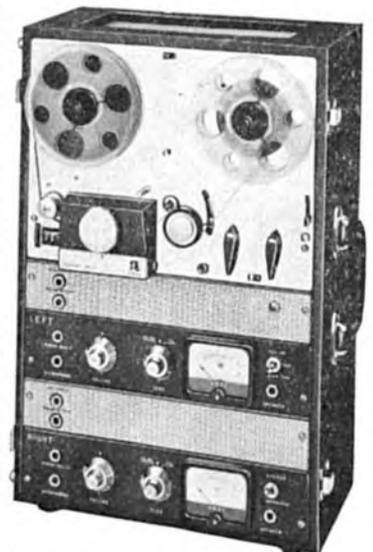
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