

APRIL
1958

1'6

TAPE RECORDING

& HIGH FIDELITY REPRODUCTION
MAGAZINE

"A versatile, portable tape recorder, not too bulky, of attractive appearance, capable of first-class performance, that puts it in the top bracket of machines in the £70 to £100 class". This is D. W. Aldous's verdict on the Elizabethan Essex, in the "Gramophone Record Review". And this will be your verdict, also. Elizabethans are designed and made in England to give you superb hi-fi music reproduction, all the facilities normally associated with a good recorder plus a number of exclusive Elizabethan features, utmost reliability, and good value over the whole Elizabethan range—with even the Essex only 75 gns. Inspect Elizabethans at your dealer, or let us demonstrate them to you personally at the Audio Fair, Waldorf Hotel, 18-21 April, Booth 54



EAP

The Elizabethan has played a low note (in a man-hole), and a high note (up a tree). On page 41 of this issue it tackles a tricky problem.

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GS 101

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Stereo

AND A NEW SERVICE

The advent of stereo opens up a whole new world of high fidelity sound reproduction. It is dangerous to use the word 'ultimate' in relation to Hi-Fi, but certainly for a three dimensional realism in sound, stereo is a 'must'.

A new service is the Q.M. Tape Library. If your tape recorder can handle 7" reels this is going to interest you! There is a large variety of serious and not so serious recorded music available including an increasing library of stereo tapes.

TANDBERG MASTER STEREO



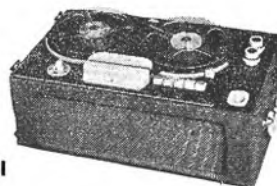
The new Tandberg de luxe recorder also reproduces the new commercially recorded stereo tapes. It is a 3-speed recorder— $7\frac{1}{2}$, $3\frac{3}{4}$ and $1\frac{7}{8}$ ips on 7" reels and has a precision place indicator. For Stereo reproduction, two external speakers are required—Q.M. can supply suitable models from 12 gns.

It is housed in a polished, veneered cabinet and there is a pigskin leathercloth carrying case. Price 114 gns.



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RECORDING TAPE

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No. 111A. Acetate Base. 200ft. (3") 6/3d. 600ft. (5") 16/-. 850ft. (5½") 22/-. 1,200ft. (7") 27/-. 2,400ft. (10½") 61/-.
 No. 150. LONG PLAY. Polyester Base. 300ft. (3") 9/6d. 900ft. (5") 28/-. 1,275ft. (5½") 35/-. 1,800ft. (7") 50/-. 3,600ft. (10½") 110/-.
 No. 120 High Output. Acetate Base. 600ft. (5") 23/-. 850ft. (5½") 31/-. 1,200ft. (7") 39/-. 2,400ft. (10½") 87/-.
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 LONG PLAY. 225ft. (3") 8/6d. 450ft. (4") 14/6d. 850ft. (5") 28/-. 1,200ft. (5½") 35/-. 1,800ft. (7") 50/-. 2,400ft. (8½") 75/-.
 NOTE.—All Tapes are Standard Play except where shown as Long Play.

BRITISH FERROGRAPH

On Hublock Reels. 200ft. (3½") 12/6d. 600ft. (5") 26/9d. 1,200ft. (7") 45/-. 1,750ft. (8½") 63/-.
 NOTE.—All Tapes are Standard Play except where shown as Long Play.

TERMS OF BUSINESS.—Cash with order or C.O.D. All tape is post free, but postage is extra on orders under £3 for accessories. C.O.D. fees are charged on C.O.D. orders under £5.

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• "88" PVC Base. Message 175ft. (3") 7/6d. Junior 600ft. (5") 21/-.
 • Continental 850ft. (5½") 28/-. Standard 1,200ft. (7") 35/-.
 • "99" LONG PLAY. PVC Base. Message 250ft. (3") 9/6d. Junior 850ft. (5") 28/-. Continental 1,200ft. (5½") 35/-. Standard 1,800ft. (7") 50/-.
 • "88" Junior 600ft. (5") 23/6d. Continental 850ft. (5½") 30/6d. Standard 1,200ft. (7") 37/6d.
 • "99" LONG PLAY. Junior 850ft. (5") 30/6d. Continental 1,200ft. (5½") 37/6d. Standard 1,800ft. (7") 52/6d.

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 • NOTE.—All Tapes are Standard Play except where shown as Long Play.

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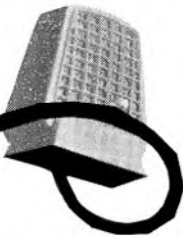
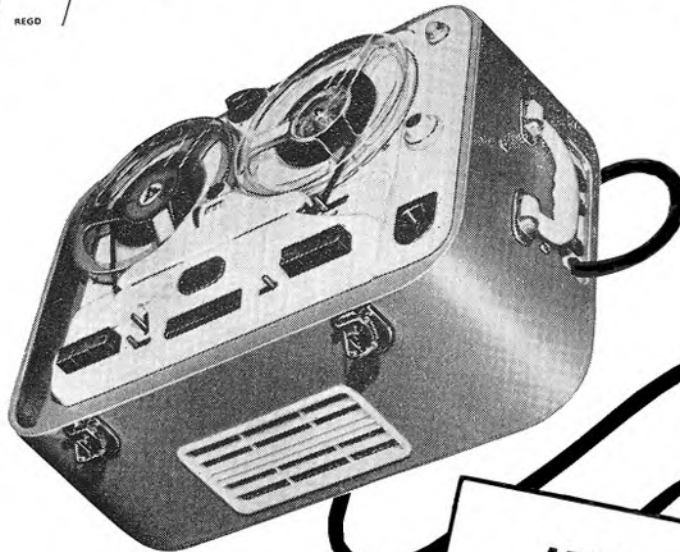
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Elon J.C.20	8 2 9	6 6 7	62 gns.*				

*Including Microphone.

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The "Elon" tape recorder. This favourite, long established, quality recorder is now made entirely at the Sonomag works. It offers a larger speaker, refinements of switching, monitoring, superimposition facilities, and can be seen and heard at the Fair.

THE SONOMAG ADAPTATAPE

The Sonomag Adaptatape, illustrated on the left, was the first system successfully to use a special hi-fidelity pre-amplifier forming an integral unit with the latest Collaro deck. Although imitated, this has never been surpassed. Its effect is to couple a tape transcrip-tor to your own high-quality amplifier and speaker system. The price of 38 gns. includes a special power pack; tape and microphone extra, to choice.

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W.C.2

April 18th-21st, 11 a.m.-9 p.m.

STAND 53

DEMONSTRATION ROOMS 222-223

Our demonstration room, at Stockwell, will be open on Monday April 14th, Tuesday April 15th, Wednesday April 16th and Thursday April 17th, for special pre-view of Audio Fair exhibits. Avoid the crush, come and have a drink and cigarette and view the exhibits in comfort. Admission by trade card only. 9.00 a.m. to 9.00 p.m.

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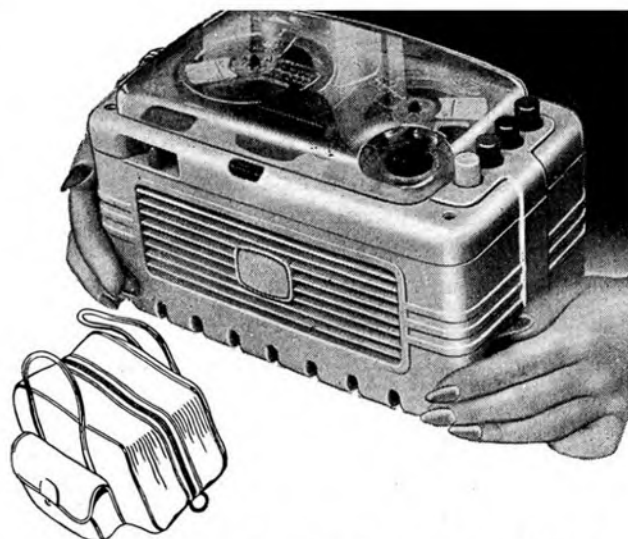
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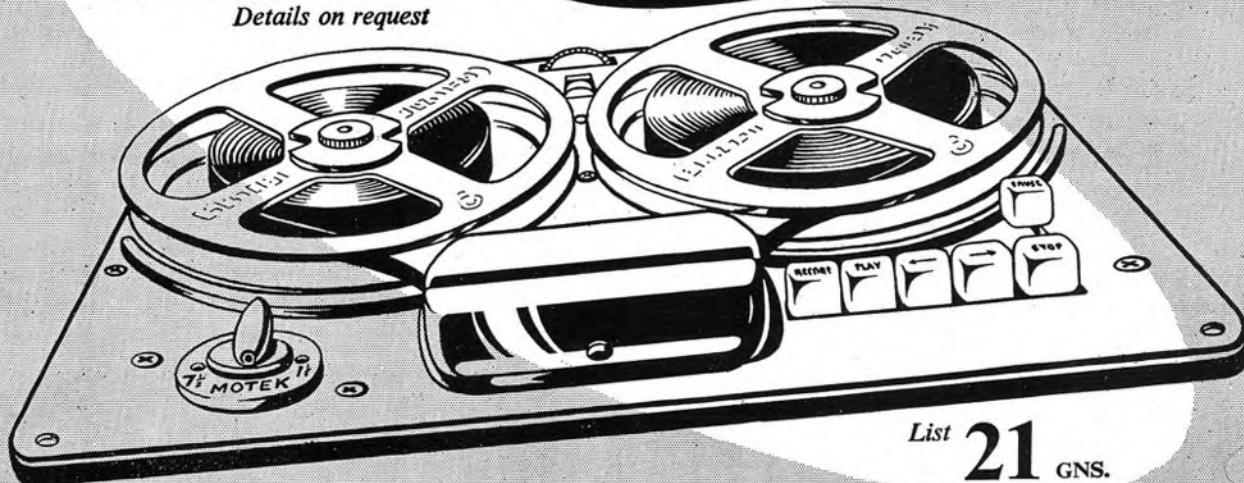
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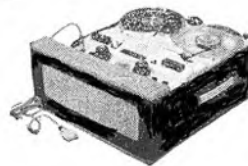
a tape recorder to be proud of

This is said, we feel, not without reason. It is not another advertising slogan to attract the prospective buyer! Here is *the* perfect tape recorder at a price you can afford.

Apart from the usual features, common with the more expensive tape recorders, the Magnafon M1 uses the latest Motek tape deck which brings you a new speed of $1\frac{7}{8}$ inches per second (together with $3\frac{3}{4}$ " and $7\frac{1}{2}$ " per sec.) giving a maximum playing time on L.P. tape of 6 hours per spool!

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Price, inclusive of microphone and spool of tape, **48 gns.**



THE MAGNAFON '58'

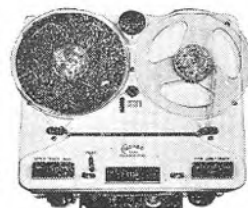
another highly successful tape recorder with very advanced push-pull bias and erase oscillator. Bass and treble controls. Monitor through own built in twin speakers. Price, inclusive of microphone and spool of tape, **62 gns.**

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latest Collaro type transcriber, with complete recording amplifier and playback pre-amplifier, fully equalised at all three tape speeds. Is self-powered and needs only connection to amplifier or radio.

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Sound organisation

OUR READERS will have noted in recent issues news of the formation of a number of new societies and clubs to bring together tape recording enthusiasts. The pattern that is emerging is of clubs organised on a local, town or regional, basis. This appears to us a natural and healthy development, because it is only in this way that enthusiasts are able to meet regularly for a personal exchange of experiences. In this issue, Mr. John Amphlett, the chairman of the London Tape Recording Club, seeks to take matters a stage further with a proposal for a Federation of Tape Recording Clubs.

It is clear that we have reached a point at which the situation of club organisation requires some careful thought.

In the present exciting phase, with new clubs being formed up and down the country, *Tape Recording Magazine* has only one aim: to be of the maximum assistance to enthusiasts everywhere, giving help and encouragement and guidance where it is needed, but seeking no formal associations. Our complete independence can, we believe, best serve the club movement.

On another page, those who are interested will find news of ways in which we may be able to serve.

And what of the idea of a national federation of clubs? We believe that this will soon be seen to be an inevitable development. It will be unfortunate if there should grow up a series of competing clubs, fighting for membership in overlapping territories. A federation could ensure friendship and co-operation, where otherwise there might develop rivalry and acrimony.

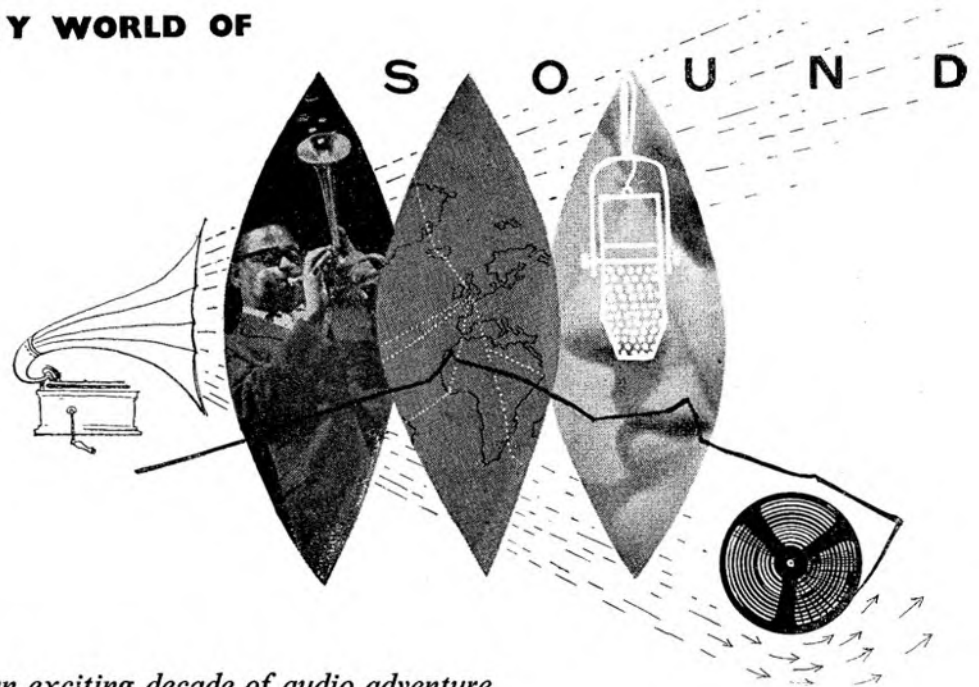
There is a further important point. Mr. Amphlett's proposal appears to be a federation with officials democratically elected each year, organising clubs which will be encouraged to proceed on the same lines. All honour is due to those enthusiastic individuals who themselves shouldered the worries and the work of getting the early clubs going; it was inevitable and understandable that decisions should become concentrated in a few hands.

But when a movement becomes national to the extent that it has local organisations in most towns and cities, the needs change.

It is a strong British tradition that in such cases the conduct of all the business of such organisations shall be in the hands of the members themselves, working in accordance with a constitution, electing the officials of their choice at regular intervals, deciding for themselves by free discussion the course they want to take.

We believe the idea of a National Federation of Tape Recording Clubs deserves careful attention, and we hope that Mr. Amphlett may achieve his aim of a conference in the near future.

MY WORLD OF



ERIC PAYNE recalls an exciting decade of audio adventure

MY first reaction on hearing a gramophone record was to jump up and down excitedly shouting "I want to see the man in the box," but I do not remember this incident personally, for I was a tiny boy in the late 1920's. I do, however, remember listening to a crystal set with a large pair of headphones clamped over my head, in silent awe at this modern medium they called the wireless.

My first close acquaintance with the gramophone came in the early 1930's. I have a vivid memory of a Sunday morning and the morning sunshine streaming in through the window, enhancing the gleaming polished cabinet of the gramophone. I remember the anguished look on everyone's face as I played for the umpteenth time *The Isle of Capri* or *New Moon*. I often look back wistfully on that superb hand-made and hand-polished piece of furniture and think what a wonderful housing it would make for my present hi-fi equipment. By now we had acquired a nice collection of records, but one stands out in my memory; an American disc, beautiful orange in colour, titled in fancy gold scroll. The two titles were *That Redhead Gal* and *Snake's Hips*, and the price was ten cents.

Progressing with the times, we purchased an electrically operated turntable—at about the same time that I got my first glimpse of television. This turntable worked with push-button radio receiver, the very latest thing at the time. By now, I had a library of several hundred discs and one of my most delightful memories is of the Sunday afternoon record sessions I shared with my friends in the immediate post-war years. We played everything from Borodin to boogie and listened to each disc in rapturous silence; immediately it was over, we discussed it with the fervour of experienced critics.

It was not until 1948 that I heard my own recorded voice. An acquaintance took me to the home of a friend who was an amateur recording enthusiast and, after examining and

hearing the equipment, I was invited to record my voice. I was pushed in front of a large and imposing microphone on a floor stand and told to speak as soon as the red light went on. Need I add that when the red light went on I went to pieces. I stammered and coughed for a minute, then managed to pull myself together and discussed the weather. I don't need tell tape recording enthusiasts the horror I experienced on hearing the result.

At this point, I was diverted from discs and sound recording by the allure of the television screen and for some time took a keen practical interest in this medium. Not until 1952, when I lost my sight, did my thoughts again turn to sound recording and that world of sound I had discovered as a boy.

I first heard my voice recorded on magnetic tape while I was on a training course at the Government Training Centre at Letchworth, in Hertfordshire, and it immediately set me thinking about the practical possibilities that tape recording offered a blind person. Shortly after my return home, having settled in employment, I purchased my first tape recorder, an original Elizabethan 56. I look back on it as a sentimental milestone in my experience in the world of sound. It gave my wife and I many hours of pleasure and entertainment, besides doing a useful job of work. With it we first established continuous personal contact with two dear friends in the U.S.A. who purchased a recorder at the same time.

Magazine on Tape

It was also in these early days of tape recording that I joined a small group of people who formed the original Amateur Tape Recording Society in this country, with a membership that grew to about 100 under the guidance of Mr. Gordon Widdup, of Rochdale. It was during the existence of this Society that Mr. John Amphlett and myself first envisaged a magazine on tape. We appealed to members of the Society to make a donation of 2s. 6d.

towards the purchase of the necessary tape, for there was no subscription to the original Amateur Tape Recording Society.

In November 1955, the first edition of the original A.T.R.S. Tape Magazine, edited by Mr. John Amphlett and myself, was issued. Eight subsequent editions were issued, after which both the magazine and the Society failed through lack of support. Innumerable hours of hard work and heavy use of equipment, to say little of the expense, had been put in by Mr. Widdup, Mr. Amphlett and myself. But I gained much experience and many friends, and I shall always be indebted to my very good friend John Amphlett for his candid and kindly criticisms and his valued and experienced help in perfecting my recording technique.

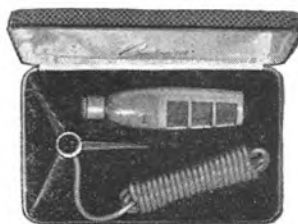
I had, of course, by now entered very much into the hobby of tapesponding. I am afraid that in those early days I was not so fortunate as some, and suffered a number of disappointments; but, with the passage of time, I built up a number of regular and sincere contacts. These people, in many parts of the world, have become our personal friends, whose interests and lives we share, and for whom we have a sincere affection.

Blind Service Beginning

In the winter of 1956, Mr. Amphlett and I were approached by Mr. Ted Yates with a view to re-establishing and editing a new tape magazine, in conjunction with his newly-formed B.A.T.R.S. We produced and edited the B.A.T.R.S. Tape Bulletin until April 1957. I think the April 1957 edition truly reflected sincerity, much hard work and, above all, a combination of a wide range of tape recording experience.

At the same time that I was doing this work, I organised and established the Blind Services Section of the B.A.T.R.S., a post which I relinquished in August 1957. I am still actively engaged, with the assistance of my wife, in providing material on tape for the blind, a service which I have rendered privately for a number of blind friends since 1955. This consists of a quarterly magazine on tape, circulated on a rota system; this tape magazine is heard in many parts of the world. My wife and I also provide books and other reading material, read on to tape chiefly by my wife. Some of the material we choose ourselves, other is being requested by our friends, and new editions are announced in my quarterly tape magazine and circulated on request. The whole service is free and, although it involves a considerable amount of time and a little expense in postage and wear and tear of our equipment, we thoroughly enjoy doing it. We know that our blind friends are very appreciative. We derive a great deal of satisfaction in bringing pleasure and entertainment to others who suffer the same handicap as myself: books, news, views and entertainment to which they would not normally have access.

This, then, is my World of Sound, a world in which I am compelled to live by virtue of my blindness. I have come a long way since those far-off days of the crystal set; I have mentioned briefly a few links in the chain. But I have omitted the most important. I refer to the people who make my world of sound a possibility. I would like to extend my humble thanks to everyone concerned, from Thomas Edison to the designer of today who, in his back-room, is preparing my tape recorder of tomorrow. These people have given me innumerable hours of joy and entertainment.



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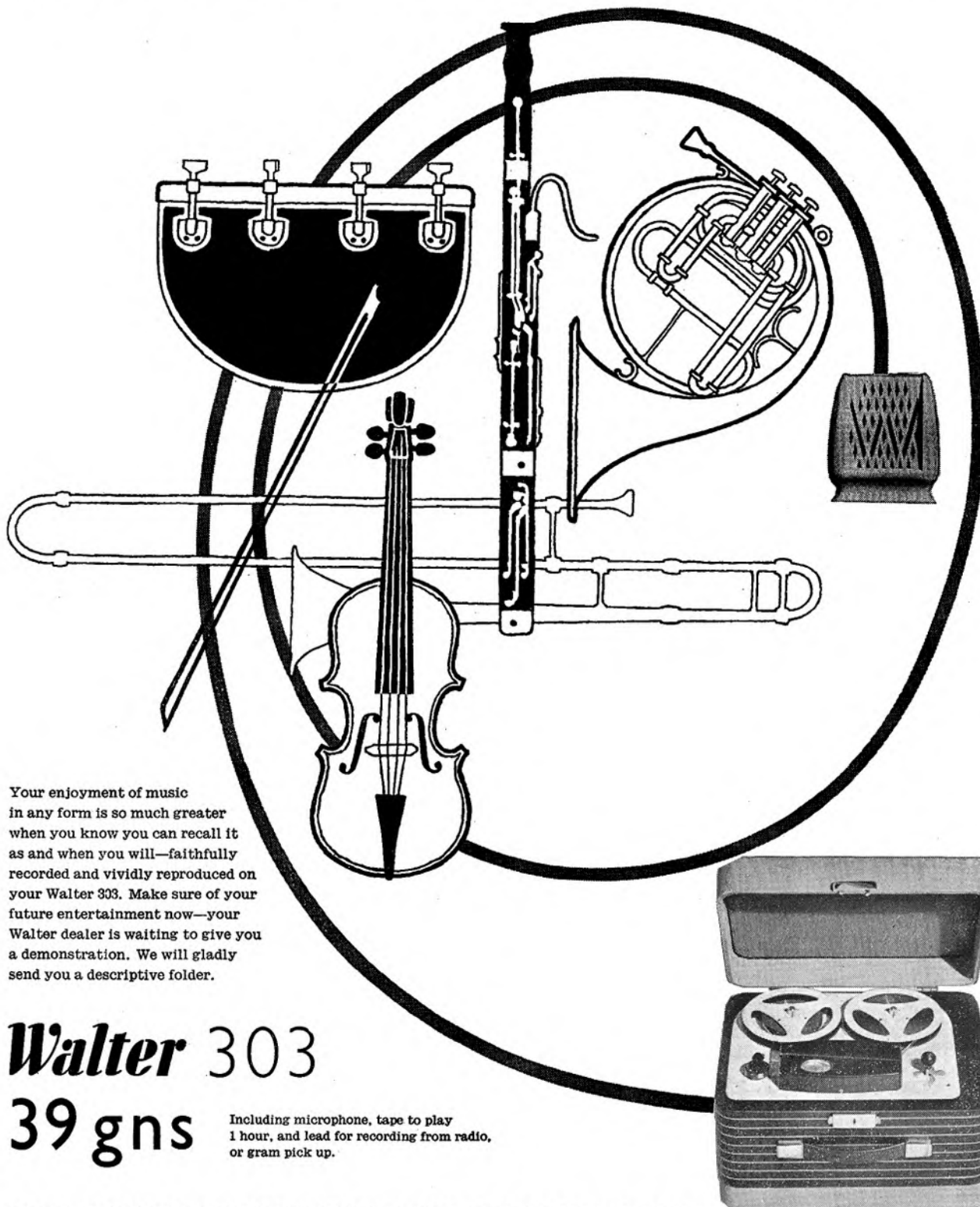
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The role that magnetic tape is likely to play in creating the

MUSIC OF TOMORROW

BY BRYAN WHITTON, F.R.S.A., L.R.A.M.

THE development of the tape-recorder can be said to hold the same significance for the composers of electronic music and musique-concrete that perfection of the standard orchestral instruments held for the early symphonists.

By facilitating the juxtaposition and superimposition of sounds impossible to achieve "live" in the concert hall, the tape-recorder has made two very important niches for itself in the history of the world's musical development.

I have been careful to stress that there are two forms of tape composition because, although they both depend on tape for their existence, their ideals and theory of composition are essentially different.

Musique-concrete seems to be an extension of the romantic school of composition. It aims at merging the accepted sounds of concert music with the sounds of the external world. The logic of this is plain enough; why attempt to imitate a train or a sigh of an orchestra when the real thing is obtainable?

Braque and Picasso argued this same point out for the painters when they experimented with collage and, earlier still, the medieval artists who glued gems to their sacred paintings.



The musician's resources are not so very different from those of the painter. Early on George Antheil introduced aeroplane engines and telephone bells into his Ballet Mechanique. The composer merely gives these external sounds a setting and a shape.

Secondly, musique-concrete exploits the full possibilities of a single sound and a single sound source. For instance the common chord of C major sustained on the piano can be played backwards so that a climax occurs at the point of impact. It can be played fast or slow; it can be repeated indefinitely; certain harmonics can be filtered out and a complete piece of music built up.

So much for musique-concrete, the exploration of living sound. It has overflowed into the concert hall; Pierre Boulez has written piano music in which the lid of the piano and the strings are struck in a most unorthodox manner; and Bartok's violin trick of playing with the back of the bow is almost common practice. The current production of *The Tempest* at Drury Lane has musique-concrete for its incidental music.

The electronic composer does not attempt to create the illusion of an infinite electronic organ, which is itself a poor imitation of the real thing. You will not find lush harmonies but vague and unplaceable twitterings, disturbing rumblings, a mixture of sensuality and cold mathematics.

These sounds, unassociable with past experiences as they are, do arouse some emotional response which is not directly antagonistic. The advice given to the tyro making his first flight is applicable to listening to electronic music; relax and go with it, try to be absorbed into its texture. It is a question of complete surrender.

At this stage of its development, to question the actual aesthetic validity of the sounds produced is doubtful policy. Remember that Mozart was thought to be unbearably chromatic, that the last quartets of Beethoven are still posing problems for the listener and that Stravinsky is already considered by some to be a little old-fashioned!

The reason for such a cautionary preamble is that electronic music is more cerebral. It can be said, roughly, to be part of the Bach-Schoenberg development. It is possible to synthesise all sounds electronically, so in electronic music all is possible.

This unbounded freedom is, in fact, the most fettering dilemma in which the composers find themselves. How does one select tone colours from an infinite palette?

Electronic composition is not concerned with pre-existing and

accepted sounds or harmonies. One of its major drawbacks at the moment is that its exponents consider that freedom from accepted forms is essential if they are to explore their new sources in an unbiased way. Unfortunately, new sound and new form tend to produce chaos in the mind of the listener who has to rethink right from fundamentals; which, in my opinion is a trap into which Mozart and Berlioz, great experimentalists that they were, did not fall.

Basically, electronic composers are concerned with the logical permutation of fundamental sound frequencies and "white sound," or blocks of waves of all frequencies in a predetermined frequency band. This is not quite new: oriental music has incorporated "white sound" for some thousands of years and we are quite accustomed to hearing it when we twiddle the knobs on our radio sets.

Electronic music may sound random and incomprehensible but its creators subject themselves to the most rigid disciplines, and we who find difficulty in understanding it must at least give them credit for the incredible labour and aesthetic conscience-searching which they have to go through to produce it.

On a more personal level, it is exciting to produce and experiment with these new art forms oneself. For electronic music an audio-frequency generator is necessary—or why not those tantalising oscillations on your radio?

For musique-concrete, anything lying around the house is a potential noise maker. A splicer, a continuous tape and, if possible, two tape-recorders are all you need to complete the set-up.

It is helpful to glance at a textbook on orchestration or at least familiarise yourself with sonata-form. Above all, try to give your composition a shape. Make use of all the tricks of acoustic perspective, superimposition and mike technique you know of. Start with a limited sound palette. Match up the timbres of your noises and try to work out your composition beforehand, although by all means "jam" sometimes.

An example of the range of equipment used in electronic composition

B.B.C. photo



More voice contests please

A TAPE recording contest recently helped to discover the owner of the best voice at Chatham telephone exchange. The winner was 17-year-old Veronica O'Neill, of Gillingham, and her "clear honey-sweet" voice will be used to tell Chatham subscribers when they have dialled a wrong number.

I am all in favour of voice contests on every possible pretext and, if ever I am asked to judge a beauty contest, I shall refuse unless the recorded voice is included as part of the essential equipment of a prospective beauty queen. In fact, I should prefer to judge eyes and voice alone, and let the other attributes be accepted gratefully but without undue adulation.

I cannot see much profit to humanity from putting the owners of combinations of vital statistics in a certain order of preference; but I am sure that voice and diction contests can play a part in improving the lot of mankind.

We spend an awful lot of time listening to our fellow creatures and, quite irrespective of whether they are talking sense on the most fascinating of subjects or absolute drivel on the dullest of everyday topics, our life during that period can be hell on earth, a negative thing, or a near-sublime experience, depending on whether the speaker's voice beguiles, by-passes or batters us.

Yes, please; more voice contests. And, in any case, let all who own tape-recorders carefully consider their own speech. We cannot all acquire the liquid golden tones with which nature has endowed some happy beings, but we can, by self-criticism and effort, substitute pleasant inflections for the dull drone, clarity for the mumble, gentleness for harshness, and a proper degree of expressiveness for the non-committal make-what-you-like-of-it string of words and sentences.

Naturally, differences due to dialect are a different proposition. Perish the thought that I should wish to rob the world of these. In fact, I have already faced, without flinching, the secret conclusion that the tapesponding genius of the Scots is destined to ensure that theirs will become the native tongue of half the earth before the century is out.

The Art of Tape

THE articles by Harold Rottesman were among the most fascinating things I have read for a very long time. One idea, to my mind, emerged with particular force—the difference between sound programmes made on tape by individuals and sound programmes created with all the immediate resources but a limited amount of time by the B.B.C.

At the root of every art is an awareness of the true nature of the medium,

and I believe Mr. Rottesman has put his finger on something vital when he draws attention to the opportunities represented by the slow, accumulative process apparently forced on the tape-maker whose only association with broadcasting is with reference to the possible use of the finished tape.

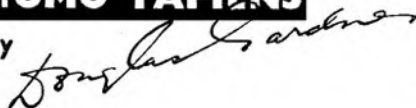
Limitations and special compensations, when they are accepted and turned to advantage, are the basic material of a true art form, which cannot trail in the wake of some other art, but must produce work of a kind which no other medium can effectively produce at all.

Mine Recorder

AT the Hotel and Catering Exhibition in London recently a machine was shown which records "words and music" on postcards, which can then be sent home. Not a bad idea; but, while they are about it, surely it would be a better idea if hotels had tape recorders installed for the benefit of those who would like to send home a longer message? Many

HOMO TAPIENS

by



of the American tourists who visit Britain would, I feel sure, appreciate the facility—and be glad to pay for the service, if necessary.

And, as usual, once the basic idea has registered, one can see many other uses for tape recorders in hotels, including the following.

Visitors could record their activities and impressions each day in serial form on a long tape. Even if they do not own a tape recorder themselves, they might wish to have such a record for the day when they do buy one.

Hotels could arrange with a typing agency, or one or two local typists, to deal with correspondence dictated to tape.

Taped programmes of music could be broadcast in the lounge, or even talks by local experts on what to see and do.

Holidaymakers faced with a rainy day could hire a recorder for amusement. Tapes might be on loan, including readings from the literature of the locality and recordings of local activities (such as the Helston Furry Dance).

A really enterprising proprietor would probably invite talented and interesting guests to record a message or make some other contribution to the "tape history"

of the *Goat and Compasses*. Such tapes, well edited, could become valuable, for notabilities of all kinds turn up at hotels and inns, and at such times are often more relaxed and communicative than normally.

I know a little inn in Kent where Ellen Terry used to stay sometimes. What a joy it would be for a tourist today to hear her giving her impressions of the village and the countryside around, as she saw them.

Tape Crosby

THE first two issues of *Tape Crosby* have been issued, in association with the new "Crosby Collector" magazine, referred to previously in these columns.

The method used in recording the tapes has been to start off a discussion about some aspect of Bing Crosby's art and achievement, then to circulate the tape among members, who each record four or five minutes of their views on the issue under consideration. In this way, by the time the tape has gone the rounds, an interesting and varied debate has taken place and members can then hear the full recording.

On the first two tapes such questions as "Was Bing's voice better in the 'thirties than it is today?" and "How far was Bing responsible—and how far Grace Kelly—for the one-million sale of the disc of 'True Love'?"

The method being pioneered by this group is obviously suitable for any group with a specialised interest, but with widely separated members, and we look for an extension of the idea.

Those who are interested in *Tape Crosby* should write to Mr. Stan White, the President, at 61, Stanley Street, Rothwell, Northants.

Sound Archives

IAN ARNISON has been telling me about a chat he had recently with Patrick Saul, secretary of the British Institute of Recorded Sound. He seemed to have had a fascinating time looking at some of the earliest contributions to the archives, already a part of history.

The work of the Institute seems to be gathering momentum, although they are conscious there is a long way to go, in order to provide for sound the sort of archive activities that are available for literature. I feel sure that many readers can think of ways in which they can help the work of the Institute.

Mr. Saul is always interested to hear of out of the way recordings for preservation, and he is equally interested in tape and disc. If you can help drop him a line at 38, Russell Square, London, W.C. 1.

Tape Types

by Alastair



In two previous articles the author detailed various methods of keeping tape in sync. with film, by watching strobes and various automatic devices. In this final article, he discusses some of the problems which beset the amateur ciné worker who tapes films, and how to overcome them.

SOUND AND CINE

Stanley Jepson, ARPS

ALWAYS remember that recording for ciné is a hobby, to be enjoyed. Take your time over it; savour it to the full as with a fine wine; never rush through just because you want to get on with the showing. You will only be sorry afterwards, and probably decide to do it again!

Before you start work on the sound track, make quite sure your film is finally edited, and that you are not going to change your mind about the order of shots later on. Select the music carefully, and try it out while the film is running. Change where the scene and tempo demands. Make a cue list of what music comes where and don't rely on memory. Select the opening music carefully, and, if you are working with discs, see that the end of the film coincides with the end of a record, if possible. One way is to time carefully; another is to lace up the film backwards, from the end title, and project while playing from the end of the record. Then place a chalk mark on the record for cue start. The record arm will, of course, have to be placed round so that it plays from end outwards.

Refinements such as a well synchronised ending give your tape near professional quality.

Next write the commentary, adding useful information of real interest and lightness, and skipping what is obvious from what appears on the screen. Before you start, time the shots. I measure my shots on a footage counter, transferring into seconds before writing, but this is not essential.

Now cut and rewrite, if necessary—you've probably written too much. Allow a slow speed—around 120 words a minute—prepare your script in lines which represent five seconds. Leave gaps for the music to come up from the background here and there.

If you have ideas about sound effects, use them with restraint, and not too often. Some keen people store these on tape; and the scope is limitless and they give a touch of realism. But unless well done, I think they are better omitted. Traffic noises, harbour sounds, weather, crowds, laughing children, plane noises . . . once you start, there is no end to this business. Note sound effects in the margin of your script, as well as music changes. Provide a copy for any assistant who is helping with the music.

If there is any possibility that you will show your film outside your own home, you must consider carefully the law of copyright. The Institute of Amateur Ciné has special arrangements to solve any difficulty on this score.

Now it is time for a run-through, with your wife or a friend bringing up the music when the commentary stops. Before you resume the commentary, give a five seconds warning by hand signal so that the music can be faded slowly. There should still be some audible sound *in the background*, distinct enough to be heard, but never competing with the voice. Keep a constant distance from the mike, with a constant volume.

Someone else will be needed to put in the sound effects, so this is a team effort.

Happy the man who can borrow a spare tape recorder on which the music and effects can be recorded down the wire. Then you can play this background while talking into the mike, with your own hand on the volume control, so that voice and background are neatly married.

Before you do this, I suggest you take a duplicate of the music on another tape—just in case you fluff it.

If the borrowed recorder is running at a slightly different speed from yours, this will not matter unless you have included

IT'S EASIER WITH HELP

quick sound effects on the tape. In this case, you can copy twice, from A to B, and then from B to A, and the second recording will be at the same speed as the A machine, any error being cancelled out by this double duplication.

For the lone worker who cannot command the services of wife or friends, the above is not possible. The solution is either two recorders used as above, or, better still, superimposition through a variable bias.

This is my own method, using a Celsonic which has S.I. I first record the musical background; this is not done on direct recording, but with the S.I. on variable bias. This enables me to do it in sections, stopping and starting. Sometimes I wish to cut in from my second tape recorder from a tape library, and you cannot start recording until the capstan gets up speed, so there is a silence of some seconds.

Having recorded the first sequence of music, I fade down and stop, and then move back the tape five seconds (measuring off 37 inches along a tape measure); I also move back the film in the gate (two feet, with 16 mm film). When I start the next piece I fade up and also use the S.I. lever at the same time, thus getting a musical mix, equivalent to a lap mix on film. There is no loss of sync, and it takes only a second to move film and tape back, when you are used to it.

So on to the end, without getting flurried. The next time the film is put through, any sound effects are superimposed. I play the resulting tape while running the film, and if any music is too loud, I tone it down with a little magnet which erases about ten per cent of the sound. I do this on the running tape!

Then I make a duplicate, leaving out any variations of volume which are obvious.

I then take my little recorder into the next room and prepare to record the voice commentary only on another tape. It has to be in the next room, with the picture showing on a screen fixed in the projection part of my office, otherwise the mike would pick up projector noise. I tried putting the projector into a blimp but it grew too hot and cracked a condenser lens. Perhaps a different kind of uni-directional mike used at a distance from the office screen would obviate this.

Having got the voice commentary, I lay it over the background on the first tape.

Two things have to be watched. First the starting point. At a known part of the film I say "Cue, end of title" and when this is announced I know that my commentary will begin in so many seconds. Recording the voice tape over the music is done along the wire in the office. I place the tape with the word "Cue" in the soundhead, and shall start the recorder when the end of title appears on the screen, so getting into sync. I hear this cue sentence but it is not recorded because only after the required number of seconds do I turn up the volume control.

(Continued on opposite page)

Two experts this month discuss methods of "marrying" effects

John Aldred

BUT YOU CAN DO IT ALONE

LAST December I talked about using your tape recorder to add a sound track to an 8 mm. ciné film. The tape controlled the projector speed to keep it in sync., and having made a satisfactory recording of music and commentary, that was that. But not everybody is content with such a simple set-up. A more ambitious project in which magnetic recording plays a leading part is shown in the photograph of Marie Partridge of Amersham. Marie is a keen ciné enthusiast who takes full advantage of ¼-in. tape when adding sound to her movies.

The film Marie is shown making is on 16mm. It depicts life in the Sea Cadets and has a commentary with music and sound effects, some of them synchronised. Since the whole film lasts for 20 minutes it was considered inconvenient to record all the sound in one take; this meant dividing the film into four sections of sequences.

The first recordings made were the sound effects. These consisted of marching feet, a few Bugle calls, morse code effect,



Marie Partridge with some of the equipment with which she adds sound to her films, as described in the article below

water splashing, and dog barking etc. It is these effects which required the presence of the triple turntable unit seen in the illustration.

Where a number of sounds have to be played to a film and mixed together, it is far easier to handle them on discs. There is no time to rewind tapes and locate various marks indicating sections required. Effects on disc can be accurately located and brought into use by means of a pick-up dropping device at the touch of a lever.

These discs are prepared from the tape originals so that the effects are in chronological order as required for the film. Sounds which are to be mixed together should not of course be recorded on the same side of a disc; also, effects which directly follow one another should be on separate discs to enable the incoming effect to be pre-located and a mix across made at the appropriate moment.

There is very little music in the film, and this was recorded by Marie on the barrack square using a band of the Royal Marines. A Vortexion recorder operating from the mains supply of the barracks produced on excellent tape. The original was deemed too precious to use, so a copy was made as an insurance against accidental damage or erasure. This was cut into sections as required and joined together with white leader tape for easy identification.

The next recording made was the commentary, four separate takes, one for each section of the picture. This was read from a typewritten script while the picture was running. The commentator did not watch the screen but kept his eyes on the script. A tap on the shoulder from Marie was the indication to continue the next paragraph.

The projector was not connected to the tape recorder in any way, but a Creed governor fitted to the motor kept it running at a constant speed. This was sufficient to enable the commentary to be played back in sync., with the picture.

You will see that, step by step, Marie built up her sound track single-handed and only the final combining process remained. This required three turntables and three tape recorders to play off the effect discs, music tape, commentary tape, and record the final track.

The mixing controls are on the front of the turntable unit and the output monitored over a speaker. To bring the music and effects in on cue a temporary mark was made on the film with a chinagraph pencil.

To enable standard prints to be made of the film, which could then be shown on an ordinary sound projector, it was necessary to have the sound printed alongside the picture. This is called optical sound and is obtained by sending the final tape to a studio where it can be transferred to film on a sound recording camera. This film is then synchronised with the picture and a combined print made which is the final article.

We are now quite a way from the original sound, sometimes as many as four recording processes; and it is only possible to obtain a satisfactory result through using magnetic recording as an intermediary process. So, providing you can muster enough equipment, quite a complicated sound track can be prepared at home, even when you are single handed.



STANLEY JEPSON

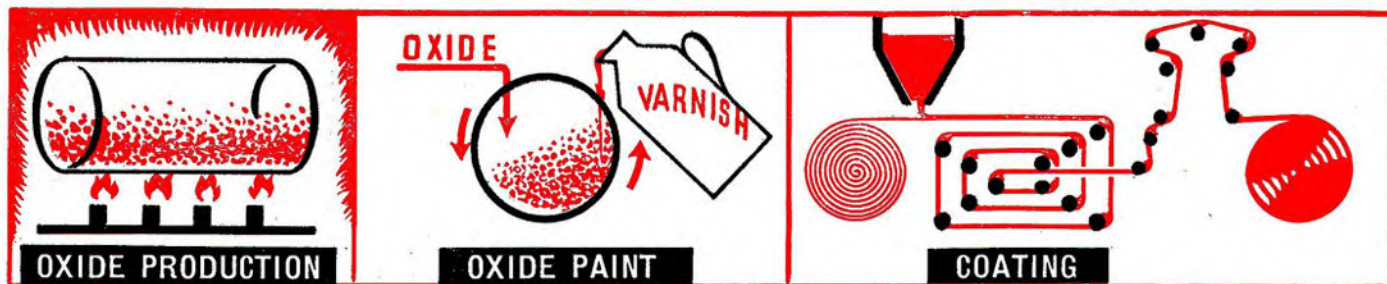
(Continued from previous page)

The second thing to watch is the degree of erasure of the variable bias, registered on a control labelled from 1 to 10. This is a matter of trial and error; you want to leave just enough music to be audible, but not too much to compete with the voice. Therefore at the end of the music recording, I carry on for another half-minute or so with music for tests. Over it, I later superimpose the tape voice, first at S.I. 2, then a gap, then at S.I. 3, and so on. When played back, I get a correct idea of the degree of erasure required on the variable bias. It depends on the kind of tape used and the strength of the original recording. I find on good quality tape I like from 2 to 4 (maximum being 10). It is easy to get the voice too loud in this copying business.

Later on, if desired, one can add other short sound effects over the musical passages (but not over the voice; the voice must always be put over the effects). With S.I., the tape may be made to take any number of superimposed recordings, though too much of a mixture is not good, of course. Exactly how far to erase a cheering crowd noise over a distant band, with commentary over all, is quite a nice problem!

Though I use a separate tape for the voice, marrying later on, it is quite easy to record the commentary over the music on my Celsonic, without the need for two recorders, but one has to be far enough from the projector to prevent its noise getting to the mike.

This direct method has the advantage that one is able to stop during any commentary gap (mark the tape with white), rewind and listen to the result before proceeding. With marrying voice from a second recorder this is still possible, but more tricky, owing to the problem of stopping and restarting both machines together.



THE MAKING OF EMITAPE

The fourth stage in the making of Emitape is the slitting of the coated film to the standard $\frac{1}{4}$ " tape widths.

For the finished tape to run accurately through a recorder, the cutting system must produce a clean cut of uniform width, which has no longitudinal curvature and which, to avoid distortion, winds up at the correct tension.

The machines shown here can cut up to 58 tapes of 5,000 ft. in length in one operation. To obtain a sharp cut free from microscopic shreds of film, the cutters are made of specially selected

steel; while to maintain the fine limits of tolerance of $\pm .001$ " in width, individual tapes are checked by photographic enlargement after each re-assembly of cutters.

A separate drive with a clutch device is provided for each reel to ensure accurate control of tension on each individual slitting this system takes care of the differential in diameters that can arise from the accumulation of minute variations in base film thickness within the several thousands of turns in a full length reel.

EMITAPE *the world's finest magnetic recording tape*

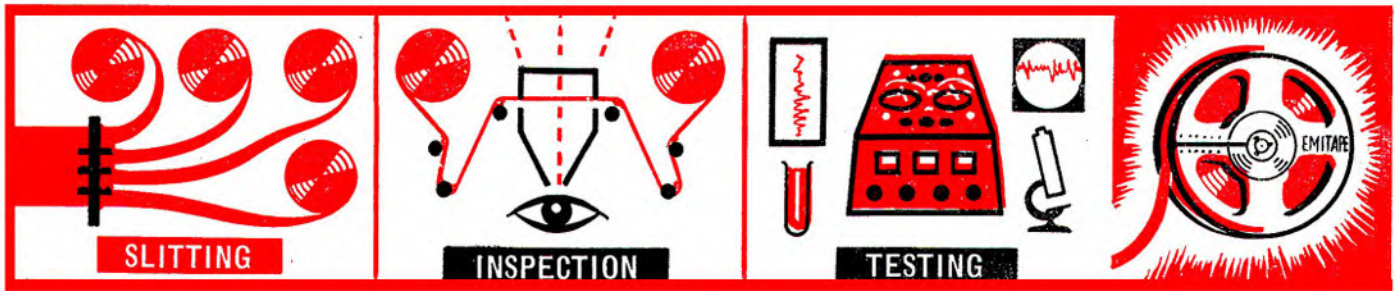
EMITAPE is produced at Hayes, Middlesex, by E.M.I. in the largest magnetic tape factory in Europe. E.M.I.'s technical skill and accuracy and over 60 years of research in sound recording ensure that EMITAPE is the finest magnetic recording tape in the world.

EMITAPE consists of a PVC base film coated with magnetic oxide particles. Heat treatment first renders the oxide particles magnetic and they are then mixed with special varnish for adhesion to the base. The coating

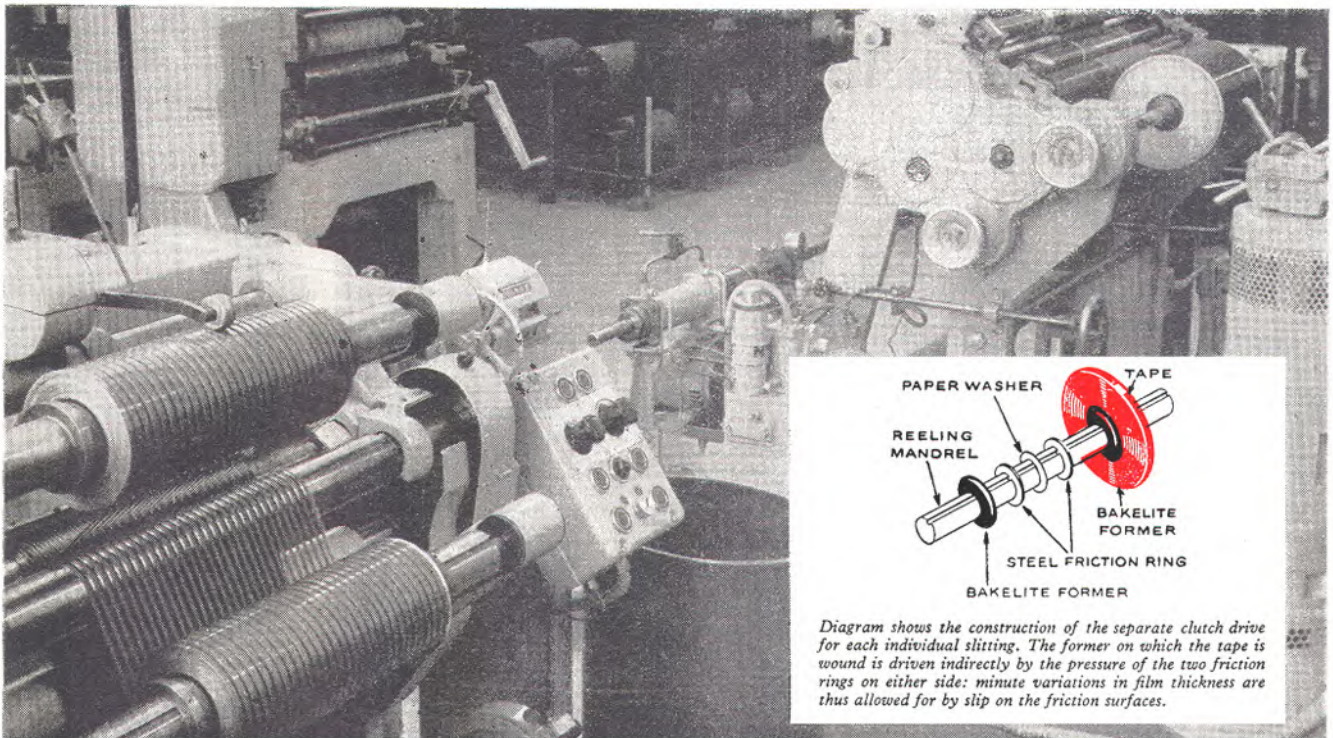
process is a highly critical operation where every effort has to be made to ensure that the tape surface is completely free from foreign particles.

In the next stages, the coated film is slit by precision cutters to standard $\frac{1}{4}$ " widths and wound on to the various size spools. Individual visual inspection and thorough laboratory tests for possible electrical defects ensure the consistently high quality of recording which only EMITAPE can give you.

E.M.I. SALES & SERVICE LTD
 (Recording Equipment Division)
HAYES • MIDDLESEX • ENGLAND



STAGE 4 **SLITTING**



HERE ARE EMITAPE'S OUTSTANDING TECHNICAL FEATURES:

- * High sensitivity.
- * Low noise level.
- * Low print through factor.
- * Anti-static.
- * Freedom from curl and stretch.
- * The new polystyrene container, EMICASE, solves your tape storage problems. Emicase can be placed upright on a shelf or between bookends, protecting spools from dust and damage, and giving easy identification of leader tapes.

EMITAPE "88" General Purpose. EMITAPE "99" Long Play, giving 50% increased playing time.

E.M.I. SALES & SERVICE LTD
(Recording Equipment Division)
HAYES · MIDDLESEX · ENGLAND

SIXTY FIRMS SHOW MANY NEW PRODUCTS AT THE AUDIO FAIR

SIXTY firms are exhibiting in this year's biggest-ever London Audio Fair at the Waldorf Hotel, Aldwych, from Friday, April 18 to Monday, April 21. Over 50,000 people are expected to visit the Fair.

Advance reports make it clear that many very interesting new developments in the tape recording and reproduction field will be revealed for the first time on the manufacturers' stands. The next issue of **TAPE RECORDING MAGAZINE** will be a special Audio Fair number and will contain the first full published details and photographs of the new products.

It will be on sale during the Fair on our own stand—number 4, which you will find just inside the entrance. Members of our staff hope to meet many readers there.

Admission tickets for the Fair are available from **TAPE RECORDING MAGAZINE** free of charge. State what day you wish to attend, and enclose a stamped, addressed envelope. When writing to us, mark your envelope "Audio Fair."

The following firms will be exhibiting at the Fair:—

ACOUSTICAL Manufacturing Co., Ltd.; A.K.G.; Altobass Ltd.; Armstrong Wireless and Television Co., Ltd.; Associated Electronic Engrs. Ltd.

BBRITISH Broadcasting Corporation; Beam-Echo Ltd.; Brenell Engineering Co., Ltd.; British Sound Recording Association; Burne-Jones and Co., Ltd.

CHAMPION Electric Corporation Ltd.; C. T. Chapman (Reproducers) Ltd.; Collaro Ltd.; Cosmocord Ltd.

DULCI Co., Ltd.; Dynatron Radio Ltd.

E.A.P. (Tape Recorders) Ltd.; Electronic Reproducers Ltd. E.M.I. Sales and Service Ltd.

GARRARD Eng. & Mfg. Co., Ltd.; General Electric Co. Ltd.; General Gramophone Publications Ltd.; Goldring Mfg. Co., Ltd.; Goodmans Industries Ltd.; Goodsell Ltd. Gramophone Record Review; Grampian Reproducers Ltd. Grundig (Gt. Britain) Ltd.

HARTING, Wilhelm; Hi-Fi News.

JASON Motor and Electronic Co., Ltd.

KOLSTER-Brandes Ltd.

LEAK & Co., Ltd.; Lowther Mfg. Co.; Lustraphone Ltd.

MINNESOTA Mining and Mfg. Co., Ltd.; M.S.S. Recording Co., Ltd.; Mullard Ltd.; Multimusic Ltd.

PAMPHONIC Reproducers Ltd.; Philco (Gt. Britain) Ltd. Pilot Radio Ltd.; Pye Group Records Ltd.; Pye Ltd.

THE AMATEUR TAPE CONTEST

A DETAILED announcement regarding the 2nd British Amateur Tape Recording Contest will be published in our next issue. In the meantime requests for entry forms are reaching us in a steady stream.

Write immediately for your form to Tape Recording Magazine, 426, Camden Road, London N.7, enclosing a stamped, addressed envelope.

RADIO Gramophone Development Co., Ltd.; R.C.A. Gt. Britain Ltd.; Rogers Developments (Electronics) Ltd.; Rola Celestion Ltd.

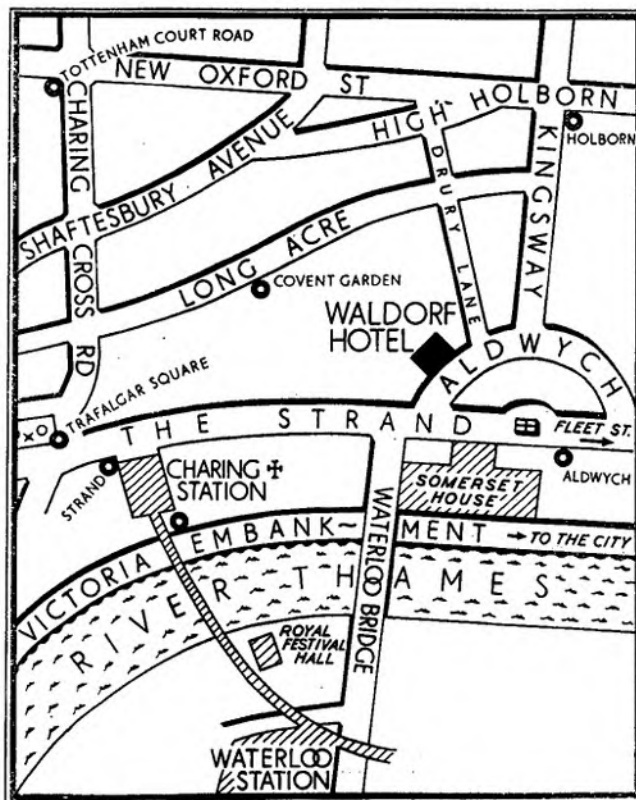
SIMON Sound Service Ltd.; Sonomag Ltd.; Sound Sales Ltd.; Specto Ltd.; A. R. Sugden and Co., Ltd.

TANNOY Products Ltd.; Tape Recording Magazine; Trix Electrical Co., Ltd.; Truvox Ltd.

VITAVOX Ltd.; Vortexion Ltd.

WESTREX Co., Ltd.; Wharfedale Wireless Works Ltd.; Whiteley Electrical Radio Co., Ltd.; W. & N. Electronics Ltd.; Wright and Weaire Ltd.

HOW TO GET THERE



Our sketch map shows the position of the Waldorf Hotel in relation to the nearest main London termini. For those coming from South of the river Charing Cross and Waterloo are the two nearest main line stations. For those from the North, Euston, King's Cross, St. Pancras and Liverpool Street are all within a short bus ride.

Visitors travelling by Underground will find Holborn (on the Piccadilly line), Covent Garden (Piccadilly line), Trafalgar Square (Bakerloo line), Strand (Northern line) and Aldwych (Piccadilly line) are all within easy walking distance of the Waldorf Hotel.

The following buses pass the door: 6, 9, 11, 13, 15, 60, 77, 77a and 96.

Tapespondence:

HOW TO CONTACT TAPE ENTHUSIASTS ABROAD

GETTING started is very simple: the first step is to select one of more prospective tapespondents, depending on the amount of time and tape you have available, from the list of members. Then write your prospect a friendly letter, telling him a bit about yourself, your occupation, your hobbies, and other subjects you would like to talk about, inviting him to tapespond with you. Never send unsolicited tapes, thus putting your prospect under an obligation; he may be too busy to take on any additional tapespondents, or may be unable to do so for a number of other reasons.

Assuming, though, that your prospect accepts your invitation, you are now ready to make your first "tape-letter." For the initial contact, a 3 inch tape is usually best, the important thing being to keep your first tape short. The first is always the hardest, as in most things, but if you give this a bit of forethought you will not have much difficulty.

Start your recorded message by giving your name and address, the name and address of the person to whom you are sending the tape, and the date. Make your tape informal—use a natural conversational tone and imagine that the person you are talking to is right in the room with you. You will find it helpful to jot down a few notes to remind you of subjects to discuss, but **DO NOT** write out a talk. After all, if you were visiting a new friend, you wouldn't sit down and read him a prepared speech.

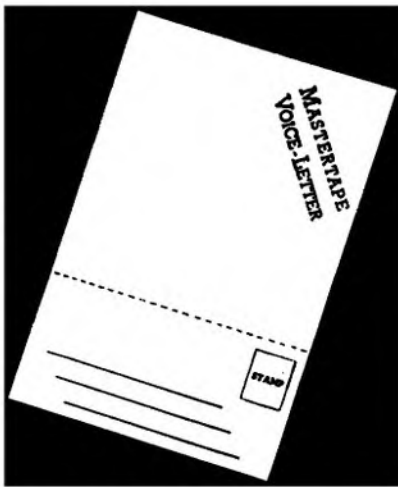
Tell him briefly about yourself, where you live, and what you do, and discuss those things in which you are both interested. Avoid controversial issues, such as politics and religion. One very important thing is to ask a couple of questions, and this should be done on every tape. This gives your tapespondent something to talk about when replying to you, and helps to get the ball rolling. Call your friend by his first name—and mention his name from time to time throughout the tape.

End off the tape by saying "goodbye" cordially, mentioning your friend's name as well as your own, and expressing the hope that you will be hearing from him "soon"; never say "by return post," as this puts pressure on him that might be resented.

Eventually the tape will come back to you; this is probably the greatest thrill of this whole hobby—listening to your

The exchange of tape messages is one of the most popular activities among our readers. Many of them belong to clubs and are familiar with the general practice of tapesponding (as it is usually called).

For the benefit of the large numbers of new owners of recorders who may wish to join in this activity, we print the following guidance. It is taken from the Manual of Tapespondence issued by the South African Recording Club.



A special envelope to carry the 3 in. Mastertape message spool supplied by M.S.S. Ltd., Colnbrook, Bucks.

first tape from a new friend. While listening to the tape, make a few notes about things on which you would like to comment, of questions asked, of subjects you'd like to elaborate on, or ask questions about in turn. There's no need to make lengthy notes—a word or two will remind you of these points.

When you come to the end of the tape, your notes will be a summary of what your tapespondent has had to say. These notes will also provide you with a lot of material for reply—however, make sure that you introduce some fresh material as well (your recent activities, local news, additional information about yourself and your hobbies, etc.). Otherwise your tape will not be very interesting.

Be careful not to "pad" the tape if you run out of material—rather sign off and leave the remainder of the reel blank, or fill it with music (but make sure that you know the kind of music your friend likes). Because of your notes, you will find this second tape a lot easier, and as you continue exchanging, they will become even easier as you discover more and more to talk about, and get to know your tapespondent better.

After two members have agreed to tapespond, the member who originally issued the invitation is expected to furnish the tape (except by special agreement otherwise). The same tape is then sent back and forth between these two members. If you wish to keep a tape that belongs to your tapespondent, you may do so only with his consent; and naturally you will be expected to reimburse him with a replacement tape of the same quality and length.


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THE RIGHT WAY TO RECORD FROM RADIO

By
J. W. Raine*

SELDOM will a recording from radio, via a microphone placed by the loudspeaker, be satisfactory. The various technical reasons need not concern us here, and we will direct our efforts to showing how good recordings can be made.

The majority of portable tape recorders have input sockets marked *microphone* and *radio* (or *radiogram*). If you have attempted to use the microphone in the *radio* input, no doubt you have received a very weak recording, or probably none whatsoever. This is because the average recording amplifier is designed so that the *radio* input needs a signal up to 100 times stronger than the microphone input fully to modulate the tape.

This higher gain radio signal can be obtained quite easily from the radio receiver, usually by coupling the *radio* input socket to the extension loudspeaker sockets. Unfortunately, to obtain a signal from the radio receiver which will fully modulate the tape, the receiver's volume must be advanced to the point where the radio is too loud for normal listening.

Should this be the case with your particular receiver, the following modification will enable the radio to be operated at quite a low volume level, whilst providing ample signal to the recorder.

Obtain a standard output (loudspeaker) transformer, as used in domestic radio receivers. We are not particularly concerned about the "ratio" of the transformer, although the average will be about 45:1. Mount the transformer on a base (a wooden switch block, obtainable for a few pence from the electrician's shop, is ideal), and provide two leads, one for connecting the winding marked *secondary* to the extension speaker sockets of your radio receiver (low impedance), and a screened lead (co-axial cable as used for TV aerial feeders is ideal) for connecting the *primary* of the transformer to the *radio* input of the tape recorder.

So far, that is quite easy; but you may find that you now have too strong a signal, even with your radio receiver

working very quietly. If so, obtain a couple of $\frac{1}{2}$ -watt resistors, one 3,000 ohms and the other 1,000 ohms. Connect the resistors across the transformer *primary* as shown in Fig. 1 and connect the screened lead across the 1,000 ohms resistor only. This will give you a quarter of the total output and will be a more suitable value for most recorders. By varying the ratio of the resistors, you can vary the signal to the tape recorder, and a little time spent in experimenting with the little gadget will be well spent.

Having decided on suitable values for the resistors across the *primary* winding, complete the job by either enclosing the transformer in a neat little box with suitable input and output sockets, or by fixing it permanently inside the radio receiver, with a suitable co-axial socket for outlet to the co-axial coupling lead. If correctly installed, this method is suitable for recording from any type of radio or TV receiver, but with AC/DC types it would be wiser and safer to have an expert check your installation before attempting to use it.

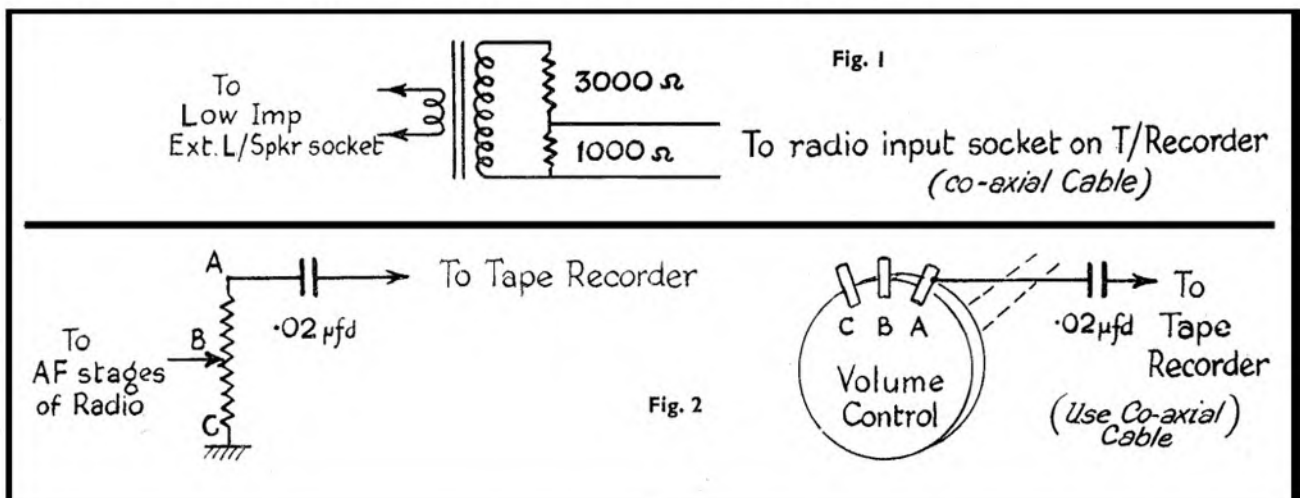
We cannot emphasise enough the danger of modifying the AC/DC type of receiver which has a mains connection to its chassis. If in any doubt, either contact the manufacturer or the retailer before attempting additions and modifications to your radio or TV receiver.

The following method of recording from the radio receiver is for sets which have "double-wound" mains transformers, i.e., AC-only receivers which have a chassis completely insulated from the mains electricity supply. From such a receiver it is quite easy to obtain excellent recordings.

When using the transformer method, we are dependent upon the quality of reproduction of the latter amplifying stages of the radio receiver (known as A.F.—audio frequency stages), and any distortion and hum due to these

(Turn to page 40, foot of col. 2)

* of Brenell Engineering Co. Ltd.



AUTOMATIC SPOOL REVERSE IS FEATURE OF NEW SIMON SP/4

AUTOMATIC reversal of the spool at the end of the tape run is an entirely new feature provided by the new Simon Tape Recorder the SP/4. This permits a recording to be made on top and bottom track with only a momentary break for track change, which takes place without any assistance from the operator. On replay the automatic reversal can be brought into play at each end so that continuous replay is effected.

This is an attractive innovation in a machine that has a very impressive general specification, including provision for the connection of a remote control unit (to be available in the near future), dealing with start, stop and track change operations.



The SP/4 is in a very well designed case of moulded, laminated wood, the detachable lid repeating the rounded shape of the base. The finish is dual-tone Rexine, with contrasting Tygan loudspeaker panels. The size is 17 in. × 10½ in. × 15 in. and the weight is 46 lbs.

Tape transport is by the Simon automatic tape deck, designed and manufactured in London, and with power operation by



synchronous motor of 1/100 h.p., for accuracy of running speed, with high torque. Tape speeds are 3½ and 7½ ips., and the capacity is up to 7 in. spools. Fast forward and fast reverse is given as two minutes for 1,200 ft.

The SP/4 has an ultra-linear push-pull amplifier with 3-way mixing, each channel having its own independent control. The output is 10 watts, and this can be used through an extension loudspeaker system of 15 ohms if desired. A device is incorporated which limits output automatically to prevent overloading the internal speaker system, which consists of a 10 in. × 6 in. elliptical unit and a special high-note reproducer unit—4 in. with diffuser.

Direct amplifier frequency response in P.A. conditions is given as 30-18,000 c/s +/− 1dB. From tape the figures are 30-12,000 c/s +/− 3dB and 30-15,000 c/s better than +/− 5dB, at 7½ ips; and 30-7,000 c/s +/− 3dB at 3½ ips.

The facilities of the SP/4 permit mixing not only during recording, but also during replay. The signal from the tape can be mixed with those from a microphone and gramophone or radio. All have independent volume controls. Recording can be silent or monitored as desired. For recording or independent use of the amplifier a high impedance and a low impedance microphone plus gramophone or radio can be mixed.



A press button control system is used, together with independent treble and bass lift and cut. Change of track at any instant is effected by push button (or remote control unit when available). A safety button prevents accidental erasure, and resets automatically every time the machine is stopped. An automatic stop operates at the end of the recording of the second track, or on tape run out.

Other facilities include recording level indicator and tape position indicator; control for silencing the built-in loudspeaker; and P.A. button to allow the use of the amplifier direct from microphone, record-player or radio etc. without recording. All input and output sockets are grouped together on the mains panel at the back of the recorder, with a hinged flap for protection.

Among features aimed at ensuring top quality are the push-pull oscillator to reduce background noise when recording to a minimum, and an erase level better than 70 dB to eliminate background from previous recordings. The amplifier hum and noise level (referred to 10 watts output from fully modulated tape) is given as—52dB. Wow and flutter content are given as better than .2 per cent peak to peak.

The Simon SP/4 has been entirely designed and tooled in the Simon Works, where it is being manufactured, and will be exhibited for the first time at the R.E.C.M.F. Exhibition and the Audio Fair in April. The price is 95 gns.

THE VIKING TAPE RECORDER

Uses the MOTEK K9 deck, 3-speeds, "Pause," Counter. Hatfield oscillator. Switch for Amplifier. 2 inputs. Vol. control scale. Unique method of super-imposing recording. Accessibility for service C.C.I.R. linked equalisation. Detachable lid.



46 GNS.

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HATFIELD RADIO

78, STROUD GREEN ROAD, LONDON, N.4

Tape specialists since 1952



THE WALTER 505

A FREQUENCY response of 40 to 14,000 ips is claimed for the Walter 505 which Walter Instruments Ltd. have launched as a companion to the long-popular 303.

The 505 is a good-looking instrument in two-tone rexine, measuring 16½ x 13 x 8 inches, and weighing 23 lbs. It incorporates a Walter single motor deck, with tape speeds of 3½ and 7½ ips, and taking up to 7 inch reels. Operation is by single joystick control.

There are monitoring facilities, mixing facilities with separate recording level controls, digital counter, magic eye recording level indicator, pause control, tone control and stop button to prevent accidental erasure.

Inputs are provided for microphone, radio and gramophone and an output for extension speaker. Two speakers are employed; a large elliptical high flux speaker and a 4 inch tweeter. The recorder has a straight through amplifier and the output is 4 watts.

An ACOS MIC.39-1 microphone and 7 inch reel of Walter Hi-Fi tape are included in the price of 57 gns., and the 505 carries a 12-month guarantee.

FIVE NEW ASTRONIC UNITS

DETAILS of two new pre-amplifiers, one of them for stereo, have been issued by Associated Electronic Engineers Ltd., Dalston Gardens, Stanmore, Middlesex, together with an indication of three associated products to be made available later in the year.

The Astronic A1434 stereo pre-amplifier has an 8-position selector; independent bass and treble controls; volume on/off; channel balance (preset); and rumble and presence in/out controls.

Single channel inputs are for tape, LP (Int.), radio, mic and auxilliary; twin-channel inputs are for tape, P/U and radio. The dimensions of the A1434 are 11½ in. x 3½ in. x 6 in. high; it is designed to operate with two amplifiers, A1333 (Mk. I and Mk. II) or the A1440, due for later release. The price is given as approximately £22 15s.

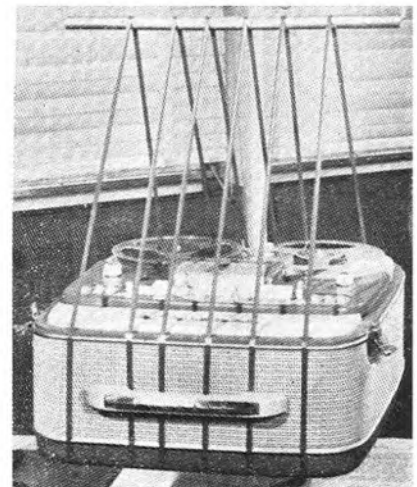
The Astronic A1432 pre-amplifier, which includes provision for tape playback direct from head socket, is also intended for use with the Astronic amplifiers A1333 and A1440.

The Astronic A 1432 pre-amplifier, with special provision for single-channel tape

The selector has six positions: tape (CCIR); Mic.; radio; and three gram. positions. There are separate bass and treble controls, both variable; a switched filter (5, 7, 10 kcs and flat); a variable slope; and provision for loudness control in addition to volume/on/off control.

Inputs comprise mic. 20 mv; radio 120 mv; gram 78; EUR, FFRR, AES/LP 4 mv or 20 mv; tape 1-2 mv. Hum and noise figure is minus 65 db and harmonic distortion is given as not measurable. The dimensions of the unit are 11½ in. x 3½ in. x 5½ in. deep. The price is £21 19s.

Designed to operate in conjunction with the two pre-amplifiers described above, and also with the A1332 pre-amplifier, the Astronic A1440 amplifier is a 20 watt high fidelity amplifier expected to be available between July and September at a price of approximately £40. A combined pre-amplifier and 20 watt main amplifier suitable for shelf mounting, the Astronic A1444, is scheduled to be available between June and August. The price is not yet fixed. Expected in September or October is a 4-channel transistorised mixer unit, Astronic A1441.

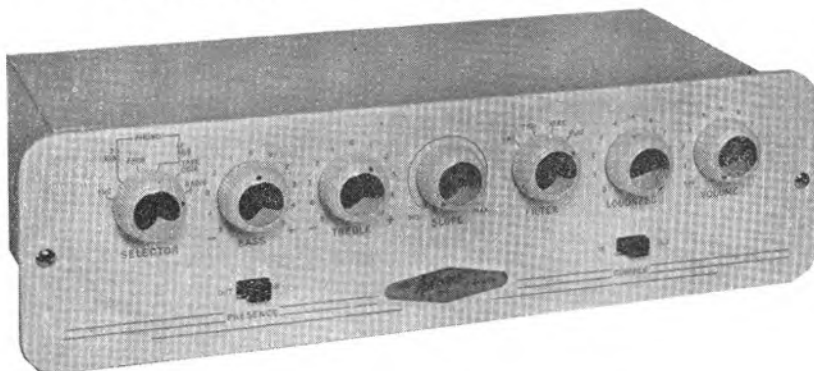


A striking demonstration of the strength of the new Grundig long-playing tape

Grundig offer new L.P. tape

A NEW, all-British long playing polyester tape, giving a 50 per cent increase in running time and costing the same per foot as their ordinary tape has been introduced by Grundig (Great Britain) Ltd., and this will be included in the purchase price of all future tape recorders supplied by Grundig.

Among the advantages claimed for the new tape are a high degree of recording and reproduction consistency, an enhanced high frequency performance, complete freedom from curl and great strength and durability. The prices are £2 10s. for a 7 in. spool and £1 15s. for a 5½ in. spool.



New Film Industries Microphone

THE new Film Industries M.9 ribbon microphone is mounted for table use on sponge rubber supported clips and may be rotated in the clips to accept sound at the optimum vertical angle. The horizontal mounting of the ribbon and its use near a solid surface gives, the makers claim, a more even polar response than the traditional vertical type. It can also be removed from the clips to form a hand-microphone.

The assembly consists of the magnet system, the ribbon assembly and the in-built transformer. The magnet system comprises three substantial U magnets of Alcomax III, supplying a high flux density. The ribbon is of specially formed aluminium alloy approximately 0.0001 inch thick. Three stainless steel gauzes and a fine mesh interleaved fabric protect the ribbon from severe acoustic shock.

The in-built transformer, wound on a nylon bobbin has a very high permeability core. Various output impedances are available, but in many cases improved results are obtained with the standard low impedance model together with an in-line transformer located near the amplifier. (Supplied as a separate item.)

IN BRIEF

The newest Veritone tape recorder has a Rola Celestion speaker contained in the set and mounted on a large baffle. The price remains at 52 gns., with Acos Mic 40 crystal microphone and stand.

A former radio and newspaper journalist, Mr. T. H. West, has been appointed Press Relations Officer to E.M.I. Electronics Ltd. Mr. West will be responsible for co-ordinating all the Company's publicity activities.

More than 30 manufacturers have signified interest in the announcement that there is to be an audio section in the Radio Show, Earls Court, this year (August 27 to September 6).

Tape Recorders (Electronics) Ltd. report that they have overcome the problem of the shortage of skilled personnel by re-training radio technicians. Here are some of them at work in the batch assembly and wiring section



TANDBERG, PLUS TWO SPEAKERS, GIVES CHEAP HI-FI STEREO

A Scandinavian stereo recorder-reproducer, just available in this country, provides a simple, relatively cheap approach for those who want hi-fi stereo.

After a great deal of development work and a successful year of sales in the United States, the Tandberg Master Stereo Recorder appears in Britain at a price of 114 guineas.

Two matched amplifiers are included in the design and the machine only requires linking to two suitable speakers

THE Tandberg Master Stereo recorder, of which the concessionaires in this country are the Tandberg Recorder Division of Technical Suppliers Ltd., Hudson House, 63, Goldhawk Road, Shepherds Bush, London, W.12, is remarkably compact. It is contained in a mahogany case 11½ in. x 15 in. x 6½ in., which has, in turn, a simulated pigskin travelling case; the total weight is 27 lb.



The recorder has speeds of 7½ ips, 3½ ips and 1½ ips and it can be used for monaural recording and playback as well as for stereo reproduction. An efficient loudspeaker is incorporated as a monitoring unit, but to do justice to stereophonic tapes it is necessary to have two matched loudspeaker enclosures.

The Tandberg has two matched amplifiers, pre-adjusted at the factory so that the amplification level for the pair does not deviate more than +/− 1dB in relation to one another. These are used to reproduce both channels of the stereophonic tape by means of the stacked stereo head. An output of 3½ watts (5 watts peak) at 3 to 5 ohms impedance is available from each. For monaural playback, however, both amplifiers are coupled to the upper track. Cross talk between the twin tracks is given as better than 60dB.

The frequency response figures given are 30-16,000 c/s at 7½ ips, 30-8,000 c/s at



3½ ips and 30-4,000 c/s at 1½ ips, all within +/− 2dB. Total wow and flutter figures are given as better than 0.15%, 0.2% and 0.3% respectively.



Facilities include an EM71 fluorescent beam recording level indicator and a clock-type position indicator. When the machine is used as a high fidelity amplifier a frequency response of 30-20,000 c/s is claimed at peak output of 7 watts, using both amplifiers with separate loudspeakers. Inputs are provided for microphone, radio, gramophone or other source.

Tone control is effected by a throw-over switch giving a pre-calculated level of bass or treble in compliance with C.C.I.R. standards.

A three-position operation selector switch provides for recording on upper track, play-back and public address; the function selector provides for fast rewind, fast forward, and playback or record depending on the position of the operation switch. It is possible to mix radio programmes with speech or other input.

KNOW YOUR RECORDER

No. 4

THE DESIGN

Three B.T.H. shaded pole motors are fitted, each with an effective output of approximately 2 watts. The first motor, used for the capstan drive via the flywheel, is on resilient mounts attached to the flywheel cradle assembly. The motor is spring-loaded so that the pinion drives against the flywheel. The spring pressure should not be altered. The fan on the capstan motor pinion is intended to smooth motor irregularities. The motor has a resistor (500 ohms) in series with it to smooth voltage variations. The second motor is for tape take-up and fast-forward winding. Whilst recording or playing back, a resistor (700 ohms) is brought in series with this motor to give correct tape tension. The third motor is for fast rewinding. The bearings of these motors are impregnated and should not be oiled.

The flywheel is of cast aluminium, fitted with a rubber drive rim which has been ground to fine limits at the factory. The whole spindle is supported and runs on a ball which sits on a hardened steel plate. These bearings should not be tampered with.

The tape release lever is mounted on a single bearing pin fitted to the flywheel cradle casting.

The wiper arms are actuated by pins on the tape release lever. The spring tension should not be altered. The Veeder-Root precision place indicator (if fitted) is driven from the fast rewind motor shaft by a plastic belt.

The bodies of the record/replay and erase heads are moulded from a specially-loaded bakelite which is a semi-conductor, to provide a leakage path for generated static formed by friction between heads and tape. (Earlier models had the head bodies machined from brass.)

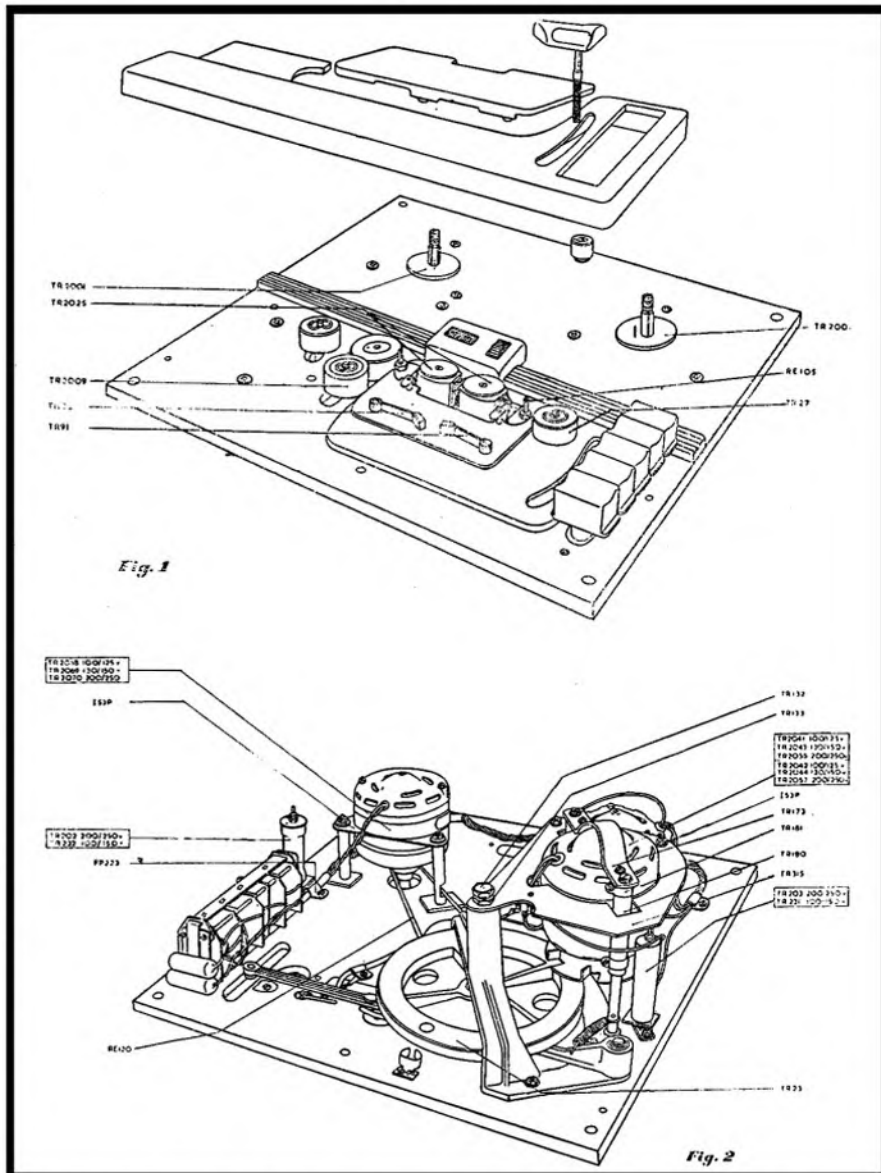
The push-button switch unit is a five-wafer unit. The wafer below the "Off" button has no contacts, but has 4 colour-coded tags for mains and brake connections.

The amplifier is a five-stage unit with modulation indication shown by means of a magic eye. HT power supplies are obtained from a full-wave valve rectifier. The valve line-up is: 1-EF86, Pentode; 1-ECC83, Double Triode; 1-EL84, Output Pentode; 1-EM81, Modulation Indicator; 1-U709, Rectifier; 1-6BW6 or EL84, Oscillator.

The separate oscillator valve is brought into circuit on record only at frequency of 45 Kc/s, interlocked with brake button of tape deck to prevent accidental erasure.

The TRUVOX

Another in our regular series of information for readers who are able to service their equipment; these pages can be cut out and pasted on card for easy reference.



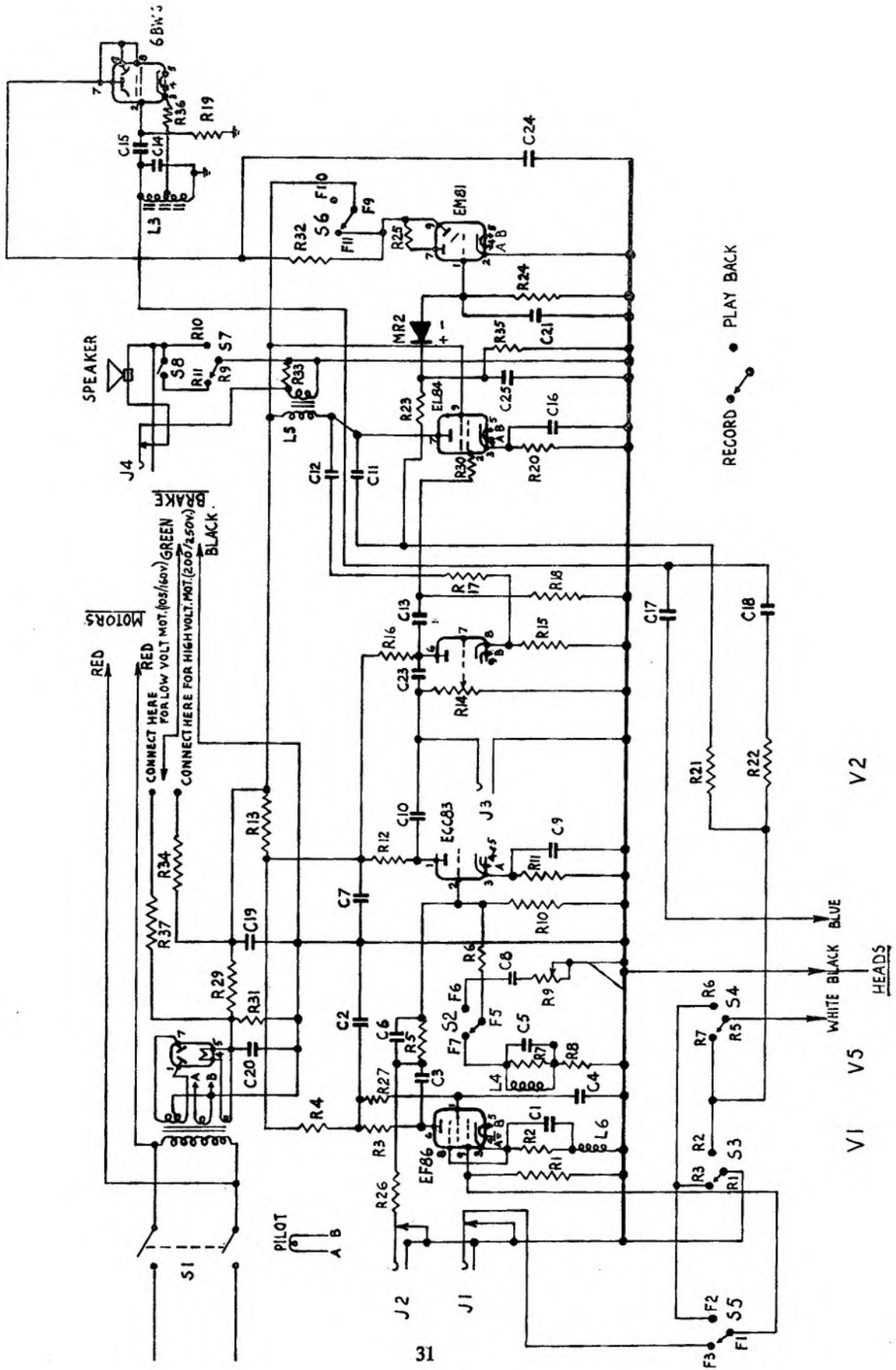
DISMANTLING

To Remove Cabinet. Remove the two long 2BA bolts passing through the handle. Remove the two 4BA Philips screws on the side of the recorder. The cabinet may now be lifted off vertically.

To Remove Deck From Amplifier. Remove screening can covering amplifier controls. Unsolder appropriate leads and

remove the four 8BA screws, nuts and washers from the dictation control socket in the microphone pocket. Remove nuts and washers from front edge corner brackets, and two Philips screws which secure the back of the deck to the two handle brackets. Lift deck clear of the amplifier chassis, feeding leads carefully through holes.

(Continued on page 33)



OXFORD 'RECORDED CUPPERS'

THE Oxford University Dramatic Society has for many years held its annual competition for one-act stage plays (known as the O.U.D.S. Cuppers) in the autumn term; but last year there was something new: the O.U.D.S. "Recorded Cuppers"—a competition for tape-recorded productions, whether in dramatic or "feature" form.

Last year the adjudicator was Mr. Peter Dews (B.B.C. Drama department, Midland region), and the winning play by Mr. Patrick Garland (St. Edmund Hall) was bought by the B.B.C.

* * *

This year again there was a good number of entries (about twenty) from college dramatic societies and from independent groups. All the productions were of a dramatic or pseudo-dramatic kind; a number were specially written for the competition. Of those specially written, a high proportion attempted to follow the fashionable pattern of being impressionistic pieces for voices and sound: only a few writers subjected their imaginations to the discipline of a strict dramatic form. (In my opinion, the latter were much better radio and better entertainment.)

All the producers were beginners in the field, and had no technical facilities at their disposal save the single tape recorder on which their entries were recorded. No production to my knowledge included a mixer as part of its equipment.

The adjudicator was Mr. Patrick Dromgoole (B.B.C. Drama department, West region). All were impressed by his forthright perception and the incisive, surgically manner in which he told us what was wrong with each production and what ought to have been done about it.

His main comment on the faults of the beginner's approach was "Don't use the human voice to do the microphone's job"—a most telling criticism of the amazing number of producers who allowed their actors to stand before the microphone and

deliver a stage performance without regard for the final, recorded effect.

"The Young Visitors," by Daisy Ashford, produced by Peter Stansfield (Queen's)—first. "The Pelican in the Wilderness," written and produced by Philip Steer (Exeter)—second. "Mr. Nuthatch and the Glocks," written and produced by Kenneth Graham (Jesus)—third. "The Shirt," by Francis Dillon, produced by Murray Biggs (Trinity)—third. "The Little Wasp of Twickenham," written and produced by Richard Wortley (Exeter)—fourth.

Harold Rottesman writes:

Unless the aim is just a romp for cast and producer, enthusiasm is unfortunately not enough for an amateur recorded production. A majority of entries in this competition were impossible entertainment because they appeared to have been done in complete ignorance of any radio technique—and (worse) with little consciousness of it.

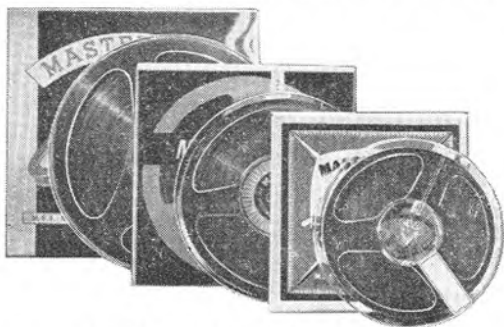
You do not, surely, need to be very experienced to sense that something is wrong when one of your two characters sounds naturally close and her partner sounds as though he is in the bathroom (both acoustically and perspectivewise).

And as Mr. Dromgoole commented, the most distressing feature of all but a few productions was the intolerable quality of reproduction. The noise to signal ratio in some cases made listening like watching a film through dense fog. If you know it's going to sound like that—don't bother, advised the adjudicator.

What was most disappointing was that the medium of radio was so little exploited. Not that "effects" were not used—indeed the trouble here was the indiscipline with which they were—but radio's great advantage, intimacy, was scarcely utilised at all.

"The Young Visitors," the winning production, scored through a clever choice of script and good casting of the juvenile narrator; though it lacked technique and actors resorted to shouting at moments of emotion.

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P.V.C. Magnetic Recording Tape on latest type plastics spools. Not surplus but brand new, perfect and boxed. Will work with any Recorder. Satisfaction or money back guaranteed.

1,200 ft. Standard on 7" spool, List 35s.	Lasky's Price	21/-
850 ft. Standard on 5½" Continental spool, List, 26s.	Lasky's Price	16/6
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Post. 1 spool 1s. 6d., 3 or more post free.

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ELECTRONIC RECORDING EQUIPMENT (OFFICE ELECTRONIC SERVICE CO.)

186, Westbourne Grove, London, W.11 - BAY 6622

Dismantling

(Continued from page 30)

To Remove Mains Transformer. Remove tape deck. Unsolder all leads to transformer. Remove two nuts (I53P). Replace nuts after removing transformer.

To Remove Loudspeaker. Unsolder all leads to loudspeaker. Unscrew nut to allow the pre-emphasis choke to lie free. Slacken off bracket to allow valve to lie free. Remove pilot lamp bracket from mounting clip and allow to lie free. Remove four screws set into felt-covered feet. Remove front casting. Remove speaker from baffle board.

To Remove Top Casting. Remove head cover, and unscrew the tape release lever knob, keeping lower three buttons of the switch depressed. Take out the three fixing screws and lift casting off panel, giving access to pinch roller (TR.2009) and wiper arms (TR.91 and 92). The switch buttons can now be removed.

To Remove Switch. Disconnect wiring to switch. Lift the strips by removing the nuts and washers. Remove buttons. The switch can be taken out after removing the fixing screws and resistor.

To Remove the Hublocs (TR.2001). Loosen the clip (TR.181), and pull off hubloc directly upwards. Hublocs may be levered upward with a screwdriver applied between the bottom of the hubloc body and the top of the motor. Force must not be used between the skirt of the hubloc and the panel.

To find the correct height setting for the hubloc, tighten the clips to a slide fit on the motor shaft. Place a tape reel in position and tighten the hubloc. Then slide the hubloc to a point where the bottom edge of the tape just touches the edge of the guide strip. The clip should then be finally tightened.

To Remove the Fast Rewind and/or the Take-Up Motors. Disconnect motor wiring and remove the hubloc, nuts and washers.

To Remove the Capstan Motor. Disconnect motor wiring. Loosen locknut (TR.133) and remove adjusting bolt (TR.132). Slide out washer, undo nuts and take off the limiter plate (TR.315). With a suitable "tommy bar" take off the spacing pillar. Take out screws from bridge (TR.173) and lift motor from mounts. The spring tensioning bracket holding the capstan motor drive spring is soldered and must not be altered. Spring and tag must be returned to their original position for minimum "wow" and "flutter."

To Remove the Flywheel Assembly (TR.23). Take off the guide pulley (TR.27), pinch roller (TR.2009) and the capstan. Remove nuts and washers and lift the whole flywheel assembly off the panel.

To Remove Capstan Motor Pinion and Fan. Remove capstan motor, with the exception of disconnection of the wiring, and swing it clear of its mounts. Loosen the 4BA grub screw in the side of the pinion with Alan key. Draw off fan and pinion from motor shaft. The two parts

HOW TO CURE TROUBLES

Tape fails to move when record/play or fast forward or rewind switches depressed: Test that A.C. supply to deck, is in order. Test for faulty switch contact, and, if necessary, replace switch.

Tape fails to stop when brake button depressed: Test for D.C. brake supply and correct if necessary. Test for faulty switch contact and, if necessary, replace switch.

Take-up motor fails to take up tape: This may be the result of faulty switch contact, which should be checked. Replace switch if necessary.

Tape slips: Clean pinch roller and check rewind hubloc for jamming on panel and causing excessive tension. Correct if necessary.

Tape sticks: Clean head faces and pads.

Pinch roller rides up: This will be due to faulty pinch roller pin setting. The pin should be reset slightly to the right—looking at it from the front of the panel.

Tape rides out of guides during fast operations: Adjust idler pins by slight bending, but take care to avoid loosening them in their mounting.

Switch buttons stick: Check for movement of the top casting or of the switch. Remove any dirt deposit between buttons.

470 ohm resistor overheating: L5 output transformer, may be breaking down between primary winding and lamina-

tions, in which case it must be replaced. Output valve base may be breaking down between anode pin and earthed centre spigot and may need replacement. Incorrect operation of the braking can also cause this trouble.

Excessive hum: This may be due to faulty cathode capacitor C1, needing replacement. Or coil may be incorrectly set and requires re-setting. Check also for movement of power transformer and re-tighten screws. If the hum occurs in record position, the last two points apply, but check also pre-emphasis choke and reset if necessary.

High-pitched whistle on record and play-back when gain is advanced: Microphonic EF86 or ECC83. Replace as necessary.

Gain has to be advanced in excess before modulation indicator closes: Check and replace if necessary (i) Westector, (ii) capacitor C21 and (iii) resistor R23.

No erasure: Check for faulty oscillator coil and replace if necessary.

Erasure, but no record: This will be due to faulty valve or switch contact. Check EF86, ECC83, EL84, and replace as necessary. Check switch contacts.

Switch buttons fail to interlock properly: Replace faulty switch.

Tape scraping reel edges: Replace warped reels. Inspect for bent hublocs and replace if necessary.

THE COMPONENT LIST

RESISTORS

1. 1M ($\frac{1}{2}$); 2. 2.2K ($\frac{1}{2}$); 3. 220K ($\frac{1}{2}$ High Stab.); 4. 47K ($\frac{1}{2}$); 5. 220K ($\frac{1}{2}$); 6. 4.7K ($\frac{1}{2}$); 7. 220K ($\frac{1}{2}$); 8. 10K ($\frac{1}{2}$); 9. 50K Pot.; 10. 680K ($\frac{1}{2}$); 11. 2.2K ($\frac{1}{2}$); 12. 220K ($\frac{1}{2}$); 13. 47K ($\frac{1}{2}$); 14. 500K Pot.; 15. 2.2K ($\frac{1}{2}$); 16. 220K ($\frac{1}{2}$); 17. 1M ($\frac{1}{2}$); 18. 680K ($\frac{1}{2}$); 19. 47K ($\frac{1}{2}$); 20. 220 ohms (1 W.); 21. 470K ($\frac{1}{2}$); 22. 10K ($\frac{1}{2}$); 23. 3.3M ($\frac{1}{2}$); 24. 4.7M ($\frac{1}{2}$); 25. 1M ($\frac{1}{2}$); 26. 220K ($\frac{1}{2}$); 27. 1M ($\frac{1}{2}$); 29. 470 (3 W.); 30. 10K ($\frac{1}{2}$); 31. 1M (1 W.); 32. 1K ($\frac{1}{2}$ W.); 33. 10 ohms (2 W.); 34. 100 ohms (2 W.); 35. 4.7M ($\frac{1}{2}$); 36. 220 ohms ($\frac{1}{2}$ W.); 37. 470 ohms (2 W.).

CAPACITORS

1. 50 12v; 2. 40 350v; 3. .1 350v; 4. .5 350v; 5. 700pF S.Mica; 6. 150pF; 7. 20

350v; 8. .005 200v; 9. 50 12v; 10. .1 350v; 11. .01 350v; 12. .003 350v; 13. .1 350v; 14. .001 Mica; 15. .001 Mica; 16. 50 25v; 17. .01 Mica; 18. .0003 Mica; 19. 20 350v; 20. 40 350v; 21. .02 100v; 23. 5pF S.Mica; 24. .5 350v; 25. 100pF S.Mica.

CHOKES AND TRANSFORMERS

MR2. Westinghouse Rectifier type WX.6; L.1. Mains transformer RE.53; L.3. Oscillator coil TA.28; L.4 Tone correction choke TR.60; L.5. Output transformer for 3 ohm speaker; S.1. D.P. on/off switch contained in volume control R.14; S.2—7. Special 2 wafer switch RE.44; S.8. Switch contained in tone control (closed when fully anticlock, normally open).

VALVES

V.1. Mullard valve type EF.86 or Osram type Z.729; V.2. Mullard valve type ECC.83; V.3. Mullard valve type EL.84; V.4. Mullard valve type EM.81; V.5. Osram valve type No. U.709; V.6. Mullard valve type 6BW6.

MISCELLANEOUS

LP.1. M.E.S. Pilot Lamp 6.5v .5amp. 11 m/m bulb; J.1—2 & 4 telephone jack with shorting contact; J.3. telephone jack standard; L.6. humbucking coil EC.20 S.W.G. x 39 $\frac{1}{2}$ " Lg. RE.235.

must not be separated. If damaged, a complete assembly must be fitted.

Precision Place Locator. Remove flywheel assembly. Slip off the belt (RE.120) and loosen the Philips screw to remove the pulley from the counter. Loosen the head lead cable clip (FP.223). Remove the two 4BA nuts and the mounting bracket will slide away releasing the counter assembly. Remove two cheese head screws to free the counter from its bracket. (N.B.—These screws are of different lengths and must be replaced in their individual holes).

HERALDING.....

The WyndSOR Dauphin

**CONSOLE
TAPE RECORDER
AND REPRODUCER**



Here at last is a complete, self-contained transportable hi-fi unit. Now you can obtain superb reproduction with a single piece of equipment instead of having to connect up two or three separate items. The WyndSOR Dauphin console has been designed and developed as one instrument in which all the parts work together perfectly: the handsome bass reflex cabinet and 3 speaker assembly, professional type tape deck, and the high quality amplifiers.

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The WyndSOR Dauphin costs no more than you would pay for a high class portable tape recorder alone, but see all the extra features you get:—

- i. Handsome Bass reflex speaker cabinet.
- ii. 3 matched speakers (10" circular, 9" x 5" elliptical and 4" tweeter.)
- iii. Famous Harting tape deck with third head added.
- iv. Full tape monitoring through third head.
- v. Independent Record and Playback amplifiers and controls.
- vi. Bass and Treble boost and cut controls.
- vii. High and Low Gain inputs.
- viii. Provision for straight through amplification.
- ix. Attractive oak stand in contemporary design.
- x. A 1200' tape in New Emicase.
- xi. A high quality crystal microphone with gilt stand.

The WyndSOR Dauphin is a logical and up-to-date approach to the problem of getting hi-fi performance without the usual hi-fi paraphernalia. Be sure to see the WyndSOR Dauphin before you invest in a tape recorder. We'll be pleased to send you a leaflet giving you full particulars.

BRIEF TECHNICAL DATA :

Tape speeds 7½ & 3½ ips
Frequency response ... { 50—15,000 c/s ± 3dB @ 7½ ips
50— 8,000 c/c ± 3dB @ 3½ ips
Wow and Flutter better than 0.1 of 1%
Signal/Noise Ratio better than 40dB unweighted
Output 3 watts ultra-linear at 15 ohm

Magic Eye recording level indicator. Counter type position indicator

89 GNS.

**Complete including Stand,
Microphone and Tape**

T A P E N E W S D I G E S T

Lyre bird mating call recorded in West Africa

RECORDINGS of the mating call of the lyre-tailed honey guide bird were obtained for the first time by the 1957 Cambridge University West African expedition. This call is an extraordinary one, produced by the hum of the bird's curled tail feathers as it levels out after a "power dive" above the jungle tree-tops. The noise is described as something like a prolonged cry of "silly."

Mr. John Davis, 23, a post-graduate research student of Caius College, who was one of the six members of the expedition, carried the recorder into previously unexplored jungle in the Gabon area to get these recordings, which have made ornithological history.

The recorder had to be transported 280 miles from Libreville, and the roads became so bad that both the team's vehicles were abandoned. Recording conditions were extremely difficult, with temperatures of 85 degrees and almost 100 degrees of humidity.

Mr. Davis also made recordings of the ceremonial dances of two primitive cannibal tribes, the Faan and the Pahouin.

* * *

At a meeting of the Richmond and Twickenham Arts Club, excerpts from "The Diary of Anne Frank" were given by 13-year-old Lynn Barber, who had tape-recorded them for the show. Now the Parents' Association of the Twickenham Grammar School for Girls have asked her to give a repeat performance—again on tape.

* * *

Stereo Discussion

VARYING opinions on the relative merits of disc and tape for stereo were expressed during a discussion at the Institution of Electrical Engineers last month, opened by Mr. H. A. M. Clark, Technical Director of E.M.I. International Ltd. He described the disc systems now being developed, including his own company's 45-45 system.

Mr. J. Moir pleaded for the maintenance of true stereo quality in all future developments, as against a degeneration into mere two-directional effects. He favoured tape for stereo purposes, and stressed the importance of the easier and pleasanter listening associated with stereo. Mr. P. Wilson, referring to the problem of the extra speaker, urged that every effort should be made to develop speakers that would fit into the home as unobtrusively as possible.

THESE RECORDERS ARE TELEPHONE SECRETARIES

AN ingenious system of harnessing together magnetic tape and the telephone has resulted in the production of the Ipsophone. It records telephone messages or enquiries in the absence of the subscriber (first giving the name and then inviting the caller to speak), and the owner of the machine can play back the messages when he returns. Alternatively he can hear them by calling up his own number from a telephone elsewhere. A sound-code system is used to ensure that the playback responds only to authorised callers. The agents in this country are Tape Repeaters Ltd., 130a, Ashley Gardens, London, S.W.1.

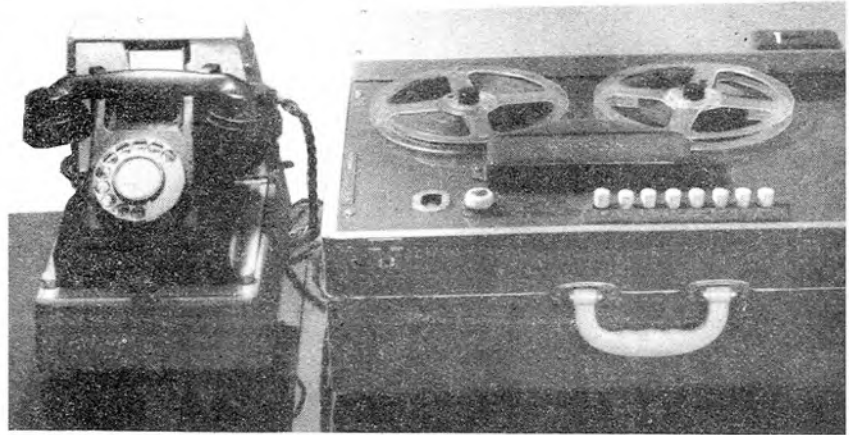
Another automatic telephone secretary is the Tutorphone, manufactured by the

Tutor-Tape Company, 70, Brewer Street, London, W.1. It is a fully automatic tape recorder equipment intended first and foremost for answering telephone calls during the absence of the owner and taking messages clearly and precisely.

When the caller rings, the telephone lifts itself and repeats a sentence or two chosen by the owner, asking the caller to give a message to be recorded. The recording capacity of the Tutorphone is 100 minutes, so that about 200 messages can be recorded. These can be replayed at any time.

Facilities are also available for recording a complete telephone conversation. The price of the Tutorphone is £137.

The Tutorphone



A TAPE recording is now helping nervous candidates facing the oral test in the examinations of the A.S.E.E. (Association of Supervising Electrical Engineers). The recording stimulates the atmosphere of the oral test, the examiners putting questions and listening to the answers. Copies of the tape are available for distribution to educational and other bodies in the electrical industry concerned with the examinations.

A Harrisburg (U.S.) newspaper group is using a high-fidelity tape recorder plus half a dozen reporters and editorial workers to interview V.I.P.s.

Political leaders have praised this "brain storming" brand of journalism, though the tape-record cuts off the politicians' "misquote" escape route.

ARMED with a tape recorder and camera, a retired police-inspector went hunting on Exmoor. Hunt members did not know he was hired by the National Committee for the Abolition of Stag Hunting to report on their "language" and behaviour at the "kill". His evidence was used to support a Bill against deer-hunting.

Manchester Audio Fair

"Hear yourself as others hear you." That was the motto offered recording enthusiasts by Leslie Lever, M.P., Lord Mayor of Manchester, when opening an Audio Fair sponsored by the B.T.R.S., together with the E.M. Office Co. of Crewe.

Products of a wide range of high fidelity and tape manufacturers were on display.

Veritone and Tutor Tape had stands and dem. rooms. The new model Veritone was demonstrated as well as the Tutorphone telephone answering recorder (above) and the Tutor recorder.

Lustraphone had their range of microphones on display and demonstrated their new transistorised mixer unit. Sound, Maestrovox and Brenell were other recorders shown.

E.M. Office Co. displayed hi-fi furnishing units.

The lot! A Moscow factory is producing, in one case, a T.V. set, a push-button radio, a self-changing record player—and a magnetophone for recording material on tape and playing it back.

JOHN AMPHLETT, chairman of the London Tape Recording Club, writes AN OPEN LETTER TO ALL CLUB SECRETARIES

DEAR CLUB SECRETARY,

Since my article in last month's *Tape Recording Magazine*, it has been brought to my notice that there may be as many as two dozen tape recording clubs in existence today. More are being formed each week and it has been suggested that an organisation, perhaps to be called the National Federation of Tape Recording Clubs, should be started to co-ordinate the activities of such clubs.

The Federation would be in a position to do many things that a single club would find too expensive or otherwise impossible to do. For example, it would organise lecture tours, demonstrations, competitions, and visits to manufacturers; it would give legal and technical assistance, represent recorder owners on a national scale and make available a large central library of tape recordings and books. It could tackle such problems as that of forming a standard characteristic for the speed of 3½ ips (overlooked by CCIR) and the question of performing rights and copyright. These are but a few chosen from an almost endless list. The Federation would have no control, of course, over the internal affairs of individual clubs.

A meeting to inaugurate such a Federation is to be

held in the near future in order to elect officers and to formulate a working policy. Each club is invited to send two delegates. The time and place of this meeting will be fixed to suit most delegates. I suggest a weekend in the summer or early autumn, somewhere in the Midlands. Please write to me at the address below giving your views and, I hope, your support. In your letter give (a) details of your club; (b) preferred times and places for the meeting; (c) names of delegates, if possible at this early stage, and (d) any ideas and proposals that will help the Federation off to a fine start.

All correspondence will be acknowledged and definite news of the venture will be sent to you by the end of May. This will give all of you the chance to acquaint the members of your club of the plan and to obtain their approval.

Yours sincerely,

J. E. Amphlett.

12, Stanhope Gardens,
Highgate, London, N.6

April 1958

Next month's enlarged Audio Fair number will be on sale on April 18th. It will contain an important survey of tape recording and high-fidelity development by R. E. B. HICKMAN, author of the 'Magnetic Recording Handbook'



How true?

Sound is produced more truly than ever on this marvel of scientific design and precision engineering, the Mark III Collaro/Sonomag Tape Transcripator.

It offers three speeds, 3½, 7½ and 15 inches per second. One pair of heads for each track.

Instantaneous changes from one track to the other. Two "Record/Play-back" and two "Erase" heads sited on two different levels.

This outstanding High Fidelity instrument has two dynamically balanced motors of low wattage input.

"Wow" and flutter content is negligible.

Available from stock now, at a price within everybody's range.

SPECIAL OFFER: TAPE RECORDERS

- Easy Terms without interest charges, 6 months' credit.
- Credit sale and Hire Purchase terms with *Free Insurance, Free Technical Advice and Free Delivery.*
- All prices include *Free Tape and Spool.*

Send deposit with order for immediate attention. Proposal form and Agreement by return. All without "Red Tape." Send now for full technical details.

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Britain's Leading Hi-Fi Specialists

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Tape Recording Magazine and the clubs

A STATEMENT OF POLICY

Our leading article, on page 13, discusses the rapid development of clubs in this country on a town or regional basis. "Tape Recording and High Fidelity Reproduction Magazine" is anxious to play a full part in stimulating this growth and spreading the movement as widely as possible.

We shall be happy to give direct assistance in three ways:

1. A three-colour silk-screen poster is being prepared for display in areas in which attempts are being made to start a club. We suggest that a local tape recorder dealer should be approached and asked if he will display the poster in his window. It will announce the intention to form a club and provide a space for information about the sponsor or the inaugural meeting. This poster will be available free.

2. A set of model rules and constitution for local clubs has been drawn up and a copy will be sent free to any group proposing to form itself into a club, to guide them in their early planning.

3. If you want to play a part in forming a new club, but know of no other local enthusiasts, write your name and address on a postcard, with the words "Local tape club supporter." Write the town, district or county, at the top of the card. Cards will be sorted and filed and we will endeavour to establish contact between enthusiasts living in the same areas, with a view to helping them form a club.

When this magazine was founded at the beginning of last year, the British Amateur Tape Recording Society was the only organisation genuinely active on all fronts. We were, therefore, happy to co-operate with the Society in every way.

But some misunderstanding appears to have arisen about the relationship between "Tape Recording Magazine" and the B.T.R.S. (as it has now been renamed). There has never been any exclusive arrangement, nor any formal relationship, between us. We have no direct influence on the Society's development or activity; likewise, they have no influence on the policy or conduct of this magazine.

We are anxious to serve the widest interests of tape recording in Britain and, to that end, every organisation with the same object is assured of our fullest co-operation.

NEWS OF THE CLUBS

Midland Counties

MIDLAND Counties Tape Society is planning to set up a team of commentators and reporters for the society's Sound Magazine. The organisers believe that interesting features can be made from band and orchestral concerts, celebrations and various outdoor events. The intention is to compile a list of members who would be willing to make location recordings of events for which permission to record has already been obtained by the Society.

Features of all kinds, talks, stories, music and so on, are also required for the Sound Magazine, and those ready to offer material should contact Mr. K. V. A. Holmes, 26, Park Avenue, Stafford. The January magazine went as far afield as the Isle of Wight and Denmark, where it was reviewed by the Danish magazine *Band-Amatoren*.

The society is negotiating with an Irish tape recording association for an exchange of membership lists for publication by each society. Membership of the society is not, it is stated, confined to the Midland Counties, the object being to give added interest to taping.

A new venture is the issue of "Opinion" tapes, each circulating to six members. Comments thought to be especially deserving of a wider hearing will be incorporated in the Sound Magazine.

London

THE London Tape Recording Club continues to grow. By the beginning of February the roll was thirty. At the meeting on the 6th of that month members heard for the first time the complete feature tape recorded especially as a friendly challenge to the Edinburgh Tape Recording Club. At the March meeting it was hoped to spend most of the evening comparing microphones brought along for the purpose. In April another currently manufactured tape recorder will be demonstrated.

Plans are afoot for starting a library of tape recordings and books and other literature on the subject of magnetic recording. The Secretary is E. Roger Aslin, 269, Green Lanes, Finsbury Park, London, N. 4.

Bournemouth

Bournemouth Amateur Tape Recording Club are now meeting every other Thursday in their new club-room in the Pembroke Hotel.

At a well-attended meeting on Thursday, 20th February, the programme included a demonstration of tape splicing by Mr. D. N. Jenkins and instructions on making a simple speed testing device for recorders.

The play back of members' entries for the weekly competition was thoroughly enjoyed. The two entries judged best received certificates which will be eventu-

ally exchangeable for articles useful in tape recording.

Tapes are circulating amongst members for building up a programme for despatch to the Blind Circle, and other tapes are being used for a debate.

The club issues an open invitation to anyone to attend a meeting to see their activities and they particularly want to encourage the ladies. The next meeting is on Thursday, 20th March, and meetings will be held every other Thursday from then on. The secretary is Mr. F. T. Gaymer, 67, Old Christchurch Road, Bournemouth, Hants.

Luton

THINGS are moving in Luton, with half-a-dozen or more people preparing to join in. The local Press have co-operated well with publicity and two well-known recording enthusiasts, Mr. Maurice Nichols and Mr. Lee Lacy, are working hard to get things rolling. Any other readers in the Luton area who are interested should get in touch with Mr. Nichols, whose address is 53, Sundon Park Road, Sundon Park, Luton, Beds.

Warwick

ABOUT 25 people attended the inaugural meeting of the Warwick and Leamington Amateur Tape Recording Society, which was officially formed on 17th February. The secretary is Derek V. Randle, 4, Edmonscote Road, Leamington Spa, Warwickshire. Proposed initial activities include reading for the blind, providing music for hospital patients, and arranging group recordings, tape dubbing and tape exchange. Minutes of meetings are being transcribed on tape for the Society's archives.

Coventry and Dundee

COVENTRY is another town to form a tape recording club, to be known as the Coventry Tape Club. Anyone in the area who is interested in taking part should contact the Secretary, Mr. Malcolm J. Simmons, 102, Lawrence Saunders Road, Radford, Coventry.

Formation of a club is imminent in Dundee, and readers interested should get in touch with Charles W. Aitken, 59, Strathmartine Road, Dundee.

Middlesbrough

A TALK on the subject of "some legal aspects of tape recording" was given by Mrs. D. H. Lonsdale at a meeting of the Middlesbrough Tape Recording Club, held on 5th February in Settlement House, Middlesbrough. Tape correspondence received from friends in Crewe and Northampton was presented by Mr. B. Harrison, chairman of the club.

The address of Mr. L. Watkins, of World Tape Pals, is 40, Ravenslea Road, Balham, London, S.W., and not as given in our March issue.



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Alan Lomax throws out a challenge—

Britain is lagging on tape recorders

GREAT BRITAIN has for a long time been an under-privileged country so far as high fidelity tape recording is concerned.

The portable American machine, Magnechord, which I first brought to this country in 1950—cost just over £200, flat from 50 to 15,000 kc.—was until recently unmatched by any British machine except for the professional E.M.I. studio monster, whose cost from the amateur's point of view was astronomical.

It was not until a month ago that I heard a British machine that was as good—the new E.M.I. transportable, the E.M.I.-90. However, even this machine is so heavy that it takes two strong men to carry it even a few yards. Otherwise, very, very fine.

I was finally roused to write you this letter by the article from your American correspondent who said—about American machines—“They are sometimes less well constructed, but I think they are better designed.”

This is the most misleading statement of the year. It implies that the American decks are less well-constructed than the British, though somewhat more ingeniously designed.

The fact is that British portables have, until now, given constant trouble through breakdowns. By contrast, my example of the Magnechord and numerous others belonging to my associates, have turned in professional performances all over the world under every sort of conditions.

The American Ampex 300 is, according to Gilbert Rouget, who took one to Africa, just as stable and dependable as the Magnechord and much lighter. And acoustically speaking there is just no comparison. A great many engineers would agree with me in saying that the Ampex professional transportable is the most satisfactory machine in the world. You may think I am a patriot about these matters. I assure you

that I am not. I can prove it by saying that the finest instrument that I know of for my particular job of field collecting—combining maximum portability with sturdiness and high fidelity—is the Swiss Nagra, manufactured by a Pole named Kudelski (address 30bis, Route de Chasseur, Prilly-Lausanne, Switzerland.) May I add that I consider the best loudspeaker made in the world today is the Quad Acoustical Electrostatic, invented and manufactured by Peter Walker at the Acoustical Mfg. Co., Huntingdon; price about £50.

No, the problem is not lack of British know-how in the field of sound, but a seeming reluctance to apply it to tape recording. The fact is that Radio Rome is better equipped than any studio in London, for example. And if there is better equipment available to the amateur in the U.S.A. or anywhere else, it seems to me the duty of your foreign correspondents to say so and not to imply that Americans would all buy a Vortexion if they could afford it.

Only if British buyers know about better machines and better quality will your British designers and manufacturers be inspired (or forced) to give you better equipment to do your work. At the moment, as I see it, they are repeating the old designs with the old limitations and decorating their sets with flashy controls and gadgets which have nothing to do with the essential function of a tape machine—which is to record and reproduce with absolute fidelity what your mike feeds into it.

I think my great affection and respect for Great Britain has been evidenced on the B.B.C., but I draw the line at the recording machines handed to the British public. I am sure that the famous British candour applied to this subject would produce changes that would make everybody a lot happier.

ALAN LOMAX.

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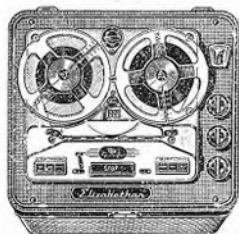
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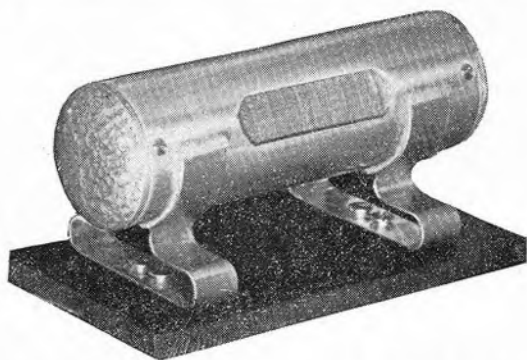


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RECORDING FROM RADIO

(Continued from page 26)

stages must necessarily be transferred to our tape. The method now to be explained taps the signal immediately before the A.F. amplifying stages, in fact immediately after the "detector" stage.

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Plug in the cable to the radio socket of the recorder and you are all set for recording. This method will enable recordings to be made irrespective of the radio receiver's volume. Adjustments to the volume control will not affect the signal to the tape recorder.

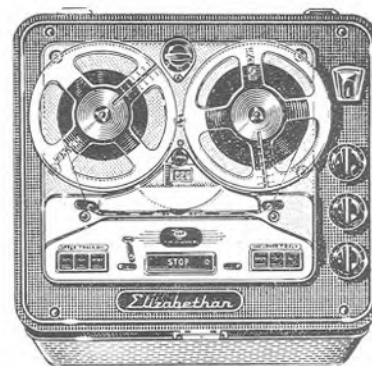
If you like this method of obtaining a signal from your radio, make it a permanent modification by fitting to the radio chassis a co-axial socket suitably connected to the volume control via the capacitor, so that a lead may be plugged in from the tape recorder and recordings made without a lot of fuss and preparation.



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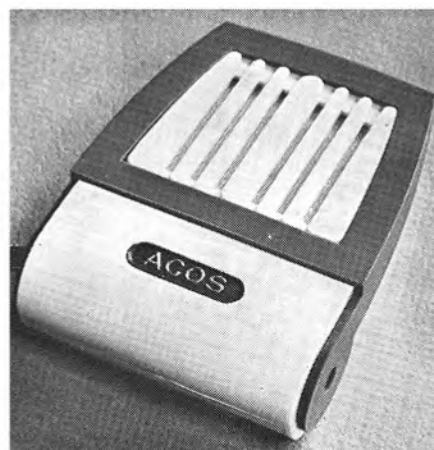
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