

JANUARY 1968

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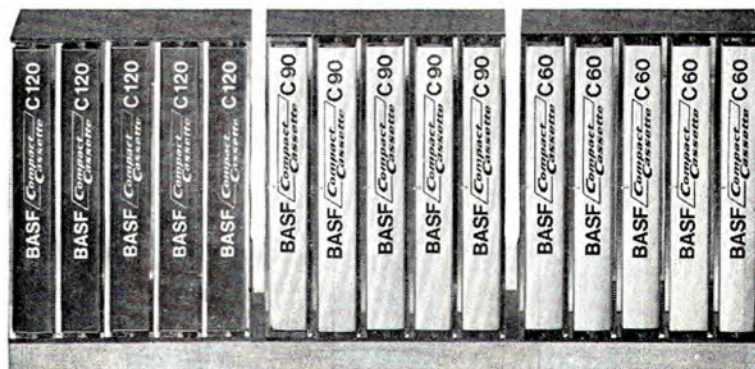


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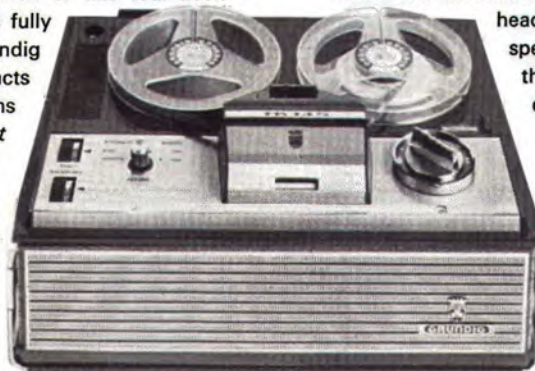
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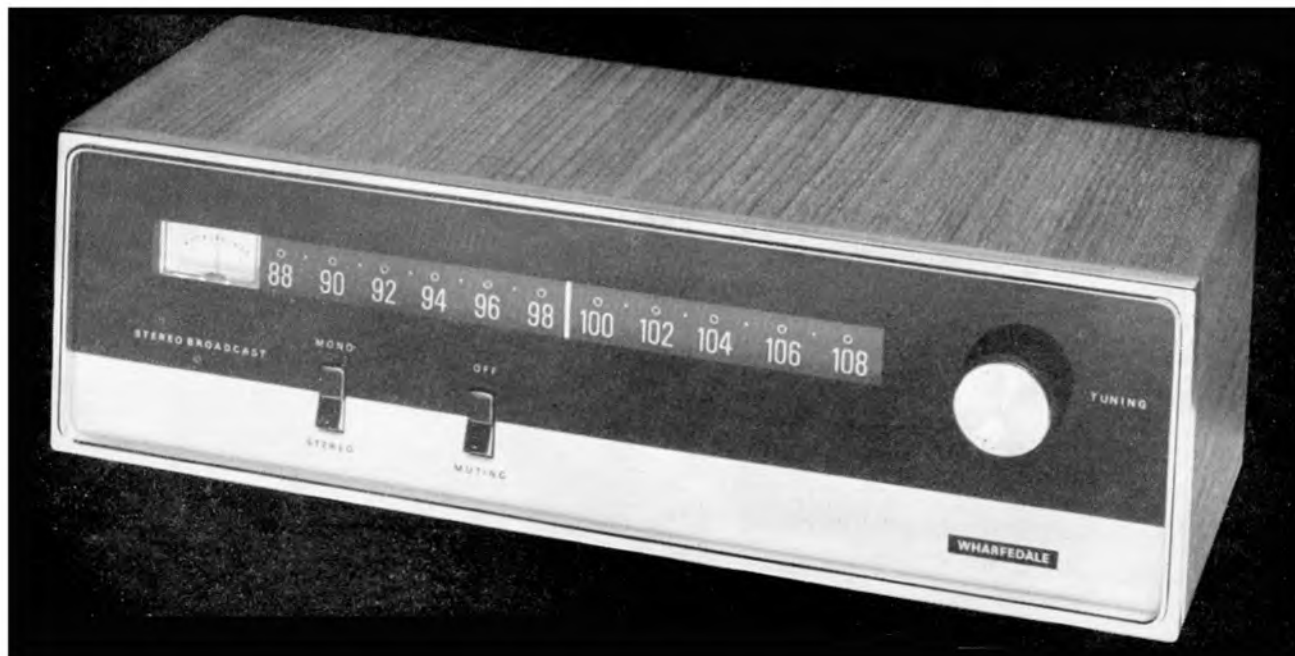
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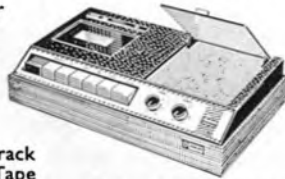
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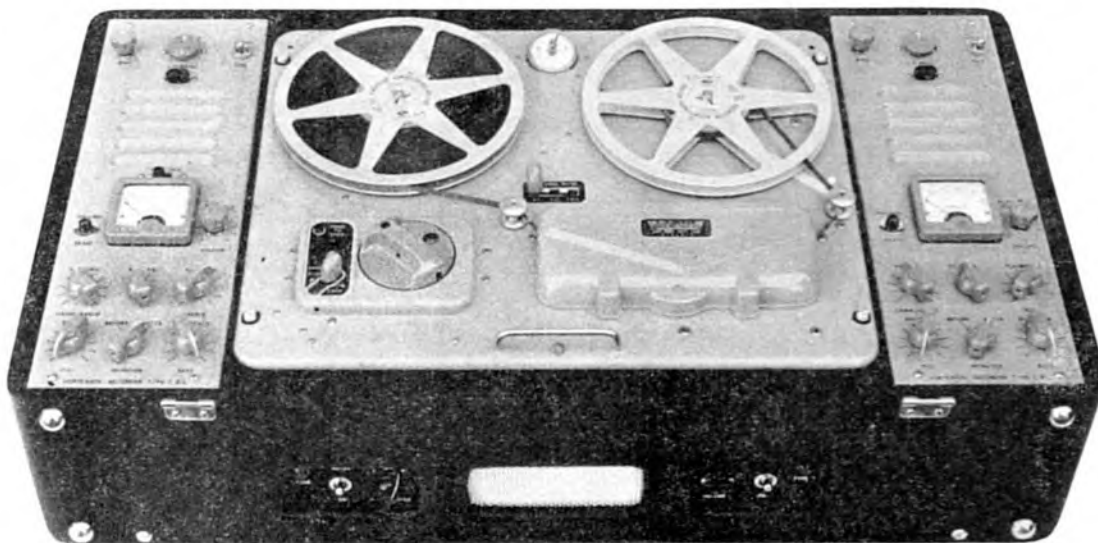
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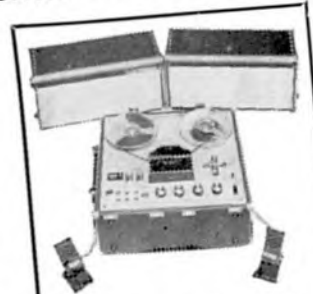
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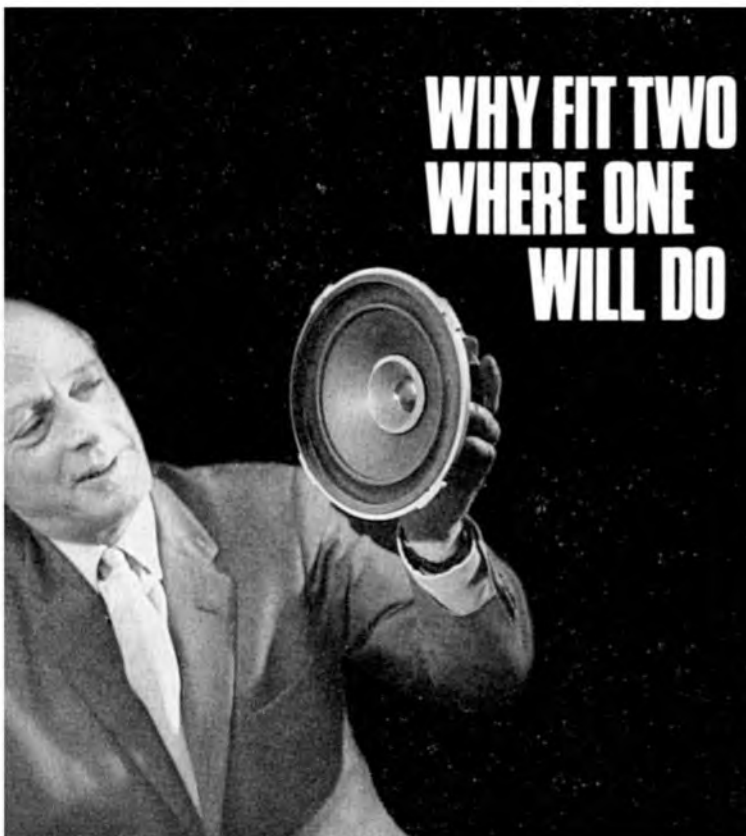
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TAPE

RECORDING
MAGAZINE

Vol. 12

No. 1

January 1968

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COVER PHOTOGRAPH: "Get those Puppets Taped" says author Walter J. Smith in his article on pages 22 and 23 of this issue. Here we see the Smith children at a recording session, together with the actual puppets made by following the directions given in our feature. Tape recording is for all the family; what better time to introduce it to the children than during the Christmas holidays? And dare we suggest that parents too will get at least as much fun out of a taped puppet show as the younger generation?

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Back numbers, if still in print, are available, at 2s. 6d. per copy.

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Tape trends and tape talk

By Douglas Brown

A PROGRAMME of special interest is being transmitted by the BBC on Radio 4—the Home Service—on Wednesday, December 20, at 9.30 p.m. It will include the winning tapes in the BBC National Tape Recording Competition. Mr. Basil Boothroyd, whose keen eye for humour has won him a unique reputation as a broadcaster, is to introduce the programme.

Unfortunately, I was not able this year to take part in the judging of this Competition, in Manchester last month, because of illness. John Bradley, of the Federation of British Tape Recordists, deputised for me.

I understand that the number of entries was almost double that in the first competition a year ago—although not yet up to the figures achieved in the British Amateur Tape Recording Contest which has, of course, a much longer history.

Arrangements for the next BATRC, incidentally, are advancing well, with the new committee of leading audio journalists (under chairman Cyril Rex Hassen) well in control. The necessary finance is being raised successfully and manufacturers are showing generosity in other ways, too; this time there will be valuable equipment among the prizes.

Approaches are now being made to assemble a distinguished panel of judges and the work of sifting the tapes will begin early in the New Year. As has already been announced, the announcement of the results and the presentation of prizes will be at the Audio Festival next year.

The closing date for the contest is December 31. If you have not already completed a tape, do it immediately and make sure to be an entrant in this Contest. We want the biggest entry ever. Entry forms are still available. Inquiries (and entries) should be addressed to: British Amateur Tape Recording Contest, c/o The Secretary, 33 Fairlawnes, Maldon Road, Wallington, Surrey.

The best tapes in this British Contest will form the British entry in the 1968 International Contest (CIMES), scheduled to take place in Prague. CIMES shows signs of development in a number of interesting ways. Apart from the basic categories in which tapes may be entered, there are now a number of special prizes. There has always been one for the most humorous tape. For the past couple of years there has been a prize for the tape most suitable for broadcasting—the judging is done by radio professionals.

As from next year, there is to be a “special theme” category. In 1968 competitors are asked to submit tapes, not exceeding 15 minutes’ duration, on the theme “The country in which I live.” The subject offers great scope: the approach may be topographical, historical or sociological, patriotic, cool or satirical. There is only one qualification: ideological argument must be kept out of it.

There has always been a certain amount of confusion among competitors in the British and International Contests about what constitutes a “Documentary/Reportage” and what is an “Actuality” tape. In Berlin in October, the CIMES jury made adjustments to the rules to try to overcome this difficulty. In CIMES, from next year, the old Documentary category is

amended to: “Reports and interviews (with obligatory spoken commentary), maximum duration, eight minutes.” The old Actuality category is recast as: “Sound Recordings of a rare or unique character or obtained in circumstances of great difficulty (noises, voices or music), maximum duration, four minutes.”

There are now signs of a healthy amateur tape recording movement emerging in Italy. I was delighted to meet in Berlin Signor Giorgio Grassi, of Parma, who was a moving spirit in getting an organisation established. It has been in existence for nearly six months now and, though the membership is not yet large, it is well distributed throughout Italy. Much of the activity to date has been production of tapes for the blind, but a campaign is now going forward to educate enthusiasts in other creative uses of their equipment.

Signor Grassi, incidentally, was recording some of the proceedings in Berlin on a machine recently marketed in Italy, the Lesa, which sells at the equivalent of £14. It is, of course, a simple apparatus, plastic-cased, with only two controls, but accommodating five-inch spools and with a remote-control microphone. It indicates dramatically the entry of tape recording into an entirely new sector of the consumer market.

One of the most frequent inquiries directed at *TAPE Recording Magazine* over the years has been about tape recorder sales and the number of machines in use in Britain. No-one has had a reliable answer. Now the Ministry of Technology has begun to collect statistical information.

We shall have to wait a month or two before there will be figures for a complete year, but it seems to be the case that about 300,000 recorders are being sold in a full year. And if you take the second quarter of 1967—which appears to be fairly typical—45,713 recorders of foreign manufacture were sold, against 27,670 of British manufacture.

What is more interesting, and perhaps more alarming, is that the evidence so far available suggests that British firms are not holding their slice of the market.

IN THIS ISSUE we welcome back John Borwick as a regular contributor to *TAPE*. He begins a series of twelve articles in which he will guide the reader in the setting up of a home studio. Another notable new series also begins in this issue with an introductory article on multi-tracking. This series will also run for a full year and will cover radiophonics and the whole field of technical experiment which has opened up exciting new fields of tape recording activity. The author is probably the outstanding expert on his subject.

Yet another new feature starting this month is “Monthly Nature Notes” designed to assist and encourage the ever-growing interest in wild life recording.

In an early issue we hope to be able to announce another distinguished recruit to our team of regular contributors.

Devaluation and the Audio Industry

TAPE TALKS TO-RECORDER IMPORTERS

IN recent editorials we have stressed the urgent need for audio manufacturers to export. In "Tape Trends" this month Douglas Brown quotes official statistics published by the Ministry of Technology which purport to relate sales of home manufactured and imported tape recorders. The situation revealed could be construed as the dismal failure of British tape recorder manufacturers to meet the challenge although both Ferrograph and Grundig challenge such conclusions. But the cumulative effect of similar situations in other fields has produced the dire result with which we are all now only too familiar—the devaluation of the pound by 14.3 per cent.

Undoubtedly industrialists will blame the politicians, just as the politicians will blame the industrialists. With monotonous regularity both sides in turn blame the trades unions.

Apportioning blame is a profitless occupation leading only to further stagnation. But whilst it is our intention to maintain strict impartiality we cannot be too forceful in pointing out that it is the general public—the man in the street, the cash customer, the consumer—who will immediately suffer.

The British public has been grossly misled into believing that increases in prices of imported goods should not be expected for some time, and it has even been hinted that firms who put up their prices immediately will be guilty of the very worst form of unpatriotic profiteering. Such statements are absolute, unmitigated nonsense. Most importers of both raw materials and manufactured goods from abroad conduct their businesses on the normal basis of commercial credit. Imported goods lying in warehouses at the moment of devaluation will, in most cases, have to be paid for by the importer in December or January. And when they are paid for the exporting manufacturer will expect to receive the agreed price in his own national currency. As this will now represent more pounds sterling the importer is faced with the urgent need to adjust his prices *immediately*.

One very large importer of American audio equipment trades on a six month credit basis. This means that he is liable to pay at the new rate not only for stock on hand, but also for all deliveries he has received from the States during the six months before devaluation. Most of these goods have already been sold, and, as he now finds to his cost, will have

been sold at a loss. This appalling situation could bankrupt any small firm.

In this climate of commercial confusion we have been discussing these very difficult and complex problems with some of our leading importers of recording equipment. It was quite apparent from our conversations that in every single case the individual firms concerned are making superhuman efforts to establish a price structure that will not only protect their own interests but will also enable them to offer goods on competitive terms in the British market. Far from rubbing their hands with glee at the thought of increasing their prices they are adopting this course with the very greatest reluctance. It must be remembered that import duty is now calculated on the new sterling value of the goods, and where purchase tax is applicable this too will be increased by the devaluation of the pound. There is already a move to increase international freight charges so that carriage from the country of origin will cost more. Altogether a thoroughly depressing picture.

Some importers, notably Akai, Ampex and Philips, felt that it was too early to make any comment, but if late news is received from them it will be included as a postscript to this editorial. Bang & Olufsen are in a privileged position since B & O equipment is manufactured in Denmark and the Danes have devalued their own currency. The distributors, Debenhams Electrical, confidently predict that none of the B & O products will be subject to price increases. The same firm handles Sony equipment from Japan, and here we can expect to see price increases within the next few weeks (possibly by the time we have reached publication date).

Elstone Electronics gave us a very firm, if surprising, statement that Tandberg recorders would not be subject to price changes "at present." Grundig are in an unusual situation since some of their products are manufactured in Ireland (which has, of course, devalued with us) and others are made in Germany. As most of the tape recorders are of Irish manufacture they will not be subject to immediate price increases, but as components are imported they will find it extremely difficult to maintain present price levels indefinitely. Grundig hi-fi equipment, audio units, stereograms and radios are mainly imported from Germany and so are liable to cost more in the very near future.

Revox machines are made in Switzer-

land and the distributors, C. E. Hammond & Co. of Windsor, are having to make immediate price increases but they have been able to fix these at no more than 7½ to 8 per cent. This is quite an achievement when one considers that the amount of devaluation was 14.3 per cent on the old value of sterling, but which is now represented by an uplift of something over 16 per cent of the new low-value pound. Hammonds also distribute the Eltra machine from Denmark which will be subject to a smaller rise to account for increased freight and carriage charges.

The importers of Aiwa and Eagle products, B. Adler Ltd., are preparing revised prices incorporating increases of up to 17 per cent and these will come into effect as from January 1.

Two very big importers of magnetic tape, Agfa-Gevaert and BASF, both report that they are watching the situation extremely closely and are making every effort to avoid price increases, although this may become inevitable. Scotch tape, manufactured by the 3M Company, is in a happier position since this firm has a factory in Wales which produces most of their audio tape used in this country. E.M.I. is another British producer who should be able to hold down prices at present, and we are even advised that the imported stereo tapes handled by the E.M.I. Imported Records Division will not be subject to price change at present.

News is not so good from the microphone importers. AKG have at the moment of writing made no decision but it would be reasonable to anticipate an announcement of a price increase very shortly. Audio Engineering, distributors of Sennheiser microphones, are having to revise prices immediately and the increases will be up to about 17 per cent.

So we come to the end of a very doleful tale. It will take us all a very long time to get used to new price structures. In the present state of confusion we would assure readers that all importers with whom we have talked have been more than eager to do all they can to keep their prices down. In some cases they are obviously being helped by adjustments in prices in the countries of origin. In others they are probably paring their own profit margins down to the lowest possible level so that they may remain in business. We could not help getting the impression that if our exporters had shown as much resourcefulness as our importers then this present appalling situation would never have arisen.

NEW SERIES

THE FINE ART OF MULTITRACK



The Brenell STB-2 is typical of the kind of recorder suitable for quality multi-tracking work. Additional facilities offered include 2 x 2 channel mixing for stereo, variable bias and "after record" monitoring. The STB-2 is made by Brenell Engineering Co. Ltd., of 231/235, Liverpool Road, London, N.1

THE term "multi-track," when applied to multiple recordings made with domestic equipment, is not perhaps a strictly accurate one. In the professional field multi-tracking may well consist of as many as eight recordings, each on its own track. The tape employed is generally one inch wide, and each track is allocated its own erase, record and replay head. Record and replay heads can be independently aligned so that the different recordings can be synchronised. This is especially important in music, because it means that one is not bound to transfer each successive recording with resultant loss of quality and build-up of tape and amplifier noise. Tape recorders used for this purpose are specially designed, and it goes without saying they are extremely expensive. Unfortunately there is nothing of this kind available at a price which the amateur can afford.

Multi-track techniques can, however, be applied with almost professional polish by the careful choice and use of tape recorders having the appropriate "sound-on-sound" or "track-to-track" facilities. No doubt you have seen those advertisements for tape recorders which, according to the manufacturer, enable one single person to sound like a whole orchestra.

"Your friends will be amazed when they hear you playing five different musical instruments all at once," says the advert! They will indeed, and yet this is possible providing you can play the appropriate musical instruments. But perhaps you may not be a musician yourself, in which case there still remains the possibility of co-opting musically versatile friends. You would still find that multi-track (I will continue to use the term for the sake of clarity) is an art. It occurs to me now that, as a recording enthusiast, you may not even have friends, in which case become a "versatile" actor instead.

In one of the recent British Amateur Tape Recording contests, one contestant produced an extract from Macbeth recorded by means of multi-track techniques in which he played all the parts himself. The method can be applied in other ways too—in electronic music, in sound montage or musique concrète, in sound tracks for cine films, sound tracks for Son et Lumère, and so on. After all, the whole basis of multi-track in the amateur sense is simply copying from one track to another, adding new material at each stage. The method, system, process, call it what you will, is the same whether you use a single tape recorder with track-to-track facilities or two separate tape recorders, but it is an art and it can be done artistically for others to enjoy. Moreover, it presents one of the most interesting challenges to anyone intent on producing creative forms of sound recording.

In a very early issue of *TAPE Recording Magazine* I described a more or less home built system specially designed for multi-recording. This particular set-up was derived from an even

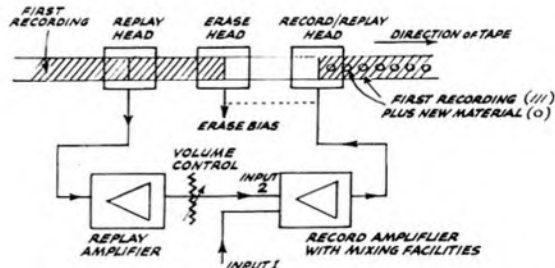


Fig. 1. A multi-tracking system used by the writer in the very early days of tape recording. The first track is made via the recording amplifier in the normal way. When the tape is re-run this recording is picked up, passed through the replay amplifier and from there back to the tape together with the next material. Erasure takes place during its travel between the two record/playback heads

earlier one built some 15 years ago. It employed a mono-only tape deck, suitably modified, so that the signals already laid down could be lifted from the single track and re-recorded with new material a little further along the same track. Between these two points the tape was erased, ready to take the new recording. An outline of the system is shown in Fig. 1 and could be employed even today with a tape deck such as the Brenell Mk. 5, fitted with the necessary replay, erase and record-head system coupled with the appropriate record and replay amplifiers with mixing stages. I would advise, however, that to modify an existing domestic mono tape recorder to operate in this way would be extremely difficult, and would recommend a different approach.

Nowadays there are many tape recorders available with track-to-track recording facilities, in fact most stereo recorders have this feature. A little guidance on the kind of recorder best suited for good quality multi-tracking might at this point be worthwhile. Quality in recording and reproduction is of paramount importance, so it stands to reason that very cheap machines, even though they may have the right facilities, may well have the obvious limitation, i.e., they will not maintain good quality through the process of re-recording. A wide frequency response is not absolutely necessary either, especially when this has been obtained at the expense of high noise level. Most of the letters I receive from multi-track enthusiasts are concerned with the problem of high noise level. To run for at least three stages of re-recording the tape recorder should, in the first instance, feature a very low hum and noise level, preferably better than -50 dB with reference to a full level recorded signal. A frequency response extending up to 12,000 Hz or thereabouts is sufficient. Tape speeds also play an important part, and a machine with at least two speeds, either 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ ips or 7 $\frac{1}{2}$ and 15 ips,

By an author whose identity we cannot yet reveal but who is an acknowledged authority on . . .

THE FINE ART OF MULTITRACK

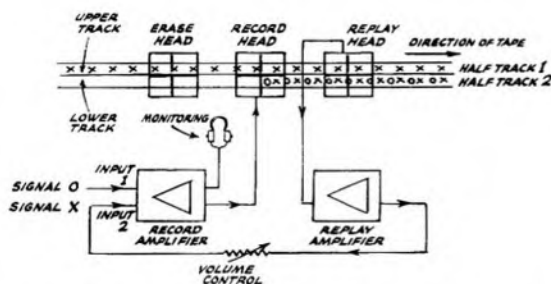


Fig. 2. The basic system of track-to-track recording. A recording (x x x) is first made on, say, the upper track; the record amplifier would be switched to the upper section of the record head. This recording can now be transferred to the lower track via the replay head and a suitable mixing arrangement in the recording amplifier. The next material (o o o) is added simultaneously

is essential if one wishes to introduce the "twice speed" technique used by artistes such as Les Paul the American multi-guitar virtuoso. He incidentally might well lay claim to being the originator of multiple recording with musical instruments. His very first recordings were, however, accomplished by re-recording from disc to disc!

Modern stereo tape recorders which feature the track-to-track or sound-on-sound facility may not be ideally suited for this particular purpose. In multi-music recording perfect synchronisation between one track and the next is essential, and for this reason one must be able to hear the signals already recorded on the track being transferred and the signals which are being mixed.

It is essential, too, that control over the playback level of the pre-recorded track is completely independent of the normal recording volume control. Input mixing on the record channel is also highly desirable. When the signals for multi-track are recorded via a microphone, monitoring may have to be done by headphones and although some tape recorders have provision for headphone monitoring it is not always possible to switch off the internal loudspeaker. Those who contemplate buying a tape recorder for multi-track work would do well to assure themselves that at least the facilities so far outlined are available.

Although conventional half-track recorders still provide the best signal-to-noise ratio, I have recently handled quarter-track machines with an exceptionally good performance in this respect, for example, the Ferrograph 634 and the Tandberg model 64X. These two recorders lend themselves admirably to multi-recording as they both have separate volume controls for playback from either channel as well as for the recording inputs: microphone and high level. Both are tape record/replay units which do not have their own output stages and loudspeakers, so let's consider

how to use them and also other highly desirable external equipment, such as signal mixers and amplifiers, etc.

It so happens that the stereo tape units I've already mentioned above, and here we might include those made by Truvox, Bang and Olufsen, Sony and others, are perhaps more ideally suited to multi-recording than complete tape recorders with what really amounts to compromise facilities for this kind of work. Very many stereo record/replay units have the necessary extra replay head and replay pre-amplifiers with independent volume controls for inputs and outputs. Used in conjunction with an external mixer, amplifier and speaker they provide for a highly flexible, multi-recording, system. I think it worthwhile giving one example of just such an arrangement which I have used.

This was a Tandberg Model 62 stereo tape record/replay unit, a three-channel signal mixer (high level inputs but unity gain) and a high fidelity amplifier and loudspeaker. Channel switching and controls on the Tandberg 62 are such that one can monitor previously recorded signals and signals to be recorded either separately or together. Recording and playback levels can also be set independently, and, more important, any recording already completed and approved need not be erased in the event of a mistake on the next track. I should clarify this latter point by saying that with machines having sound-on-sound or track-to-track facilities the previous recording is not erased whilst the next one is being made. If a mistake is made one does not have to re-make otherwise satisfactory work.

Finally, a word or two for those with two mono-only tape recorders and who may be wondering about multi-tracking. I should say that a system employing two separate tape recorders is, if anything, superior to the track-to-track method with a single machine. So if you already have a good mono recorder it may be worthwhile acquiring a comparable second machine rather than invest in a track-to-track recorder which may not prove so flexible. I normally employ two stereo record-replay units, and the reasons for this I will go into later, for together with an appropriate mixing unit and amplifiers it is perhaps the ideal system as far as the amateur is concerned.

During the course of forthcoming articles I will deal in detail with the making of multi-music recordings with popular instruments such as the guitar, electronic organ and piano, as well as track-to-track sound mixing for creative work like "one actor" plays and the making of sound tracks for synchronising with cine films. General principles in their different applications are very similar. The problem of maintaining high quality with the minimum of unwanted background noise is also extremely important, and this, too, will be discussed. Descriptions of items of specialised pieces of equipment will also be given, since these may prove of interest to the more advanced enthusiast.

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Buy the new, improved range of Emitape. It makes everything sound so real—it's unbelievable! Insist on it for your tape recorder and enjoy the difference. And don't forget the new C60 Compact Cassette—a whole hour of playing time (30 mins per side) and the new C90 Compact Cassette—an hour and a half playing time (45 minutes per side). Ideally matched for all Compact Cassette Recorders. Packs of 6 include free rack for library storage.

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The author, right, with a class of students using Vortexion equipment

NEW SERIES

THE HOME STUDIO

By John Borwick

IN calling this series of articles "The Home Studio," I want to encourage the idea that serious tape recording is possible in the home environment. Conversely, I hope to show that "domestic" tape recording equipment, properly organised, can produce recordings that fall only a little short of the full-scale professional job.

By way of an introduction this month, let's begin with a review of our objectives. Then, in future instalments, I shall deal with each aspect separately. More than this, I shall describe the right procedures for carrying out routine checks on the home studio's performance and ways of reaching a wider audience with your tapes. The home studio must provide:

1. Good technical quality.
2. Consistent quality.
3. Operation at short notice.
4. Versatility.
5. Good playback quality.
6. Editing and copying facilities.

This list could be lengthened, but it will do for a beginning. Here are some thoughts on each of these six objectives.

1. Technical quality

Of course, the recorder you own and the length of your purse put a final limit to the technical performance you can expect. Few home studios can have sound-proofed control rooms, £2,000 recorders and £200 microphones.

All the same, if you push your recorder up to the limit of its inherent capabilities and adopt the degree of operating care and attention to detail that I shall be outlining in future articles, you will achieve a technical standard to be proud of.

Good microphones will help, but equally important is microphone technique. This involves a thorough knowledge of your microphones' characteristics and the acoustic properties of the room. By the way, I am going to insist that you do any serious listening, or "monitoring" of your recordings, in a separate room from the one in which the microphones are placed. I consider this separate listening to be an absolute must.

The choice of tape recorder is inevitably tied up with the question of price—and you must be the best judge of how much you can afford to spend. I would say, however, that I put Objective 2 (consistency) before Objective 4 (versatility). A steady, reliable recorder without frills makes a better home studio machine than one with all the gimmicks and perhaps erratic running speeds, etc.

On this question of speed, I also want to make a strong plea for recording at 7½ ips (if your machine has this speed); 15 ips is even better—for frequency response, signal-to-noise ratio and ease of editing—but this speed is rarely provided on domestic or semi-professional recorders and is perhaps too greedy of tape.

The home studio must not be mean with tape, however. I suggest you record everything at 7½ ips and *make copies* at 3½ or 1½ ips for your friends or archiving if necessary. Also, your "master" tapes should be recorded on one track only (two, of course, for stereo) with all other tracks blank. This will remove any inhibitions you may have about cutting and joining—an essential step in the preparation of tidy, well-edited recordings.

And use a good brand of tape—Standard Play if you are going to do lots of editing, Long Play for a quarter track machine or slow speeds.

2. Consistent quality

Most amateurs would be surprised by the lengths to which professionals go to get *consistent* quality. Occasional "flash-in-the-pan" flights of breath-taking brilliance, recording up to 25,000 Hz for example, are avoided in favour of repeatable standards of excellence based on the assumption that yesterday's tape may need to be spliced directly to tomorrow's with no audible change in level, background noise or response.

You can emulate this professional approach by making consistency a main objective. The way to achieve it is to apply set procedures to every aspect of your recording: so that unwanted

variables can be eliminated. A whole chapter will be devoted to this subject later on.

3. Operation at short notice

The home studio must be "ready to fire" quickly and without bother. Too many good recordings will be missed if you have to wander around looking for bits and pieces or getting things out of cupboards. So try to lay out your recorder, editing equipment, etc., on a table or bench ready for immediate operation. Keep a check on supplies of tape, empty spools, leader tape, jointing tape, plugs and cables. Bearing in mind my insistence on keeping the recorder in one room and the microphones in another, it may be an idea to install permanent wiring to save the bother of running out cables for every recording.

4. Versatility

The home studio must be able to tackle a wide assortment of recording tasks. "Live" microphone recordings of talks, interviews, play readings, solo or group musical performances should be catered for—with the possibility of coping with similar jobs away from base at friends' houses, etc.

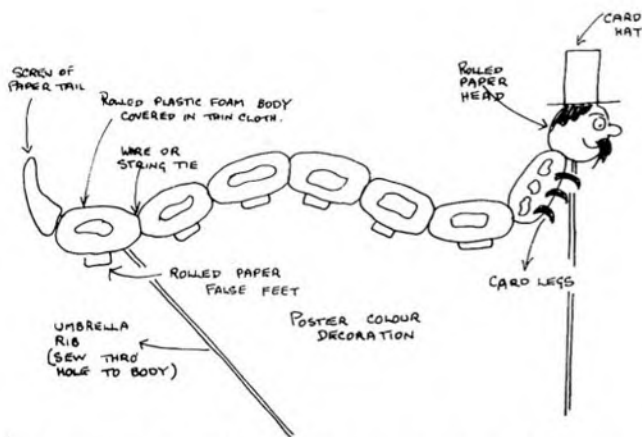
You must be ready to provide special effects and record from existing tapes, gramophone records or radio. (This implies a knowledge of the sources of such material and the relevant copyright restrictions.) A good quality, reliable gramophone turntable and radio tuner are necessary, and a mixer is a useful accessory.

Versatility will also mean having more than one type of microphone, sundry microphone stands, cables and connectors of all kinds. A battery-operated recorder would be useful too for collecting actuality sounds, mobile recording, etc.

5. Playback quality

The technical quality discussed under Objective 1 was mainly that of the recording—everything from the microphone to the signal captured on the tape. But every bit as important in the home

Please turn to page 28



Our caterpillar could have more than one use at Christmas or New Year parties!

PUPPETS are fascinating. As a form of entertainment they must be nearly as old as man. And their educational value is undoubted. Simple glove puppets have an enormous sale and children love them. The pity is they are so quickly discarded—even those made at home with such labour and care. The reason is that their apparent potential is quickly exhausted. The true function of a puppet is to tell a story, however simple—something that has a beginning, a middle and an end. Once children can do this they can get the deeper satisfaction of giving a true entertainment. To do this they may need help initially, but the whole thing can be great fun.

The simplest production presents one great snag, the snag that so often stifles it at an early stage. Learning the words—and remembering them. Doing this, and working the puppets at the same time, can be a very real labour. If the script is recorded, however, the situation is transformed. The machine comes into its own, the big snag is eliminated and in its place comes the fun of recording. In addition the taped play can always be presented in the minimum set-up time.

All the sounds, including the “effects” go on the tape too.

This cuts out assembling any special material while the play is in progress, or having to remember to bring odd sounds in at the right time. All you have to do with the whole thing is to go along with the puppets—and one rehearsal is usually enough to get the hang of it.

For taping the children have to have their scripts to read from, and the apparatus for the effects available. And how they love devising the clangs, bangs and hisses that may be demanded by the script!

One tends to associate puppet shows with a special stage and lights—at least something on Punch and Judy lines—but such professionalism is not for the average house, and neither is it in any way essential. Poke your puppet over the edge of the table indoors, or over the top of a large board in the garden, and the magic will still be there. Preferably drape the front of the table so that the puppeteers are hidden.

There are three main types of puppet—

the glove, the marionette and the stick. The marionette is the dangled type and not considered here. Children love the glove puppet, but the stick type gives more scope in some respects, and in the play suggestions which follow the stick type have been used with effect.

Essentially a stick type puppet is a body mounted on a stick, with rods (umbrella ribs are recommended) to the hands. The stick turns the figure to and fro and the rods allow wide gestures.

The crucial question now is—what show? What play? The simple answer is to use what you have and build a little story up around that. More concretely, illustrate a simple nursery rhyme. This can be done at a simple or a more sophisticated level. Here is a suggestion for using a glove puppet and a cut out properly mounted on a stick.

The Story of Little Jack Horner

(Musical introduction which fades as puppet of Jack pops up into view.)

Voice: Little Jack Horner—

(Jack bows left and right)

Voice: Sat in his corner—

(Jack backs to one side)

Voice: Eating his Christmas Pie—

(A flat cut-out of a pie comes into view. Jack moves across to it)

Voice: He put in his thumb—

(Jack pushes hand forward which goes behind the cut-out. Some small object is quickly fixed to it to represent a plum)

Voice: And pulled out a plum—

(Jack pulls his hand from behind the cut-out pie)

Voice: And said What a good boy am I!

(Jack dances round to music brandishing his “plum” and then sinks down out of sight).

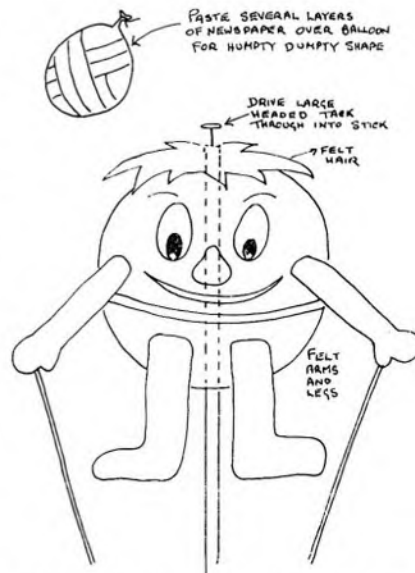
For many nursery rhymes simple cut-outs can play a major part. “Hey Diddle Diddle” for example can be a sprightly presentation of cut-outs. Think how easy it would be to give a lively presentation of “There was a Crooked Man” or “Little Boy Blue.”

But for the older child a more sophisticated treatment will be required. Hence the inclusion here of a script for a play one might call “Humpty Dumpty and the Magic Egg Box.”

We make no excuses for devoting these pages to children's amusements - the tape recorder can help to keep them happy during the holiday if you....

GET THOSE PUPPETS TAPED

“The children will get as much fun out of making these colourful props as they will from producing a complete show”



Have a look at the illustrations for ideas for making the properties. Humpty Dumpty can be lightly but strongly made by covering a blown-up balloon with strips of paste-soaked paper. Give him about three thicknesses, and then leave to dry thoroughly. Let down the balloon and withdraw. Attach cloth (or felt) arms and legs and paint boldly. Incidentally, when making up puppets from your bits and pieces, eschew sewing altogether unless it is absolutely necessary. A rubber latex glue is excellent for sealing pieces of cloth together—and done in the twinkling of an eye!

Humpty Dumpty and the Magic Egg Box

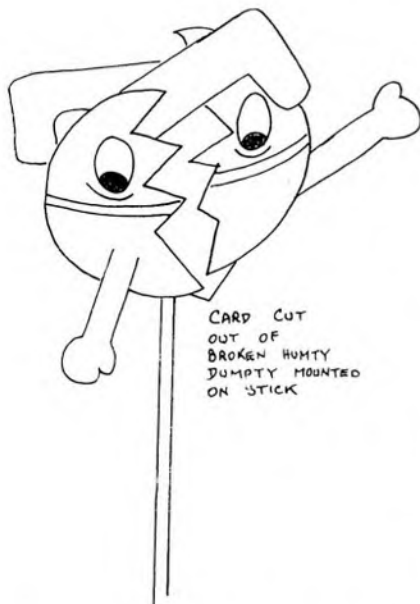
Characters

Humpty Dumpty—one whole and one broken.
The King's Horses and Men.
The Caterpillar.

Properties

A Wall. If you use the table top you will need to mount a board or piece of card

GET THOSE PUPPETS TAPED by Walter J. Smith



sufficiently tall to allow Humpty's legs to dangle over the front.

A tree.
A Magic Egg Box.

(The wall is empty. Music. Recitation of the rhyme as the King's men ride across the stage and off. To a tap-tapping sound, which always accompanies the Caterpillar's movements, the Caterpillar appears from behind the wall as if he has climbed up.)

Caterpillar: Has anyone seen Humpty Dumpty? I do get so worried about him you know. He will sit on this wall, and I'm so afraid he'll fall off.

(He looks up and down the wall)

It does look bare doesn't it? There ought to be a tree or something. I think I know a spell that will do the trick.

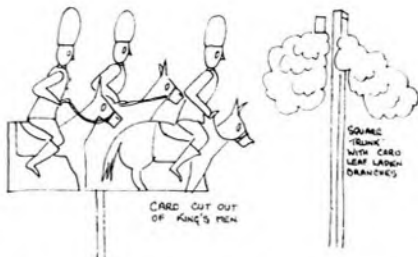
(He goes left and looks down behind the wall)

How did it go now? Oh yes, I remember,

T - R - double E

Please grow up the wall to me.

(There is a rattling sound and the tree shoots up half way knocking the Caterpillar on the nose)



Caterpillar: Steady! Steady! There's not all that rush!

(To renewed rattling the tree comes up to full height, a little slower)

Caterpillar: There, that looks better doesn't it?

Humpty Dumpty: (out of sight behind the wall) Hello there! I say Caterpillar, give me a hand up will you?

Caterpillar: (looking down) Oh really Humpty Dumpty you shouldn't be doing that you know! I'm quite sure it's dangerous for you.

Humpty Dumpty: (coming into view) Nonsense caterpillar, nonsense. You fuss too much that's your trouble. Make way there, there's a good fellow.

(Humpty Dumpty comes up. His feet come over the wall and he sits on it)

Here I am caterpillar, and as safe as houses.

Caterpillar: I can't stand this, I really can't. My nerves just go to pieces when you do that. Goodbye Humpty Dumpty. I'll see you when you come down.

(Caterpillar goes down behind the wall and Humpty Dumpty watches him go)

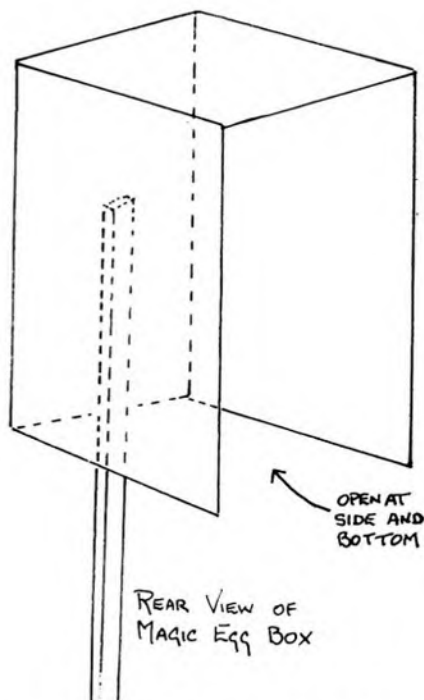
Humpty Dumpty: (facing front) Ridiculous fellow that. Friend of mine of course, but quite ridiculous. Fancy thinking I'd fall off this wall! Why, I've been doing it day in and day out for ages. Look—I can even do it no hands!

(He lifts his hands and starts to topple backwards)

Oh help! Oh help! Help! Help!

(Humpty Dumpty disappears, and so does the tree. There is a loud crash, a wail, and then silence. The King's men cross again to slow music. Then Caterpillar comes into view.)

Caterpillar: There you are you see! What did I tell you? I knew he'd do it one day. My goodness, that was shocking



The magic of a simple, empty box

wasn't it? Even the tree couldn't stand it. We must have it back. I'll try another spell.

(He looks down where the tree has disappeared)

T - R - double E

Up you come again to me.

(With a rattling sound the tree reappears)

Now whatever can I do about Humpty Dumpty? I see the king's horses and all the king's men have given him up. Poor fellow—I really must think.

(He moves up and down the wall thinking. Stops)

Now why didn't I think of it before? This is my chance to try out my magic egg box! I'll go down and see if I can get it working.

(He goes down off the wall. There is a sound of clanking and hissing. Anything mechanical you like. The magic egg box comes into view with Caterpillar beside it. It jigs about and then stops)

Caterpillar: It's working! I do hope it will do the trick.

(He goes back down the wall a little way and comes up with the broken Humpty Dumpty)

Please turn to page 30

The new **TRUVOX** Series 50

**THE ONLY TAPE RECORDER THAT GIVES YOU
100 GNS HI-FI SOUND FOR ALMOST HALF THE PRICE!**

The 100 gns. sound for almost half the price!

The breakthrough had to come. The breakthrough in sound engineering that brought you the sound of perfect reproduction at a price you can afford. The new Truvox Series 50 is packed with features that ensure perfection in sound. Like its matched pair of speakers to give you increased frequency response – sound with new dimensions. And its special all silicon solid-state circuitry to give increased reliability and clarity of sound. Both are unique to the Truvox 50 at just 56 gns. Put the new Truvox Series 50 to the test. Hear it for yourself. You'll be boasting about it after that – not us.

Some of the men behind every New Truvox 50



John Crayton — Designer John Crayton is one of the team who designed the new Series 50. They saw the Truvox 50 as a piece of high quality furniture – and designed it like one.



Eddie Maddison and Graham Rolf — Method Engineers Found the most efficient way of building the new high-quality tape recorder. This is one reason why you only pay half the price or a 100 gns. sound.



Gerry Barnes — Production Control Gerry ensures that the right parts are fed to the production lines at the right time, at the right place. Productivity remains constantly high. Price remains constantly low.



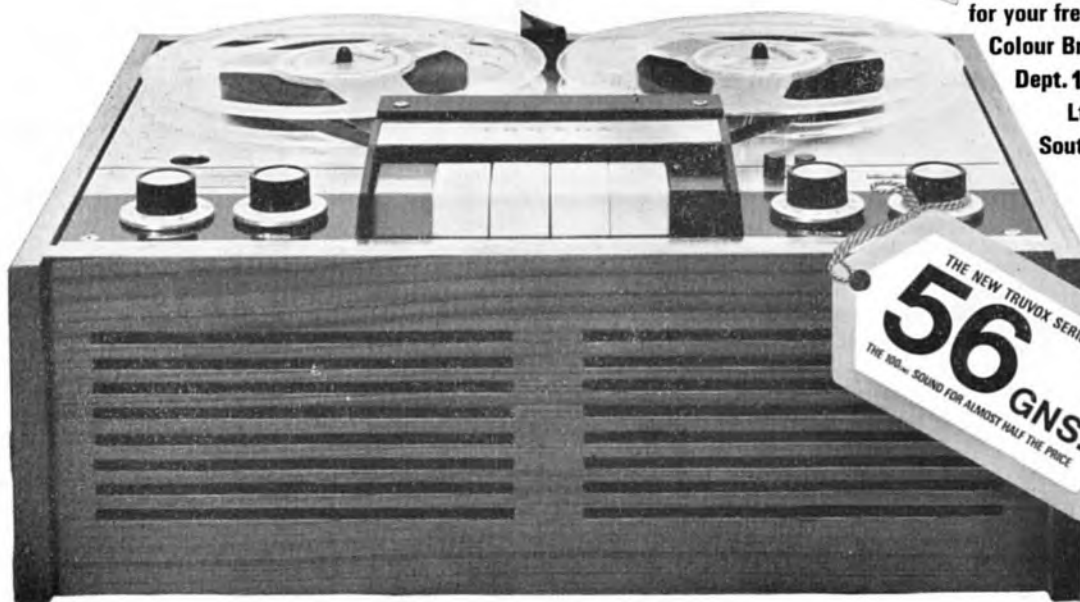
Dave Nicoll — Tester Each Truvox 50 tape recorder goes through a chain of 14 stringent tests before it ever leaves the factory. Every Truvox Series 50 has to be completely reliable.

The 100 gns. look for almost half the price!

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THE New Year brings with its arrival a delightfully clean slate upon which we can scribble to our hearts content for the next twelve months. And when we look back as we now can on 1967 we can decide for ourselves just how much sense those scribbles really make.

The year now ending has not been particularly noteworthy from my point of view. As usual I did as much live recording as I possibly could, but in retrospect it is painfully obvious now that far more time was spent talking about recording rather than actually doing it. Life would be so much more simple and more pleasant if one could only cut the cackle and get on with the job. People who can look back on some solid, concrete achievement are to be envied; personally I seem to have gone doddering on in the all-too-familiar way without getting anywhere very positive at all. For me and for the vast majority of other people there is but one consolation—some small comfort can be derived from not actually going backwards!

Ever optimistic, one can at least look at the New Year and resolve to achieve some positive attainment during the course of its fifty-two weeks. It's surprising how easily such resolutions spring to mind; regretfully they rarely materialise. One must admit with a sigh that the end of 1968 will probably find us all in very much the same position that we are now at the close of 1967.

Is lack of opportunity the cause of the trouble? If it's not the true cause then it certainly gets blamed more than any other single factor by people like myself who realise at the end of a year that they have not done as much recording as they would have liked to have done. Unfortunately opportunities rarely happen of their own accord, but have to be created by persistence and drive on the part of the enthusiast. When we have not had the opportunity to record during the past year we would be more honest if we were to say that we had not created sufficient opportunities to record.

There are something like three million owners of recording equipment in this country. Can you imagine the activity that would be going on if all those were to use all that equipment to its maximum potential during the coming year? The mainstay of our hobby lies, as it has always done, in live recording. We are all of us fortunate to live in this generation—the very first to have magnetic recording facilities readily available. Thanks to the permanence of the medium there is not the slightest reason why the recordings we make today should not be handed down through generation after generation. I wonder what some of our great, great grandchildren will think of our efforts? Not much, I suspect, when I look back at my own work during the past year.

CROSS

TALK

By Audios

But 1968 will be different; that lovely clean slate is inviting its first entries so my own resolve is to try to do more and to do better in the New Year. May I commend it to you as a worthwhile thought? We could always compare notes this time next year!

* * *

HAVE you noticed how all the newspapers are filled with holiday advertisements during the month of January? Even while most families are looking with jaundiced eyes at the sad remains of their Christmas turkey they are being inundated with propaganda to book their summer holidays now and to take them in most unlikely places. One agency is blandly recommending the Sahara as an ideal holiday location. Perhaps it is, but I don't think I shall investigate its possibilities myself.

When planning summer holidays it's not at all a bad idea to bear in mind the recording possibilities. More and more people tend to go abroad, often to unusual places where opportunities for obtaining unique recordings must surely exist. Naturally this requires the use of a battery-portable machine, but I do suggest that those who own such equipment might inquire of their travel agents whether or not there are any restrictions on taking them into the country it is proposed to visit.

The modern "package deal" holiday is surprisingly inexpensive, often costing less for both fares and accommodation than one would normally pay for fares alone by the ordinary scheduled services. Even ordinary people can now seriously consider taking their holidays in exciting places like North Africa, Yugoslavia or even Russia. The possibilities for recording would seem to be almost limitless.

Pursuing this interesting subject a little further I had a word with one of the large tour organisers, Global of London Limited. They assure me that to the best of their knowledge none of their clients have experienced difficulty in either taking portable recorders into foreign countries or in bringing them back into the United Kingdom—always assuming of course that all the tourists' papers are in order. The only real danger would seem to be from accidental loss or theft, two risks which can be insured against at low premiums.

The resorts one can visit for from £20-£40 for a ten day holiday really do sound enthralling. For quite a modest sum one can visit these far-away places with strange sounding names. Why not try it—and take your tape recorder with you?

AN executive from one of the famous national daily newspapers spoke to me the other day about a problem which was giving him great concern. In the course of his duties he had to play back a recording to an audience of several hundred people. The tape was being made for him in America and was being specially flown over. He was worried because some well-intentioned person had told him that he could not reproduce an American tape in this country and the reason was "something to do with the cycles."

Lacking any more specific information I could only conclude that some knowledgeable person had told him that difficulty arose because the mains electricity supply in the States has an AC frequency of 60 Hertz instead of the 50 Hertz used throughout the United Kingdom. As I am sure most readers will appreciate this has no effect on the recording at all. All it means is that tape recorders designed for operation on British mains supply usually require some modification before being used in the States. The difference in mains frequency affects the running speed of the motors. But if a tape is recorded on an American machine in the States at, say, 3½ ips, it will reproduce at precisely that speed in this country when replayed on one of our machines. This misunderstanding is a common fallacy that is widely held outside enthusiast circles.

* * *

MALICIOUSLY minded persons who make deliberately false demands on the public services are an expensive—and dangerous—nuisance. I cannot understand the mentality of the individual who thinks it amusing to call the fire brigade out to a non-existent fire. One can only wish that the miscreant's home could be burnt down whilst the brigade are occupied in answering his false alarm.

But perhaps this nuisance has at last been overcome. In a recent case at Winchester Magistrate's Court a defendant was fined the maximum of £10 and ordered to pay £50 costs on conviction of making a malicious telephone call to the Hampshire Fire Service. This is thought to be the first time that spectrograph pictures of the human voice have been used in such a case to help to prove the identity of the caller.

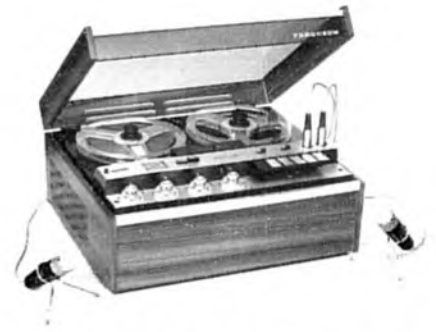
The investigation was carried out by Mr. David Ellis, a lecturer in English language and medieval English literature at Leeds University. He was provided with two tape recordings. The first was of the actual telephone call that caused the offence. Thoroughly fed up with false alarms, the Fire Service had installed recording equipment to monitor all incoming calls. For comparison purposes the police provided a recorded specimen of the accused's voice.

A phrase common to both recordings was made into two endless loops and played back through a sonogram about 200 times and the spectro-analysis was made from the sound frequencies on the tape. Comparisons were then made between the voice patterns of both recordings and the expert was able to establish such characteristic similarity that he could express the opinion that the voices were the same. Conviction followed.

A RECENT funeral service in a Carmarthenshire village was a funeral with a difference. It was conducted by Pastor Rees Evans, just as he had conducted many a funeral before. But this was like none other. The deceased was—the Pastor himself, and his voice had been recorded on tape some five years previously. No comment . . .!

TEST BENCH

FERGUSON 3232



INVESTIGATED BY R. HIRST AND D. KILLICK

MANUFACTURER'S SPECIFICATION

Ferguson 3232

Reel Diameter: 7 inches maximum.
 Tracks: Four
 Tape Speeds: 7½, 3½ and 1½ ips.
 Wow and Flutter:
 Better than 0.15 per cent RMS at 7½ ips.
 Better than 0.2 per cent RMS at 3½ ips.
 Better than 0.25 per cent RMS at 1½ ips.
 Frequency Range:
 40 to 18,000 Hz at 7½ ips.
 40 to 14,000 Hz at 3½ ips.
 40 to 7,000 Hz at 1½ ips.
 Signal/Noise: 45 dB (unweighted).
 Crosstalk, Stereo: 50 dB.
 Tape Position Indicator: 4-digit counter, press-button reset.
 Record Level Indicators: Two moving coil meters.
 Audio Output: 5 watts each channel.
 Power Supply: 230/250 V 50 Hz AC only.
 Power Consumption: 45 watts.
 Microphone: 500 Ohms impedance. Left socket wired to accept stereo microphone. Mono position of Mono/Stereo switch parallels both sockets.
 Radio In/Out: Radio Input 0.25 mV into 4.7 Kohm. Radio Output: 500 mV at 10 Kohm.
 Pick-Up: Input 50 mV into 4 Megohm. Radio Output: 500 mV at 10 Kohm.
 Gram: Input 100 mV into 100 Kohm.
 External L.S.: 8 ohm switched sockets.
 Remote: 5-pin socket, lead and control.
 Monitoring: Incoming signals through internal or extension speakers, stereo or parallel.
 Input Mixer: Gram input can be mixed with microphone, radio or pick-up.
 Track Transfer Switch: Play back of one-track mixed with new recording—mono only.
 Automatic Stop: Foil actuated.
 Remote Pause: Solenoid operated, temporary stop during record or play, operated by separate switch.
 Respooling Time: 1,800 ft. in 3 minutes 20 seconds.
 Protection of Recordings: Erase oscillator interlocked with record keys and gated against playback keys. Demagnetising heads by fading bias at cessation of recording.
 Price: 69 gns., complete with spool of tape, 2 microphones and desk supports and remote control lead.
 Manufacturer: British Radio Corporation, 284, Southbury Road, Enfield, Middlesex.

FERGUSON 3232 TEST CHART

Frequency Hz	Overall Response dB			Playback Only dB		Signal/Noise Ratio dB	Crosstalk dB	Distortion
	7½ i.p.s.	3½ i.p.s.	1½ i.p.s.	7½ i.p.s.	3½ i.p.s.			
40	+1.0	-2.0	-4.5	0	-1.0	47	52	3.5%
50	+2.0	+1.0	-1.0	+1.0	+2.0			
60	+2.0	+1.5	+1.5	0	+2.5			
100	-1.0	-1.0	0	-2.0	0			
250	-2.5	-2.0	-1.0	-3.0	-1.0			
500	-2.0	-2.5	0	-1.0	-2.0			
1000	0	0	0	0	0			
2000	+1.0	+0.5	0	+1.0	0			
4000	+1.5	+1.0	+2.0	+2.5	+1.0			
6000	+2.0	+2.0	+2.5	+2.5	+1.5			
8000	+2.5	+2.5	-3.0	+3.5	+2.0			
10000	+3.5	+2.5		+4.5	+2.0			
12000	+4.0	+2.5		+4.5	+1.0			
14000	+4.5	-1.5		+4.0	-1.0			
16000	+5.0			+3.0				
18000	+1.0			+1.5				
Wow and Flutter	0.12%	0.18%	0.22%					

NOTES.—The Overall Response figures relate to record and playback. Playback Only relates to the reproduction of a 70 microsecond test tape at 7½ i.p.s. (C.C.I.R.)
 For Signal-to-Noise Ratio the tape was recorded at peak level and then the input signal was removed from the record amplifier. By reference to the signal level recorded and the resultant tape noise, the noise voltage was read off, with the tape still in motion (see text for further information). Distortion is quoted against a 1,000 Hz signal recorded at the correct maximum level as indicated by the manufacturers, and the figure is an R.M.S. value.
 Wow and Flutter is also R.M.S., the test frequency being 3,000 Hz. Test equipment used includes: Bruel and Kjaer Signal Generator, B & K Frequency Analyser Type 2107, B & K Level Recorder Type 2305, Marconi Distortion Factor Analyser and Gaumont-Kaylee Wow and Flutter Meter.

At last year's private Radio Show we first saw a prototype of a new Ferguson ¼-track stereo machine, the 3232. A quick glance revealed a comprehensive range of facilities, and we were told that it would be destined for the retail market at a recommended price of 69 guineas. One of the first production models was at once requested for review. This is the machine we have been examining on your behalf during the month.

Starting with the usual laboratory tests we have arrived at a table of figures as set out above. Several interesting points were revealed.

Frequency response readings, taken from the line-out socket which is not influenced by either tone or volume controls, show a remarkable state of affairs. It is usual to meet with a progressive fall in high frequency response as one moves up through

the audio spectrum; here we have a persistent series of plus signs from about 2,000 Hz upwards. From these figures it would appear reasonable to assume that the response would be inclined to be "toppy," particularly at 7½ ips. This was confirmed later in practical user tests. However, it is always more satisfactory to achieve a flat response by applying a little judicious top cut, either at the machine (when using external speakers) or at a separate main amplifier (when using the line-out socket), rather than by having to resort to treble boost.

Another surprising feature of this machine—which must be regarded as low cost in view of the facilities provided—is the wow and flutter content. If we pay twice as much for our equipment we may well achieve a wow and flutter reading of a little below 0.1 per cent at 7½ ips, but here we have 0.12 per cent at that speed, rising to a truly phenomenal 0.22 per cent at 1½ ips. Crosstalk at 52 dB between tracks is extremely

Please turn to page 28

NEW



SERIES

NATURE NOTES

FOR JANUARY

BY RICHARD MARGOSCHIS

ALL around us exists the world of natural sounds—the sounds of nature. During the coming twelve months I shall be writing briefly on the kind of sounds I shall be looking for myself and how I shall try to record them. These notes are not being written by an experienced naturalist; I would never claim such distinction. No, I am a recording enthusiast who has developed a keen interest in nature and who has tasted some of the delights of spending many hours listening to the calls of birds and wild animals and attempting to record them.

In the world of nature we have no copyright problems. Sounds are there for the taking. But the price we pay is one of endless patience. The man who regards hours spent in the field without result as a waste of time will never make a success of nature recording. On the other hand, the truly dedicated will find their own reward in the satisfaction that a close study of natural life will surely endow.

Starting now in the month of January we are at an ideal period of the year to look around for a good recording location. Unwanted noise—from roads, factories, trains, even church bells and aeroplanes—presents one of the greatest difficulties in outdoor recording. My advice is to study a one-inch Ordnance Survey map to guide you along public footpaths away from houses, main roads and railways. Look for a spot which has a variety of vegetation with open country around. If possible select a location which includes a fair-sized pond. If such a spot can be found in a valley, so much the better, because it will help provide shelter from wind and act as a screen against interfering background sounds.

The greater the variety of the terrain the greater the number of species of birds and animals you are likely to find. Ideally choose two or three locations a few miles apart and be prepared to visit them regularly throughout the year; in this way you can keep a check on what is going on.

After having found a likely recording station the next and immediate step is to obtain the permission of the landowner to walk over it. If you are reasonable in your approach and explain your purpose there should be no difficulty. In fact sometimes the owner's wish to co-operate can be embarrassing!

Familiarity with recording equipment is essential, and it should always be ready for immediate operation. Listen now for the black-bird and thrush. They should both be starting intermittent song during January and towards the end of the month you might well hear the skylark pouring out his song as he soars high into the sky. The skylark makes an excellent practice target if you are using a parabolic reflector.

Record as much as possible and then listen to it critically. Note any extraneous noises and relate them carefully to the recording levels used. You'll be surprised how far and how distinctly unwanted sounds travel through the still country air. Above all do not be disheartened. Valuable lessons can be learned even if no recording is taken. First expeditions should be devoted primarily to *observation* rather than recording. It is only by learning something of the life and the habits of the creatures we wish to record that we shall ever come to terms with them and succeed.

So my advice for January is to reconnoitre, explore, investigate. Attempt a little recording if you must, but don't be disappointed if results are poor. During the next five months of the year the wild life of the woods, the fields and the hedgerows will be bursting into a thrilling symphony of sound. We shall need all the practice we can get in January to meet the challenge.



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Is it any wonder more enthusiasts are going for the M204E?

Yes, it's true, more and more people are discovering the excellence of the M204E. The man who buys one invests in a craftsman-built 4-track machine that has everything the higher priced machines can boast, except the higher price.

Signal-to-noise ratio, for instance: a desirable high value of 50 dB. And wow? Well, WOW!!!... a mere third of 1% at 3½ ips, a fifth of 1% at 7½ ips. Output is from two healthy 6 watt push-pull stages. Up to 12 hours of listening pleasure from one 7" tape. Hear the excellence of an M204E at your local specialist dealer. And don't waste time. The longer you delay your purchase, the more it's costing you in the personal enjoyment you're missing.

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TEST BENCH—from page 26

good, and the record distortion level at 3.5 per cent is only 0.5 per cent above the generally accepted high fidelity standard.

Our only doubts from the laboratory investigation concerned the signal to noise ratio. This we have quoted as 47 dB weighted. In fact a somewhat spikey wave form was observed around 50 Hz which could be taken to indicate mains hum, although subsequently this fear proved unfounded. There is, however, an inherent noise level in excess of what we are accustomed to find in more expensive equipment, and this slightly mars an otherwise brilliant specification.

With noise level very much in mind we proceeded with practical user tests when we first noted both the excellent styling and also the comprehensive range of accessories. Recently we commented favourably on a Japanese manufacturer who had provided an unusually complete range of accessories with his equipment. It seems that the British Radio Corporation have taken the hint and wisely done the same. Stored in a commodious compartment at the rear we found the mains lead, a pair of separate dynamic microphones complete with desk supports and—something extremely unusual—a remote control lead complete with about 20 ft. of cable.

General styling follows the now familiar BRC Unit Audio design. A smart cabinet of teak houses the machine and internal speakers—one for each channel—while the lid is of a pleasant, smoke-grey, semi-transparent material. Not only is the equipment intended to be used with the lid shut (at last we can keep the dust out!) but if desired it can also be used in either the horizontal or vertical planes.

The deck itself is the 3-speed model operating at $7\frac{1}{2}$, $3\frac{1}{4}$ and $1\frac{1}{8}$ ips which has proved so successful in other BRC machines. Tape transport is controlled by a row of piano keys on the front panel, and the separate functions are: Stop, Play Left, Play Right, Pause, Rewind and Forward. Also along the front edge are 4 separate rotary controls labelled from left to right: On/Off-Tone, Volume, Gram and Mic/Radio. Each of these comprises a pair of friction mounted, concentric, controls which rotate around scales numbered 1 to 10. It was noted that one of these produced a mechanical squeak, but the others were extremely smooth and efficient. We have always thought highly of the BRC system of transparent knobs with adequate hairlines permitting accurate setting and logging of positions. What a pity some other manufacturers neglect to provide this simple facility.

A secondary control panel carries a 4-digit numeric counter, a pair of edge-type record level meters which are lit internally as soon as the power is turned on, a pair of record buttons, one each for right-hand and left-hand channels, 2 slide switches, the first for track transfer and the second for mono or stereo, and a pair of microphone sockets, the left-hand socket being wired to accept a stereo microphone if required. The only other control on the deck plate is the very substantial speed change switch.

Concealed in the rear storage compartment are DIN sockets for Radio In/Out, Pickup, Gram, Remote Control, and right-hand and left-hand External Speakers. It should be specially noted that the equipment does not incorporate a carrying handle of any kind. Apart from this one omission we would give full marks for styling.

In operation the deck controls worked with delightful simplicity and accuracy. We particularly investigated the pause control function and found that when actuated either by the piano key on the deck or by the remote control lead it effectively separated the capstan from the pinchwheel in the approved manner. The provision of separate record and run keys operating independently for each channel, left for tracks 1 or 4, right for tracks 3 or 2, together with the track transfer switch, means that this machine can be used for sophisticated multi-tracking work in spite of it using only a single combined Record/Playback head. Here we must again refer to price. The reader will begin to appreciate that we are getting advanced facilities at extremely low cost. Although a better signal to noise ratio is desirable for top quality composite recordings we do feel that BRC are to be congratulated for incorporating these features in their machine. In fact we find it so interesting that we are going to ask our multi-tracking expert to include special notes on the use of this recorder in one of his future articles.

For first tests we recorded and reproduced at $7\frac{1}{2}$ ips using the machine's own internal speakers. We must be honest and comment that these were found to be inadequate. The volume control had to be turned to maximum to achieve the listening level we desire—we like our music loud—and at this stage the cabinet was producing some rather awful resonances and rattles. However, as soon as we applied the two 5-watt outputs to a pair of Celestion Ditton 15s the picture immediately changed. Now we had a very pleasant and very acceptable spread of good quality stereo sound. In view of laboratory comments on signal to noise ratio we listened very carefully for mains hum, but found that this was present only at extremely low level. There was noise, but this was principally hiss and it could be removed by applying a little top cut, which is needed anyway to produce a flat response. The Dittons really need more than 5 watts of power, so these admirable results were achieved with near maximum level at the volume control—a condition where noise would be at its worst.

The tone control is a treble boost and cut, and the flat position was found to be between 6 and 7 on the numbered dial. The meters operate for the record function only, and were found to be both accurate and easy to use. When running at slower speeds the advantages of speed stability became obvious.

The two microphones provided are omnidirectional dynamics, whereas cardioid types would of course be better for stereo recording. But then how much can one really expect for the money?

Summarising our findings we could criticise the inherent noise level and we could also comment on the relatively poor quality of the internal speakers. However, against those two debit entries we have marked up such a string of credits that we really do feel that the Ferguson 3232 offers quite exceptional value for money. In any case judgments on internal speakers are always misleading and it should be remembered that the better the quality of the sound as heard from good external speakers the worse will be the comparison with the small internals.

This machine can be thoroughly recommended as a comprehensive stereo record/playback unit with facilities for advanced audio work. Apart from which it is of British design and manufacture. A great many people will derive a great deal of pleasure and satisfaction from this machine.

THE HOME STUDIO—from page 21

studio is the chain of equipment from tape to ear.

A few tape recorders have fairly respectable playback amplifiers, but even then the quality from the built-in loudspeaker is usually a poor imitation of the quality actually on the tape. So a decent loudspeaker is essential (two for stereo listening) and maybe an external amplifier if the one in the recorder is not up to standard. Good quality headphones are now widely available and can be very useful for monitoring a complex recording, editing, etc., when other people are milling around.

6. Editing and copying

It is virtually impossible to make a perfect recording dead on cue and without any "fluffs" or unwanted pauses. Therefore, since it creates an untidy impression when you play such unedited tapes to anyone else, you should be prepared to cut out mistakes, butt a leader tape close up to the first word or note of the recording, etc.

An editing block, razor blades and jointing tape do not cost very much and the technique of swift, accurate editing is soon learnt.

Tape copying is another essential part of the home studio activity. You need a second recorder for this, or maybe a playback deck will suffice if you have an amplifier which is sensitive enough, and has the appropriate equalisation circuitry, to accept the signal from the tape head direct.

Next month we get down to cases.



The handsome new Agfa-Gevaert 1967 Challenge Cup, 12½ inches in diameter, is of solid, hall-marked silver, and the winner of one of the sections of the British Amateur Tape Recording Contest will not only have the privilege of retaining it for a full twelve months but will also have his name engraved on the Roll of Honour. In addition he will be given to keep a miniature replica, value £15

The closing date for entries to the Contest is December 30th. If your entry has not yet been posted PLEASE MAIL IT NOW!

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He is in a state isn't he? I'll pop him in the Magic Egg Box. Let's hope he doesn't come out hard boiled.

(The Egg Box half turns, and the broken Humpty Dumpty is slipped in. The Box then turns back to first position. As soon as this is done the original Humpty Dumpty is substituted from underneath for the broken one. The Box starts to jig about again accompanied by the clankings, etc., as before. Then everything stops and Humpty Dumpty's voice is heard)

Humpty Dumpty: Let me out! Let me out!

Caterpillar: Hooray it's worked! He doesn't even sound poached!

(The Box turns again and Humpty Dumpty comes out. As the Box goes down Humpty Dumpty sits on the wall again)

Humpty Dumpty: Oh thank you Caterpillar! I'm sure you're the cleverest Caterpillar I've ever known!

Caterpillar: That's all very well Humpty Dumpty. But you'll only go and fall off again.

Humpty Dumpty: Oh dear Caterpillar—does that mean you won't let me sit on the wall any more?

Caterpillar: It does seem a shame if you can't. Look here I've got an idea. Perhaps you might if you'd take tight hold of that tree.

Humpty Dumpty: You're just full of good ideas Caterpillar.

(He goes along the wall and holds on to the tree)

Why I really will be as safe as houses like this!

Caterpillar: I rather think you will. But that's quite enough for one day thank you. Tree—take Humpty down with you will you. Hold on tight Humpty Dumpty. I'm coming right down myself.

(The tree goes down with Humpty Dumpty holding on to it, and the Caterpillar goes down head first until the tip of his tail disappears. Music comes in on the tape, and the King's men ride across. The stage is left empty as the Humpty Dumpty rhyme is said again)

FINIS

Another kind of puppet show for which tape is absolutely invaluable is the toy theatre with card slide-on figures. These toy theatres are very well known, and plays (with accompanying figures) are available for them. These plays comprise both old favourites and others more recently written. To memorise, or attempt to read the lines behind stage is a formidable task, as the manipulation of the characters is by no means always an easy thing in itself. But tape the play first and a good production is assured, and nothing could be more entrancing than watching one in a darkened room. It's not just as good as the telly—it's rather more—out of this world!

TECHNIQUES

DENYS KILLICK discourses on CRITICISM AND MOVEMENT

IN recent articles we have discussed the basic principles of mixing, splicing and editing. These are the fundamental techniques at the command of the audio engineer. By their use he can produce—in the truest sense of the word—a complete and logical programme. The judgment on whether that programme is a success or a failure will probably be a matter of opinion. One of the most difficult aspects of creative sound recording is in obtaining intelligent criticism and constructive suggestions on one's work. Too often praise is lavished on a poor production by friends and relations simply because they lack the experience and knowledge to pass worthwhile comments. All too often the producer must be his own critic, and so he must spend a great deal of time and trouble in establishing certain critical standards against which to measure the worth of his own work.

Let's consider photography as an analogy. Most people take photographs of one kind or another during the course of a year. Why? What do they take them for? What do they do with them when they've taken them? Ask yourself these questions about your own photography, and think carefully about the answers. One reason why some people take photographs is simply for the fun of it. Prints or slides are put away and rarely brought out. When they are produced it is for one reason only—to show to someone.

So right away we have established two very important standards of criticism: the pleasure and enjoyment obtained in actually producing the programme and the pleasure and enjoyment that an audience will derive from it. It might be argued that the personal enjoyment of the operator should bear no relation to critical evaluation. Although this would be absolutely true in the professional world where the production team is paid

to do the job, it is not true in the amateur sphere where personal satisfaction is the chief reward. From any point of view it is far better to enjoy oneself producing a poor programme rather than to do nothing at all. And as one's experience broadens and productions become better, then personal satisfaction will be increased proportionately. So in plain language the moral is to have a go and have fun; if results should be disappointing don't worry. The creation of the programme has been fully justified through the pleasure it has given in making it.

Just as some photographers might take countless pictures which, once glanced at, are put away and never looked at again, so the recording enthusiast can find equal satisfaction in working on projects for their own sake without caring who hears them or what finally becomes of them. Such an attitude is not so silly or so selfish as it might seem—in fact the mere knowledge that some people are prepared to work under these conditions might encourage others to do the same. Too many people are far too worried about the uses to which their recordings will be put. If you have had these thoughts then don't despair. Remember the photographer who takes his pictures just for the fun of it and then stores them away.

But that photographer will have examined his own prints himself before putting them away in the drawer. He will look at them and assess them and will try to learn lessons from what he sees. In just the same way the lone worker will listen to his own recordings and assess them before filing them away. In fact the producer becomes the audience, and he then has to consider his own "audience reaction."

It is impossible to give a set of fixed rules that will apply to all recorded pro-

grammes. We might be dealing with a thirty minute feature or merely a thirty second sound effect. In a previous article we discussed the relationship between the content of a programme, its performance, its recorded quality and, above all, the basic idea behind it. This is always the skeleton or framework on which the fabric of any production is moulded. Through your own knowledge of this fact you should be in a position to critically analyse in detail, whereas the inexperienced audience will tend to confine their opinion to either liking or disliking without being able to express the reasons why.

Those unfortunate people who are not blessed with the gift of sight cannot be expected to show any interest at all in photography. Similarly, to those who cannot hear, recorded sound is meaningless. Just as a picture has no value unless it is seen so a recording is nothing until it has been heard. After personal enjoyment in the creative endeavour audience reaction is the next most important criteria.

I can recall some very happy evenings when, with classes of students, recordings were criticised. It was an education to me to discover how twenty different people with twenty different minds and twenty different points of view could happily discuss the interpretation of a single sentence for a couple of hours—and feelings would run so high that a stranger could not be blamed for thinking that physical violence would break out at any moment. Of course it never did. Discussions of this kind can be both partisan and friendly at one and the same time. No one should ever imagine that their own work does not merit critical discussion. I can assure you that under the right conditions and guidance any recording will provoke a truly surprising amount of constructive criticism.

It may appear to be an oversimplification to state that an audience will express appreciation only if they have enjoyed what they heard. But this is the key to the whole business. In producing a programme the original idea must be expressed in an intelligible manner so that it is conveyed directly to the listener. The way to get directly into the listeners mind is to use the shortest and least complicated route.

The greatest trap for the amateur lies in using far too many and too obvious sound effect inserts in a recorded feature. Because it is so easy to record creaking doors, footsteps across the room and other everyday sounds they turn up again and again and again *ad nauseum* in spite of the fact that the sense of the action could have been conveyed to the listener in a more direct and uncomplicated way.

Take footsteps across a room. Because we are so used to thinking in terms of sound we tend to regard the footsteps as

an end in themselves. In fact the footsteps are secondary—they are incidental to something very much more important—the movement through space of a character from one point to another.

If we can convey this feeling of movement without worrying about the obvious sound effect, then the listener will imagine the sound of the footsteps and his mind will not be distracted by having to listen to the rather phoney noise of empty shoes being banged about. In the great majority of cases we should be concentrating on *movement* rather than extraneous noise. Without going too deeply into the subject, movement is only meaningful in relation to a fixed point, and that fixed point must always be the listener's ear (the microphone).

If a character in a dramatic sketch speaks his line at a distance from the microphone, and then follows this by a much closer speaking position, the listener will immediately become aware of movement although he may not have heard the sound of the shoes on the floor. Not only will he be aware of this movement having taken place, but the impression in his mind will be deeper and the illusion will have been more convincing without the obvious sound effect rather than with it.

When referring to the recording of musical performance we have mentioned the need to preserve perspective. Almost all dramatic actions can be expressed in terms of movement, which itself creates perspective in the listener's mind. It's not very difficult to understand, so long as one visualises the microphone as representing the ear of the listener. If the microphone is static with action taking place around it, then the listener will always imagine himself at one fixed point with characters moving towards him or away from him along the perspective lines radiating from his listening position. If this should be, say, in a living room, then noises or conversation in the kitchen next door will have a distant, hollow sound. Provided it is our intention that the listener should remain in the living room such a recording is absolutely right.

However, if we now move the microphone into the kitchen to pick up the direct sound of voices and other noises we must be aware of what we have in fact done. We will have moved *the listener* out of the living room into the kitchen. When there is a proper and valid reason for shifting the listening viewpoint in this way then such a technique is perfectly orthodox and correct. The trouble occurs when the listener is shuttled about with complete abandon for absolutely no reason at all. Confusion is the only possible result, and confusion means that the sense of the action is lost and so boredom will at once set in. The audience comment on such a programme

will be disapproving, although they may not realise why they didn't like it.

Movement has been discussed in some detail because it forms an essential part of almost any programme. When an artist paints the picture of a jug on a table he might well say that the shape and outline are perfect, but the movement is wrong. Even in the static graphic arts movement is a most important concept. What the artist means is that the jug does not look as if it would crash to the floor if the table were to be removed. The artist's idea of movement is an exceedingly good one to keep well in mind when conveying action by recorded sounds.

Experiments in recording movement and the effects of movement are amongst the easiest to carry out oneself under domestic conditions at home. Try conveying a sense of movement and perspective without a series of doorslams and footfalls. If an omni-directional microphone is being used then distant sounds must occur at some distance away from the microphone. When using a cardioid or figure-of-eight instrument the same feeling can be induced by merely moving the sound towards the rear or side—that is into the "dead" area. If you have a directional instrument, experiment by recording conversations with one person on the live side and one on the dead side. The meaning of perspective will immediately become apparent when the tape is played back. The listener will identify his own position with the speaker on the live side and will conclude that the other voice is far away.

This is all part of the art of creating what after all is really an illusion. When we hear the human voice being reproduced mechanically through a loudspeaker our commonsense tells us that there is no real human life concealed in the enclosure. What we hear is an illusion, and in creating illusions all manner of short cuts are permissible. The only thing that really matters is whether or not they help the listener in forming a meaningful mental image which will have been evoked through hearing the recorded sounds.

There are really no "secrets" about any form of sound recording. Some facts, however, are so obvious that they tend to get overlooked. Using a judgment on movement as a critical criteria is one of them. You will be able to hear excellent examples of technique in productions broadcast by the BBC. Do listen to as many of these as you can and form opinions based on the kind of assessments I have been referring to. If then the same yardstick is applied to your own work you will be able to arrive at considered judgments from which knowledge will be gained to improve techniques in the future. And so we come in full circle. The better the production the more pleasure will be obtained in creating it.

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MUSICASSETTE

REVIEWS

SHAKESPEARE. MACBETH with Anthony Quayle, Gwen Ffrangcon-Davies and Stanley Holloway. Caedmon CCS0800, in boxed set of two cassettes, 110s.

"Double, double, toil and trouble..." The cracked voices of the witches intone their incantations as thunder rolls back and forth across the horrid heath.

Caedmon are famous for their discs of the spoken word. Now we have the very first drama on cassette—none other than Macbeth. The work comprises a set of two cassettes, neatly enclosed within a gold-lettered, black outer cover. This has been carefully designed so that the titles on the spines of the cassettes are visible, and each can be easily withdrawn. We did comment on the excellent packaging of the Readers Digest set of four cassettes of Mood Music—the Shakespeare is, if anything, presented rather better.

This review is of some historic significance; it is hoped that it will be only the first dealing with a series of spoken word productions to be published in cassette form. May we firstly congratulate both Caedmon and Philips for their courage in marketing Macbeth. Obviously its appeal will be to a more limited audience than those who normally buy the popular or even classical Musicassettes. Cost alone will tend to discourage would-be purchasers.

What of the sound quality and the production itself? Let us first strongly attack the commonly held fallacy that good quality recording—i.e. adequate frequency response and signal-to-noise ratio—is not necessary for the spoken word. The contrary is the case. If our recorded drama is to convey realistic illusions to the listener then quality should be at least as good as, preferably even better than, the quality we expect from a good musical work.

I am pleased to say that voice quality here is good, surprisingly good in view of the slow tape speed and narrow tracks. To be critical, which after all is my job, it could be better, but then perfection is that elusive will-o'-the-wisp that evades engineers, actors and indeed ordinary people who reproduce mechanically recorded sound at home. The production could also be criticised. At times voices do not merely blend into effects but are dominated by them. Doubtless this was deliberate and represents a production technique intended to convey a homogeneous solidity to the whole. We could argue for ever whether it is right or wrong, but no-one should doubt its interest, particularly to those engaged in working with sound.

One of the most important aspects of this recording is the sense of movement in the dramatic action. In recorded drama the "sound stage" between a pair of stereo speakers takes on a new and very appropriate significance. It is indeed a stage upon which our actors move from side to side and into which they recede. My only worry here lies in the stereo/mono compatibility of the Compact Cassette system which permits mono reproduction of stereo cassettes. Single channel sound will utterly destroy the perspective of movement and render a large part of the dramatic content meaningless.

This Macbeth must be reproduced as a stereo recording using a pair of full range, properly spaced, speakers. When so heard the listener can enjoy the malevolence of Gwen Ffrangcon-Davies, the fearful indecision of Anthony Quayle and the bluff humour of Stanley Holloway in a brilliantly spine-chilling production of this great masterpiece.

As a final note, the awful, fantastic, horror that Shakespeare conjures up becomes even more frightful when the stage is set in the familiar security of one's own home. Altogether a worthwhile acquisition which will not only give enjoyment but will be invaluable to students of the spoken word and those who aspire to record them.

SERENADE. Ron Goodwin and his Orchestra. Parlophone TC-PCS3019, 40s.

This collection impressed me in a rather negative way. It is not outstanding, either in recorded quality or in programme content, neither is the performance of particular note. The items include: *Sunrise Serenade*, *Theme from "Romanoff and Juliet"*, *Serenade to Double Scotch*, *London Serenade*, *Clair de Lune*, *March from Serenade for Strings Op. 11*, *Prairie Serenade*, *Waltz from "Serenade for Strings"*, *India*, *Puppet Serenade*, *Elizabeth and Essex love theme*, and *Elizabethan Serenade*.

I cannot help feeling that had more care been taken in recording the original master then this Musicassette could have offered some pleasant listening. As it stands, however, it is chiefly remarkable for its mediocrity, which is perhaps a quality that appeals to some people.

More Reviews page 34

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THE QUIET LATIN MOODS OF CHAQUITO. Fontana CFP4013, 40s.

In the sleeve notes we have an unusually frank statement by Nigel Hunter which informs us that Chaquito, alias Johnny Gregory, has been no nearer to Latin South America than anyone can get by driving past one or two of the embassies in London. Does this, I wonder, establish a new style of truthful sleeve writers, dedicated to revealing the most closely guarded secrets of their performers? Never mind, in this day and age anyone can be anything, and Chaquito is certainly convincing in his excursion into the Latin American idiom.

The album features: *Time on my Hands, My Heart stood Still, Tonight, People will say we're in love, With a song in my heart, More than you know, You stepped out of a dream, Green Eyes, Baubles, bangles and*

beads, Poor Butterfly, Tangerine and Dancing in the dark. The instrumental line-up is piano, bass, two guitars, drums and two Latin percussion, and between them they produce some very cheerful sound.

I was rather disturbed by obtrusive background noise from this Musicassette whilst listening to the first number. However, quality is otherwise good, and it is remarkable to note how quickly an apparently obtrusive background will be accepted and will pass unnoticed as one becomes immersed in the music.

The Latin American idiom is probably not everyone's cup of tea, but this collection is impressive not only for the clever arrangements of standard works but also for the accomplished ease with which the performers produce a very charming and wholly acceptable sound picture. I liked it.

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MOONLIGHT IN MEXICO. Pepe Jamarillo and His Latin-American Rhythm. Columbia TA-SX 6188. 35s.

There are those of us who steadfastly believe that a living room is for living in. And if living includes dancing, then this tape is a must.

From the start, the music conjures a vision of a dimmed lamp, furniture moved back, a couple very staidly moving around in classic pose, executing perfect steps whilst maintaining an expression of studied relaxation.

For those of us unable to take our pleasures in this way—for mere listeners, in fact—this tape is a total waste of time. Everything is on the same level all the way through. Both recording and music-wise. Much as I appreciate the undoubted talent of Pepe Jamarillo and his musicians, I can't recommend the tape for purely aural pleasure. In fact, towards the end of side two, the actual balance suffers from patchy reproduction and a small amount of distortion—enough to be irritating.

The selection begins with *Nicola, Quiet Nights of Quiet Stars, Get Out Of Town, Sunrise, Sunset, Guantanamera, Boa Noite and Moonlight in Mexico.* Side two meanders through *Love Me With All Your Heart, The Sweetest Sound, Somewhere My Love, Eso Beso, Montego Bay, Meditation and How Insensitive.*

Incidentally, this tape came to me in the new pack being used by E.M.I. Thank goodness, they've done away with the cardboard packaging that always seemed to get battered. They've switched to clear plastic, with a simple, but secure, snap closure. The sleeve with full-colour picture on the front and details on the back, is limp paper, but it's inside the plastic frame; the tape itself is supported by a central raised projection. Full marks, E.M.I.—other companies please copy!

GOOD NEWS. Cliff Richard. Columbia TA-SX 6167. 35s.

It's so easy to throw one's hands up in horror when a pop-star comes out with a tape that's consciously and deliberately religious. There's always the horrible suspicion of commerciality behind it. It seems, however, that Cliff Richard is sincere in his beliefs, and he must be respected for it.

At any rate, commercialism isn't here; not in my opinion. For a start, though each track is tastefully performed, very well recorded and presented, the material is far too varied to be commercial.

A devout churchgoer would find no fault with tracks like *23rd Psalm* and *The King Of Love.* He would undoubtedly wince at the "hot-gospel" treatment of *Go Where I Send Thee and Mary, What You Gonna Call That Pretty Little Baby.* (A title or a sermon?). And conversely, the admirer of Negro revivalist music would delight in the latter two examples, while being bored stiff with the former.

All this tape needed was a track or two in Latin and Hebrew to run the whole gamut of immediate religious experience. It's far too patchy.

Good News, It Is No Secret, We Shall Be Changed, 23rd Psalm (Crimond), Go Where I Send Thee, What A Friend We have In Jesus, and All Glory Laud and Honour make up one side. The other: *Just A Closer Walk With Thee, The King Of Love My Shepherd Is, Mary . . . etc., When I Survey The Wondrous Cross, Take My Hand Precious Lord, Get On Board Little Children, and May The Good Lord Bless And Keep You.*

BEST OF THE BEACH BOYS. Volume Two. Capitol TA-T 20956. 35s.

I see they've repeated *Surfer Girl* from a previous tape. That, I always think, is a bit of a twist. Hang it, there are plenty of good Beach Boys recordings available that Capitol might have used instead.

But that's a minor enough quibble. The Beach Boys are a very professional group, and this time the bulk of the material is no more than two years old.

It's a bit of a mixed bag here, and some of the tracks are a bit woolly, but if you're a Beach Boys fan, then this is a good buy. I personally think the tape's worth it for the very last track—*Good Vibrations.* This really was a masterly recording from the commercial/entertainment point of view, and I am sure it will become a pop-music "classic." I know several people who bought that number in disc form when it first came out, and who still play it consistently. And that's quite unusual in these pop-saturated days.

The re-issued *Surfer Girl* is followed on side one by *Don't Worry Baby, Wendy, When I Grow Up, Good To My Baby, Dance Dance Dance, and Then I Kissed Her.* Side two contains: *The Girl From New York City, Girl Don't Tell Me, The Little Girl I Once Knew, Mountain of Love, Here Today, Wouldn't It Be Nice, and Good Vibrations.* The last three numbers are undoubtedly the best (and significantly, the most recent recordings) on the tape. I'm rather looking forward to Volume Three, if Capitol have such a thing in mind.

JUST ONE SMILE. Gene Pitney. State-side TA-SL 10212. 35s.

This is a delightful tape. Whoever organises these recording sessions of Gene Pitney's makes absolutely sure that his extremely pleasant voice and delivery are aided, but never overshadowed, by a masterly orchestral accompaniment and choral backing. The balance throughout is excellent, and the selection of tunes runs the entire gamut from the sentimental to the exciting. It's such a delight to hear a tape where every track is "different," yet every track is good.

Pitney fans will naturally buy this. I would commend it to others—perhaps in search of late-night music to be listened to, quietly and casually. The music is of a variety that might very well send one to bed in a jolly good mood.

Side one: *Just One Smile, Where Did The Magic Go, Leave My Laurie Alone, Losing Control, Cold Light Of Day, Lonely Drifter*. Side two: *The Comedian, Twenty-Four Sycamore* (a beautiful track), *Another Page, In Love Again, She Believes In Me, Ask Me How Much I Love You*.

HERMAN'S HERMITS. Columbia TA-SX 6174. 35s.

What a nice young fellow Herman is. There surely can't be anyone with a word to say against this clean-cut, smiling Mancunian with the pleasant disposition and the voice to match.

And this tape is just great. A real pleasure to listen to. Sure, sometimes Herman records some pretty dreadful material—but luckily, none of it turns up here. The poorest track is *Dandy*, not a particularly inspired vehicle for any singer. The tape kicks off beautifully with *Kind Of Hush*. It's a fine number, with meaningful words, and you can hear the words—every single one of them.

It's hard to put this tape into any specific category. It's so varied. I think it would go down very nicely at a party for those around the twenty-thirty mark.

Kind Of Hush, is followed by *Saturday's Child, If You're Thinkin' What I'm Thinkin', You Won't Be Leaving, Dandy, Jezebel, No Milk Today, Little Miss Sorrow, Gaslite Street, Rattler and East West*.

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LIGHT CAVALRY and other Popular Overtures. Horst Stein conducting The London Philharmonic Orchestra. Audio Spectrum AST 310 4-track stereo 7½ ips. 55s.

In selecting the repertoire for this album the publishers were taking absolutely no chances at all. The items comprise Suppé's *Light Cavalry Overture*, Reznicek's *Donna Diana Overture*, Bizet's *Gallop*, Offenbach's *Orpheus in the Underworld* and Suppé's *Poet and Peasant Overture*. As an entry in the popularity stakes this recording would surely start an odds-on favourite.

This album could not be recommended to those who regard the enjoyment of music as an intellectual exercise. And before the hoary old diehards dismiss this collection as "popular jingles" it must be remembered that new generations of young people are constantly finding the delights of music of this calibre as enchanting new discoveries. Listening with innocent ear they can appreciate what the older generations' jaded senses reject.

I would not care to think on just how many times I have heard these works performed. Two of them form an important part of my very earliest musical recollections. As such I shall always have a soft spot for them.

If this recording is not exactly overflowing with new or original musical thought it can at least lay some claim to good quality sound. We have a very pleasing balance between strings and brass, and the whole offers a very jaunty and pleasant listening experience.

Those who are too familiar with these works will probably not buy the recording, but the loss will be theirs because it offers a blend of sound well worth hearing. Others less complicated might venture to invest in it and I have no doubt that they will derive a great deal of pleasure from listening to it. If we cast aside all pretensions to greatness this tape will offer a great deal of stimulating enjoyment. Was there ever a more descriptive piece than *Light Cavalry*? One can almost smell the leather and the horses, and hear the jangling of the harness. When I don't react in this way I shall know that I have at last really grown up and it will be very sad.

THEMES OF THE GREAT BANDS.

Glen Gray and the Casa Loma Orchestra. Capitol ZT 1812 4-track stereo 7½ ips. 75s.

We are told on the reverse side of the box that few moments are so dramatic, or so exciting, as when the truly great band plays its opening theme. Who would dispute that? Unfortunately in this collection we certainly have those opening themes, but they are all performed by Glen Gray and the Casa Loma Orchestra. One associates the individualistic sound of a particular band with its opening theme; to divorce the performer from the music is to offer bread without butter.

So initially one must be prepared for disappointment. These are not the original bands each playing its own number. The items in the programme are: *Let's Dance* (Benny Goodman), *I'm Gettin' Sentimental Over You* (Tommy Dorsey), *Redskin Rhumba* (Charlie Barnet), *Moonlight Serenade* (Glenn Miller), *Leap Frog* (Les Brown), *I Can't Get Started* (Bunny Berigan), *Nightmare* (Artie Shaw), *Ciribiribin* (Harry James), *Blue Flame* (Woody Herman), *Quaker City Jazz* (Jan Savitt), *Tuxedo Junction* (Erskine Hawkins), and *Artistry in Rhythm* (Stan Kenton).

Which came first, the chicken or the egg? Did these great numbers make the bands who performed them, or did the bands make the numbers? The answer, which must be purely a matter of opinion, can be found—or at least an indication can be found—in this collection. For that reason alone it is of considerable interest.

Wisely Glen Gray does not attempt to reproduce either the sound or the style of the great bands. This programme does not pretend to offer any more than recreations of the themes. Within that limitation it may be regarded as wholly successful.

Recorded quality is up to the standard associated with the E.M.I. box bearing the "New Biononic Process" gold star on the front. And it's a funny thing—the more one listens the more evocative these tunes are of their originators. Yes, this is indeed an interesting collection. The big band sound has now all but disappeared. Mourned by many who are horrified at what has taken its place, this album will provide soothing nostalgic solace and a backward glance towards things that were and never quite will be again.

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NEW PRODUCTS

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DENHAM and Morley Limited are distributors of MB microphones and headphones manufactured by Mikrofonbau-Vertrieb GmbH of Western Germany, one of the largest manufacturers in Europe. The range has been extended to include four new models: MB170, which is described as "one of the smallest dynamic moving coil microphones on the market in the lower price range," MB270, a dynamic moving coil microphone for semi-professional use, MB220 twin dynamic stereo head sets and the MB190 described as "the smallest dynamic miniature pen microphone measuring no more than five inches in length and half an inch in diameter."



Model 170 illustrated above has an impedance of 700 ohms (200 ohms on request). The polar pattern is omni-directional and the claimed frequency range is 15 to 15,000 Hz. The length is quoted as 130 millimetres and the diameter 25 millimetres. The price is 4 guineas.



Model MB270 is a cardioid microphone of 200 ohms impedance with a claimed frequency range of from 70 to 15,000 Hz and a front to back discrimination of 15 dB. The price is 12½ guineas.



The matched stereo pair, reference MB220, comprises two, 200 ohm, cardioid units, each with a claimed frequency range of from 60 to 15,000 Hz, together with the mounting as illustrated above. Price complete is 10½ guineas.

The pen microphone, reference MB190, is a 500 ohm instrument (200 ohms on request). Polar pattern is omni-directional and the claimed frequency range is from 100 to 10,000 Hz and the cost is 10½ guineas.



The final item, MB K600 stereo headset, has a 200 ohm impedance and a distortion factor quoted as better than 0.3 per cent at 120 phons. Frequency range is claimed to be from 16 to 20,000 Hz, maximum load is 400 mW and the instrument is supplied with either six or 16 feet of cable on request. Price 19½ guineas.

Denham and Morley Limited, Denmore House, 173/175, Cleveland Street, London, W.1.

OKI RECORDERS

ANOTHER announcement from Denham and Morley is that they have been appointed sole distributors for goods manufactured by Oki Electrical Industries Ltd. of Tokyo, Japan, and will handle their range of hi-fi tape recorders. This will comprise one mono model, Type 111, three stereo models, Types 300, 333 and 335, and one stereo deck with pre-amplifier Type 300 D.

The full stereo/replay machines are being offered at realistic recommended prices from 69 to 105 guineas. The deck and pre-amplifier is priced at 59 guineas and the compact lightweight model at 39 guineas.



All models in the Oki range are two-speed (3½ and 7½ ips) and will take up to 7-inch spools. As will be seen from the illustration of Model 300 D above they include twin record VU meters and separate record buttons for each channel, thus making it possible to obtain either sound on sound or sound with sound. Stereo models incorporate an automatic shut-off device and tape decks operate by means of lever controls for all functions. All complete stereo models have detachable speaker enclosures.

Denham and Morley Limited, Denmore House, 173/175, Cleveland Street, London, W.1.

IMPORT OF VIKING MACHINES

VIKING tape recorders, manufactured in the USA, are now being imported into this country by Transatlantic Music Tapes (Distributors) Limited.

Model 423 is a four-track, three speed, two head machine with a three-motor transport system. The heads are of the hyperbolic type and have no pressure pads. Auxiliary inputs and outputs enable the machine's electronics to be used as a preamp for pick-up or tuner.



Frequency response is quoted as from 50 to 15,000 Hertz at 7½ ips, 50 to 10,000 Hertz at 3½ ips and 60 to 5,000 Hertz at 1½ ips. Intended for use in either the vertical or horizontal positions the complete unit comprises a tape recorder together with two walnut finished loudspeaker enclosures each housing an 8-inch woofer and a 3½-inch tweeter with cross-over network. Each cabinet is 16 x 14 x 5 inches and one houses a 60-watt (music power) stereo amplifier giving an RMS output of 15 watts per channel. The amplifier feeds both speakers. The control unit, housed in one speaker enclosure, includes on/off volume control, bass control and stereo headphone jack. The entire assembly is priced at 199 guineas. Alternatively the tape recorder Model 423 may be purchased separately at 144 guineas and the loudspeaker/amplifier combination 57 guineas.

Transatlantic Music Tapes (Distributors) Limited, Bristol and West House, High Street, Salisbury, Wilts.

AUDIO METER FOR ENTHUSIASTS

ONE of the most useful tools for the audio enthusiast is a good quality audio frequency millivoltmeter. J. E. Sugden & Co. Ltd. have now introduced their Model Si 451. This instrument has been specially designed for audio applications and includes many interesting features.



The operating ranges are 1, 2, 5, 10 and 20, and selectors giving multiples of 1, 10, 100 and 1,000 enable small range changes to be effected which, together with a variable control, makes it possible for any point upon the scale to be used when making relative measurements. The variable control at its limit position provides a calibration for sine waves, RMS or beat peak measurement. Indication is by clear front 3-inch scale meter with linear calibrations to 1, 2 and 5 units FSD along with a decibel scale where 0 dB=1 milliwatt in 600 ohms.

Maximum sensitivity is 1 mV peak to peak (approximately 350 microvolts RMS) frequency response is 20 to 20,000 Hertz within 0.5 dB total excursion. Size is approximately 10 x 5 x 7 inches and weight is 11 lb. Price is £30 delivered UK and delivery is ex stock.

E. Sugden & Co. Ltd., Bradford Road, Cleckheaton, Yorkshire.

SAFETY FIRST? MANY USES FOR GARDNERS PRODUCTS

THERE is an increasing demand for low voltage and isolating transformers for use with small electrical appliances, and particularly tape recorders. Such components effectively increase safety margins and can be used for low voltage lighting, cine projectors, soldering irons and other applications.

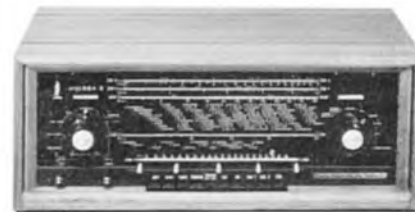


A full range of models of various voltages and power ratings are now available from Gardners Transformers Limited who will be pleased to send a copy of their comprehensive brochure on request.

Gardners Transformers Limited, Somersford, Christchurch, Hampshire.

HULDRA TUNER-AMPLIFIER

ELSTONE ELECTRONICS Limited announce the introduction of the Tandberg Huldra 8-55.



This is a high performance FM stereo tuner amplifier and AM radio receiver, styled in teak and intended for use with external speakers. It has an FM tuner complete with decoder for stereo multiplex reception, two ten-watt hi-fi amplifiers giving a claimed total output of 20 watts. The equipment includes built-in pre-amplifiers for magnetic, ceramic and crystal pick-ups. Retail price, including purchase tax, is 84 guineas.

Elstone Electronics Limited, Hereford House, North Court, off Vicar Lane, Leeds 2.

BESPOKE MIXING GEAR

THE advantages of modular construction for building up "tailor-made" mixer or amplifier units is well known and is now being exploited by Associated Electronic Engineers Limited. Under the trade name Astronic they are producing a complete range of twelve standard modules, the first five of which are specially designed for various types of inputs and others are intended for mixing, monitoring and metering.



Output power from the amplifier module varies from 10 to 70 watts according to model and the various input sections range in price from approximately £5 to £8. Full details can be obtained from the manufacturers:

Associated Electronic Engineers Limited, Dalston Gardens, Stanmore, Middlesex.

THE EXPERTS ARE ENTHUSIASTIC ABOUT THE **Bib** tape head maintenance kit

EXTRACTS FROM TEST REPORTS

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John Borwick, Technical Editor "The Gramophone".....
 "I found that the felt pads on the Bib Applicator and Polisher tools easily reached the small heads etc. on cassette machines". "I am perfectly satisfied that this Kit of handy tools is the definitive answer to tape head maintenance. At 12s 6d. it is a real bargain."

D.G. Killick, Editor "Tape Recording Magazine".....
 "I would again stress the absolute necessity for regular cleaning of some kind". "The tools now provided will enable the job to be done more quickly and efficiently with less trouble than before". "Strongly recommended".

David Kirk, Deputy Editor "Tape Recorder".....
 "I have used one other commercial tape-head cleaning device, which admittedly removed oxide and dust from the head channel but replaced these particles with much greater quantities of clinging soapy fluff. The Bib Tape Head Maintenance Kit performs faultlessly the task for which it is intended".

Percy Wilson—the well-known Audio Consultant.....
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BIB TAPE HEAD MAINTENANCE KIT. SIZE E.



The Kit is intended for the cleaning of tape heads and all parts of the recorder liable to soiling through the shearing off of oxide. Within a blue plastic wallet are packed two tape head applicator tools, two tape head polisher tools, ten applicator and polisher sticks, one double-ended brush, one bottle of Bib Instrument Cleaner, one packet of cleaning tissues and a comprehensive five-page instruction folder. **Price 12/6d.**

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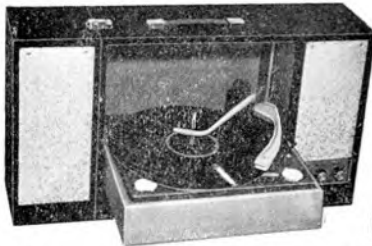
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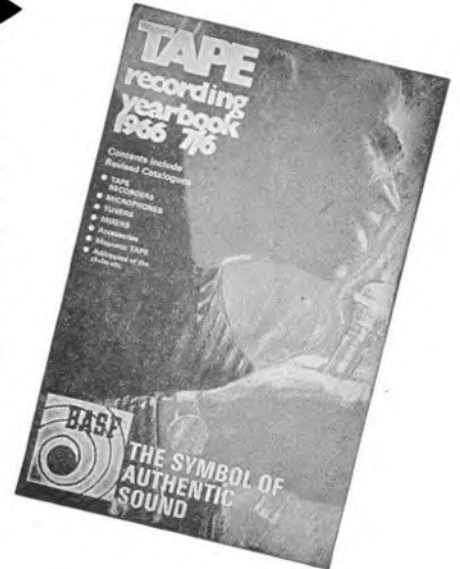
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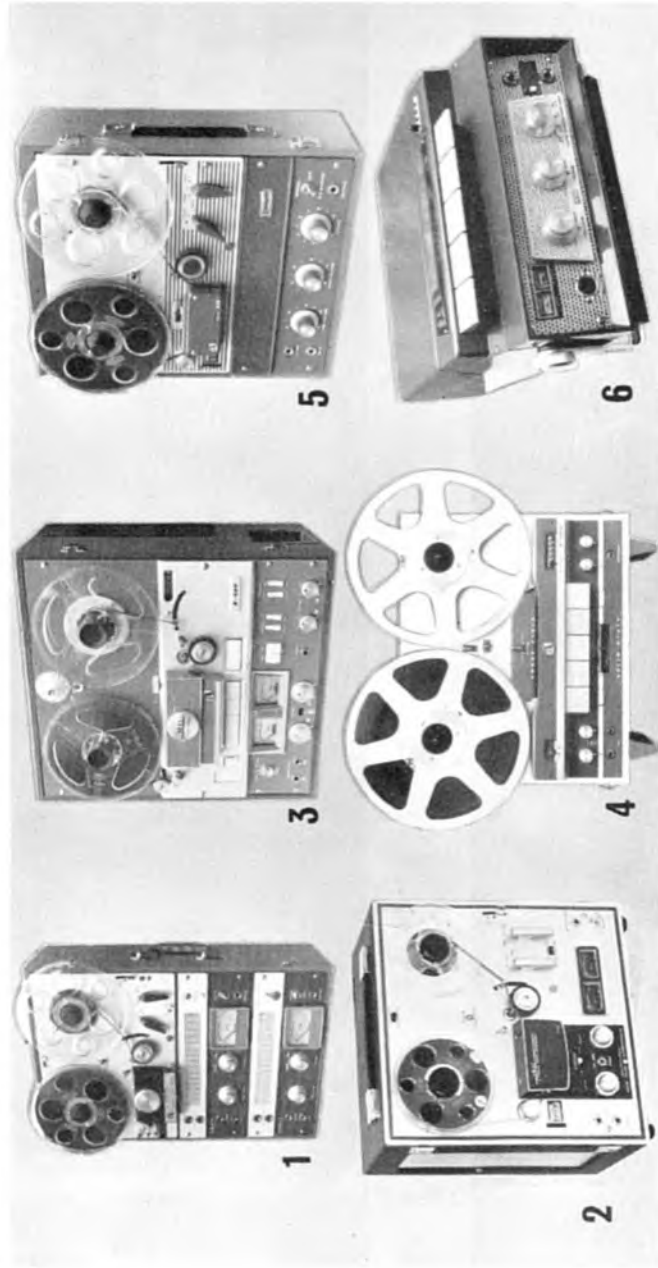
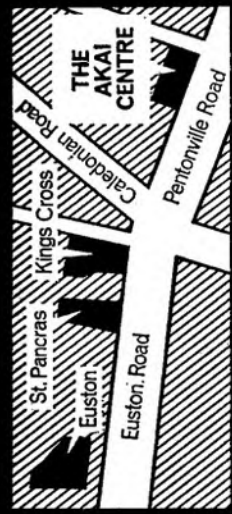
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