

TAPE RECORDING FORTNIGHTLY

TAPE RECORDS

A special survey of the
currently available
issues



**PRACTICAL GUIDE TO
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IN THE SCHOOLS—TEST
REVIEWS—LETTERS TO
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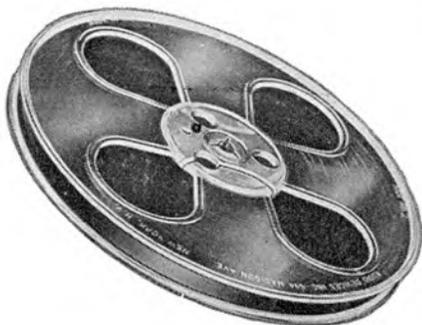


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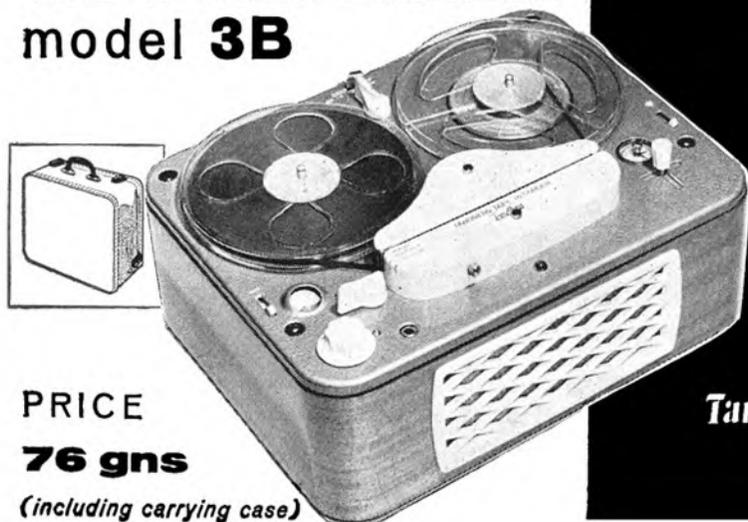
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TAPE AND CINE

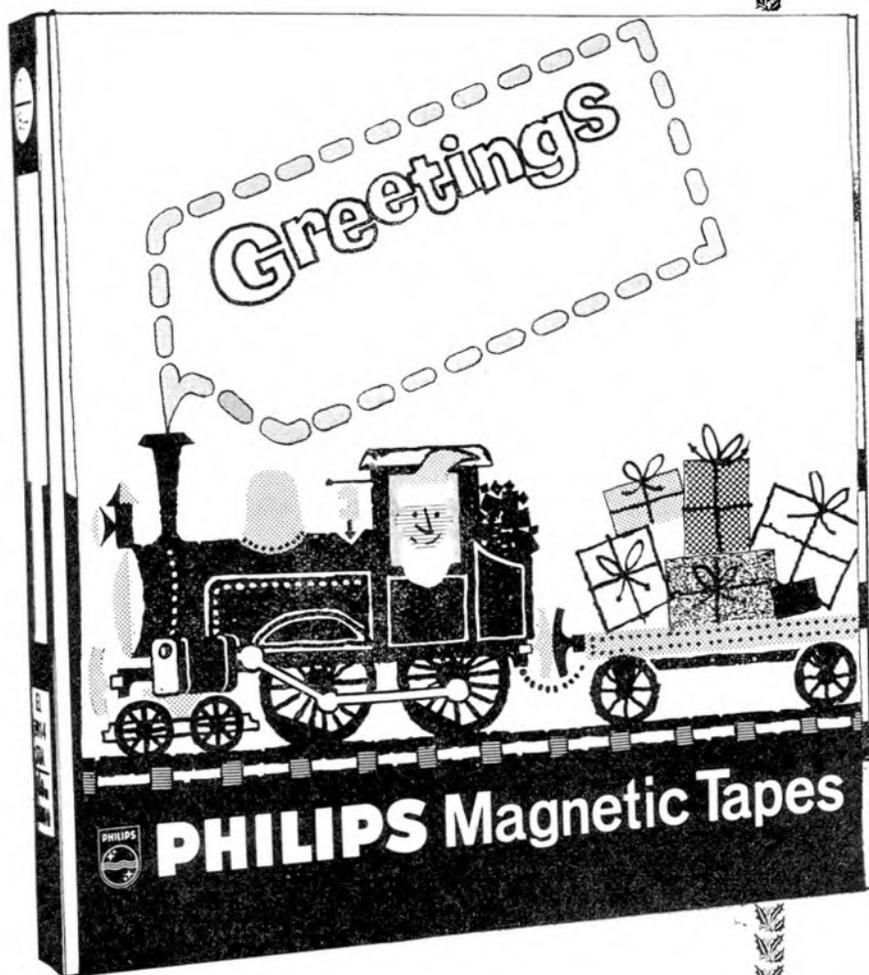
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TRFI



TAPE

RECORDING
FORTNIGHTLY

Vol. 5 No. 24 29th November, 1961

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We take the view . . .

A DIGEST OF NEWS, COMMENT AND EDITORIAL OPINION

AS we enter the tape record era, which we celebrate by a special section in this issue, a new problem of keeping up with the Joneses is created. Your new status symbol is going to be the shelf-space of tape records in your home.

I read in the first number of yet another new magazine about tape recording—called "Tape" and published in New York ("monthly, except during the summer")—an interesting estimate.

"If you can spare no more than four feet of ordinary bookshelf space, you can have a tape library containing all the standard classics, plus samples of jazz, show tunes and folk music, in addition to your favourite popular music," one of the contributors declares.

According to my calculations, that means about 65 tapes.

Of course, we still do not have an adequate repertoire but with the tape record clubs now getting an enthusiastic public response that will soon cease to be an excuse. So clear those shelves.

Incidentally, when considering prices of tape records, how many people overlook the fact that, if you tire of

the recording, you still have a reel of first-class tape for recording purposes?

Hazardous

IN the never-ceasing search for new ideas for tape recording activity, one of our leading manufacturers wrote to a firm in Scotland. It turned out to be an advertising agency and a smart copy-writer shot back this splendid reply:

"We have discovered no unusual uses. My only adverse comment is one that I apply to all tape recorders: the controls are far too complex. I find that those on my staff who have been aeroplane pilots are the most adept at handling the knobs and buttons and remembering what they do.

"I am sorry not to be more helpful, but the machine is used for quite ordinary purposes, though once, on top of a Frenchman playing the piano in Edinburgh, someone tried to dub the voice of a Hungarian woman singing in Glasgow, via a GPO telephone. This was done in error and was, of course, totally unsuccessful.

"Again, through some maladroit-

ness, early morning birdsongs became confused with the sounds of a diesel engine, so that it appeared a blackbird was making sounds like a heavy freight train going uphill.

"That is the only unusual thing I can think of, except when a man at a party got a foot entangled in some loose tape and fell, banging his head on a record-player and breaking the William Tell Overture."

Tape talk

AS though there aren't enough speeches being made by real, live orators, several political parties have now taken to sending around to their branches speeches and discussions recorded on tape.

The great thing, of course, is that a party's leading spokesmen can deliver his nation-rousing thoughts in countless town halls up and down the country on the same evening. There seems to be some variety of opinion about how much disembodied voice a captive audience can "take" at one session.

My own estimate would be a maximum of ten minutes.

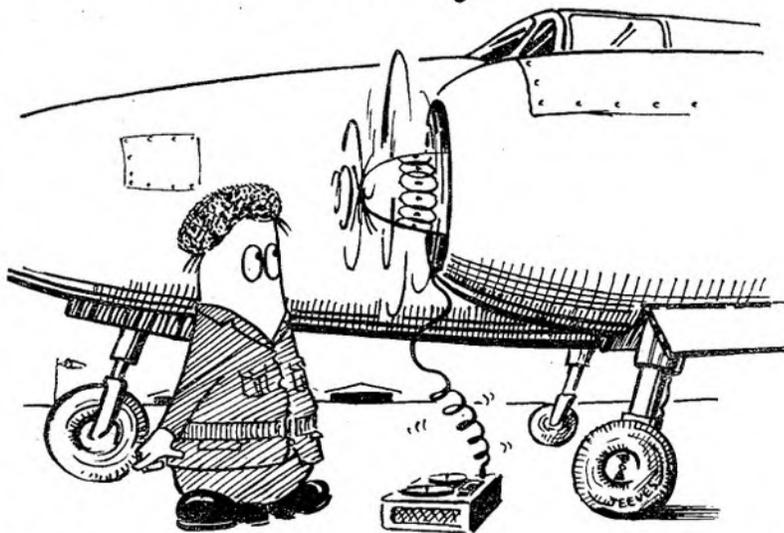
New Books

THIS issue focuses attention on the tape record, which clearly is going to come into its own during 1962. Our next issue will be a special Christmas number, with plenty of ideas for gifts for tape enthusiasts, including a selection of reviews of new books on the subject.

Meanwhile, we think you should hurry along to the bookshop for the new edition of *Tape Recording Yearbook*, which is half as big again as in previous years and includes an entirely new section for those whose interests embrace cine. At 6s. it really is one of the book bargains of the year; if you have any difficulty in getting your copy because of the rush, send 6s. 9d. to *TAPE Recording Magazine* offices.

In our next issue we shall announce plans for the New Year that will arouse the widest interest and result in *TAPE* making another stride forward as Britain's leading magazine in the field.

LAUGH WITH JEEVES



"Surely you can find an easier way to record a jet engine?"

CAPTURING THOSE HOLIDAY SOUNDS

WITH A STUZZI IN SPAIN

By April King

LET'S get this straight at the beginning. I didn't know the back end of a tape recorder from the front. That's the main reason I took a Stuzzi with me. The man said it was easy. Other reasons being that it had to be portable—and capable of putting reasonable sound on tape.

The purpose of taking a tape recorder at all was to record background sounds for a documentary film we were making about Spain—about Holiday Villas, in fact.

All we had was a most elemental shooting script, but from that, it was pretty obvious that we would want quite a comprehensive series of noises. To wit:—

Support for an airport scene;

For water-skiing sequences;

For a donkey expedition in the mountains;

For a fiesta sequence;

For a bull-fight sequence;

For a villa party.

We also thought—and this was just a remote idea—it would be good if we could put some basic music on tape as background theme for the film as a whole—"Third Man" stuff and all that.

As it happened, the Stuzzi was not quite simple enough for me. Having been warned at the airport that I shouldn't run the machine in the plane (I wanted to record engine noises) since it would interfere with all their instruments, I failed to press the centre knob and therefore had the machine running the whole time—and for a full 36 hours after that, before I came to use it again. Later I discovered that the Stuzzi is in operational use by BOAC anyway. This definitely cleared my conscience.

Nevertheless the aircraft arrived safely, without seeming damage to its instruments, but I had to replace the batteries with Spanish ones which were not the best in the world.

From thereon in, I took the machine out in the water-skiing motor boat and got some quite impressive noises before the tremendous battering of boat



against sea made the tape jump the heads (discovered later) and I spent half an hour unravelling the mess.

On episode two, the donkeys refused to bray at the right moment—or at any moment I was within spitting distance. Still their hooves sounded pretty good and the donkey-driver was fluent (the film would get an X cert. in Spain all right).

Episode three was far more successful . . . with some very pleasing noises resulting.

We filmed the fiesta at a little town called Elche, just outside Alicante. The town erupted at 11 p.m. with the most fantastic fireworks display I've ever seen . . . culminating at midnight with all the church bells booming out as the snap, crackle and fizz of the fireworks faded. A most exciting experience, since we both filmed and recorded in the warm night air from the roof of the Casino surrounded by the Mayor and a horde of local dignitaries who had enjoyed a dinner party, held on the roof. They all watched the display with their dining chairs upturned over their heads to protect them from the pelting rain of rocket sticks.

The villa party went well, too. That is, in the earlier part of the evening. Later the sound got rather blurred. Can't think why, really, except that in those parts a bottle of brandy costs

about five shillings and wine around 6d. a litre. Anyway I don't think it was the fault of the tape recorder.

But the thing I was most pleased about, as far as recordings went, was the theme music. Quite by chance we heard someone humming a very catchy little tune. We asked about it and discovered that it was an old students' song (convenient—no copyright problems).

We thought—rightly, I'm sure—that this would make a splendid theme song and therefore persuaded a bunch of local musicians to present themselves for a recording session which, with the infinite politeness and helpfulness of Spanish people everywhere, they gladly did. And in the cloistered calm of a Spanish villa called El Ranchito, we recorded the rather compelling noise of guitars, mandolines and tambourines playing our Pio, Pio song.

Well, that was the enjoyable part. We came back with ninety minutes worth of good colour film stock in the can, some fair old "noises off," and the Stuzzi still remarkably action-worthy after a very unquiet time.

Now the real work of making the film is in progress. But for anyone who has a movie camera, I can thoroughly recommend the idea of using a battery portable recorder in conjunction with it.

ALAN EDWARD BEEBY'S TAPE TALK

AN old recording-colleague of mine, Alan Ashton, who lives near Wellingborough in one of those luxurious, custom-built caravans (sort of Mayfair penthouse on wheels!) is the latest acquaintance of mine to come up with a moan which seems to be fairly common among tape enthusiasts just now. He has a refrigerator which, every so often, switches itself on and off, imparting to any recording he happens to be making at the time, a resounding "Click!".

He assures me that each and every item of electrical equipment in the caravan is independently wired (ten fuses in all), and is, therefore, at something of a loss to explain how the offending sound is able to leak through to the tape-circuit. All obvious explanations have been offered, and all suggested cures tried—but in vain. Lots more people are complaining about the very same thing. Anybody got any ideas?

Alan, incidentally, is chief projectionist at Wellingborough's Lyric (ABC) Cinema, and we exchange tapes frequently, having a common interest in theatre-organ recordings.

Settling down to listen to one of his tapes two evenings ago, an angry humming sound from the recorder brought me up from my chair in alarm. What the dickens was happening? I checked the tape, the heads, the leads and the extension-speaker. The hum grew louder than ever! I checked everything again. Still the hum! Deciding there was nothing I could do about it that evening, but planning a swift, sharp, verbal exchange with somebody or other over this little packet, I re-started the tape once more.

"Er, by the way, old son, I'm frightfully sorry about this hum you can hear," came Alan's apologetic tones. "I'm recording this at 1.15 in the morning up in my office at the cinema. We're doing a battery-discharge test in accordance with the Secondary Emergency Lighting Regulations, and I'm afraid it's rather upsetting the old recording-conditions somewhat. Bet you thought the Vortexion was up the spout for a minute, didn't you?"—followed by a burst of jovial laughter.

Long may his 'fridge continue to click, say I!

I have a tip for anyone finding themselves in conversation with Norman Paul (1960 B.A.T.R.C. winner): whatever you do, don't mention the subject of motor-cars! He was telling me the other day about the unhappy incident which led to his current abhorrence of these items.

Out in the country recently, Norman and a colleague were conducting a series of experiments with the Fi-Cord in a quiet and deserted lane, when they heard a nearby church clock chime the hour.

Not being in any great hurry to return to Town and thinking the sound might come in useful for the recording they had in mind, they decided to hang around until it chimed again the following hour.

You can, no doubt, guess what happened. Just as the bells began to ring out, this car came roaring past at full throttle and ruined the lot! The maddening thing about it was they hadn't seen a single vehicle, other than their own, on that particular stretch of road all evening until then!

All of which probably explains why Norman has lately taken to spending his free time on a sunny afternoon prowling up and down Oxford Street and fighting an almost-irresistible urge to kick-in the gleaming sides of inoffensive limousines!

"Well, you see, it was like this, constable . . ."

■■■■■■■■■■
STAR SHOP SERVICE SPOT: For Readers in the Wolverhampton area—Fenwick's (Radio and Television), Fenwick Buildings, Great Brickkiln Street, Wolverhampton. My own, personal recommendation, this.

■■■■■■■■■■
IN March of last year, figures resulting from a Readers' Research Quiz conducted by the Editor of *Tape Recording Fortnightly* showed that only 20 tape enthusiasts out of every 100 were members of a tape recording club. How do those figures stand today, I wonder? Have they risen, or fallen?

My question is occasioned by a letter I have received from a reader in Birmingham. Part of this reads: "Every tape recorder-owner should, in my opinion, be actively persuaded, by all possible means, to join his or her local tape recording group."

I'm afraid I can't agree. I certainly believe that newcomers to the hobby should be invited to join a club, but to couple such an invitation with an implied obligation to duty in this respect would, I think, create a false balance of purpose within the framework of a club in which any otherwise individual, creative talent would quickly become stifled.

Many people produce their best efforts when working alone. To be merely a cog in a machine, so to speak, robs them completely of incentive. To know that, somewhere along the production-line, their own particular contribution may very well be altered, misapplied or even edited out of existence altogether deprives them of any suggestion of personal satisfaction or achievement. Such people are simply not club-minded, and prefer to stand or fall solely on the merits of their own, unaided efforts. On the other hand, of course, a good many people are just naturally shy and reserved by nature, and wouldn't dream of joining a club of any sort. To do so would be sheer torture for them.

I, myself, am not a club-member, and I've been doing a little research among other "lone-wolves" to try to assess the general attitude of people like me who, whilst not wishing to appear stand-offish or disinterested, have no natural inclination to become club-members. The answers to my question: "Why aren't you a tape club-member?"—collected from 25 lone operators—may or may not surprise you.

They don't like: (a) Rule Books, (b) that "cog-in-the-wheel" feeling, (c) weekly subscriptions, (d) regular weekly meetings, (e) lectures by visiting experts, or (f) fines—however trivial—imposed for some breach of conduct such as absence-without-good-cause, or failure to produce a test-recording which doesn't measure up to standards set by someone who probably knows less about the business than they do!

Well? Are YOU a club-member? And if not, why not? If you have any strong feelings on the subject, write and tell me about them. I'll print the best letter received.

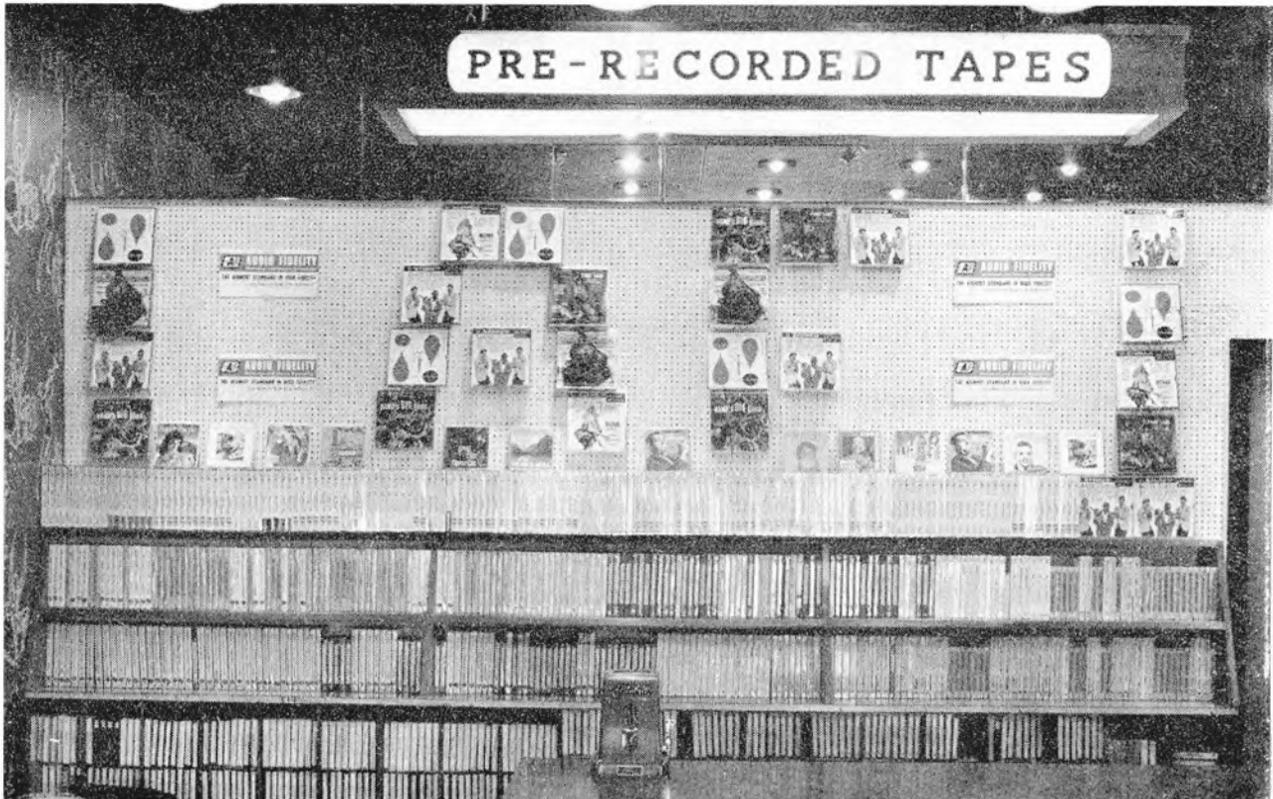
■■■■■■■■■■
The following "tape recorder" story is currently going the rounds: A psychiatrist, tired of having to sit for hours on end listening to his patients rambling away on the couch, installed a tape recorder. Then, with the patient pouring his troubles into the microphone's impersonal ear, he would slip quietly downstairs to the pub next-door for a drink until the tape had had time to run off.

One morning, he was lingering over a whisky-and-soda when, to his surprise, he suddenly noticed the patient standing at the other end of the bar consuming a leisurely glass of beer.

"What the blazes are you doing down here?" demanded the psychiatrist. "Oh, it's all right," replied the patient. "My tape recorder's upstairs talking to your tape recorder!"

■■■■■■■■■■
INTRODUCING "CHARLIE": Or, need I bother? You must know Charlie! He's the "seagull" who travels many hundreds of miles every week making personal-appearances for the BBC. In the past few months he's showed-up on the sound-tracks of TV-films shot in Cornwall, Plymouth, Devon, Grimsby, the Isle of Wight and the Outer Hebrides! It's never another seagull: always our Charlie.

Poor, old Charlie. He's getting a bit long in the tooth for this sound-effect lark now, of course, but he does, at least, have the satisfaction of knowing that his distinctive and unmistakable sequence of cries has belted out from practically every TV-set in the land at some time or other. I'll bet his performing royalties are building up into a nice little nest-egg. Ooops, sorry!



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What are the wow and flutter figures for your deck? Perhaps the best thing

Now that an ever-increasing variety of tape records is becoming available, it's time for a critical look at the capabilities of our playback systems, to decide whether or not it's worth investing in this new form of entertainment.

Such deliberations may result in a bit of heart—and pocket—searching for those who have already invested in equipment, to which changes must be made. The newcomer, however, is in a better position. His purchases will not oust any well-tried (and possibly expensive!) bits and pieces which have, so far, met all needs, but which can be made to provide an integrated system based on the latest requirements.

Since tape records are made on high-quality commercial equipment,

This is the first barrier to be overcome in an attempt to achieve better quality of reproduction. Fortunately, most recorders have an external loudspeaker connection and there are many good speakers from which to choose. Any of these, suitably mounted, will show a noticeable improvement over the internal speaker.

By ALAN BEAUTEMENT

Don't be misled, by the way, by what you may have read or heard, about acoustic labyrinths, bass reflex enclosures and other suchlike chit-chat about aids to perfect speaker loading.

It is by no means essential to have cinema, are virtually ignored except for musicals.

Modern jazz hardly gets a look in with many musicians without a recording contract. But the great omission is the lack of any teenage names—No Cliff, no Helen Shapiro, no Shadows—nor their like.

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Every Recorder carries the unique Teletape Free Home Service Warranty (up to two years, anywhere in Britain), H.P. at cash prices.

TAPE—THE NEW MEDIUM FOR MUSIC

(Continued from page 13)

reached the stage where, with careful design, wide-range reproducers can be quite small and unobtrusive.

For example, the T.S.L. "High-Q-Flexette" loudspeaker assembly consists of a 4½-inch unit in a cabinet less than one cubic foot in volume. Yet it handles a peak power of 8 watts and has a frequency range exceeding 40-15,000 cps! So there's no need to antagonise the distaff side by throwing out the sideboard to make room for speaker cabinets.

There's no such thing as the "best" unit—they are all modified by individual surroundings. The only answer is trial—and error!

Stage two in the search for improvement brings us to the playback amplifier. Is its frequency response good? Is distortion low? Can it handle those crescendo passages without overloading? If the answer to one, or all, is no, then changes are needed.

A surprising improvement can often be effected by replacing a standard output transformer with one of better quality. An even better system is, of course, to use an external amplifier. Some recorders have an outlet to feed such amplifiers and, in these cases, pre-amplifiers, would not be needed, as the necessary equalisation takes place before this point and the worst distortion, which usually occurs in the recorder's output stage, is eliminated.

If there is no socket for an external amplifier, fitting one is a fairly simple job for a serviceman. It may be necessary to make a direct connection to the replay head, in which case pre- and main amplifiers would be required. Again, a wide variety is available and choice can be based on individual requirements.

Now, perhaps, we can do justice to those tape records, at last.

One moment though. If you'll pardon a personal question, what about your head? Can it reproduce the required frequency range? Is it properly screened? Can the azimuth be adjusted correctly? Is it half-track or quarter-track?—because we're now thinking about stereo, which duplicates the foregoing speaker and amplifier requirements.

What are the wow and flutter figures for your deck? Perhaps the best thing

would be to purchase a new deck with stereo heads and be done with it.

If any of you feel, at this point, that the whole business is getting out of hand, "nil something carborundum", or whatever the saying is.

The situation is not as bad as it seems, however, as the average deck is capable of much higher quality than is obtained with the usual kind of amplifier, and you don't HAVE to use stereo. Mono can still sound very fine and we are now suggesting refinements rather than absolute essentials, so stick with it. We're nearly there.

The ideal system would, of course, consist of a good stereo deck, dual amplifier channels and two good reproducers, each containing at least two speakers and a crossover network, with possibly a third reproducer for the "phantom" centre channel, but the final choice depends, as always, upon the user's likes and bank balance.

All the comments in this article have been made to highlight the points which need consideration when contemplating higher quality reproduction but how far you go depends upon the equipment already available and how HI you like your FI.

The variations are innumerable and, as my inquiring son says, "what is all this high fiddly audio anyway?" I sometimes wonder.

Well, happy planning, and may your Christmas stocking be filled with tape records.

In this special section two of the best-known writers on recorded music consider the material now available to tape enthusiasts.

In future issues they—and other top reviewers—will write about new tapes as they are issued.

DON WEDGE is a well-known figure in the world of popular music recording. He knows the top stars and their records. He writes of them with unique authority.

EDWARD GREENFIELD is the recorded music critic of *The Guardian*, a member of the reviewing team of *The Gramophone* and an author and broadcaster whose comments on recorded classical music have earned him an enviable reputation.

Big names on tape

By DON WEDGE

ON the whole, it is big names that sell records. That was shown long ago in the disc field and there is no reason why the same thing should not apply with tapes. The big name can be a show or a composer, but most of all it applies to artists.

The keen record buyer wants Frank Sinatra, Ella Fitzgerald, Nat Cole, Louis Armstrong, Cliff Richard, Elvis Presley. In most cases they cannot get them on tape.

World Record Club has brought out a Cole, a Sinatra, a Stan Kenton and one or two more. *Bing Sings while Bregman swings*, one of my favourite records, *Ella and Louis*, *Fred Astaire* and *George Melachrino* are among those still available from the **HMV** range.

Bi-Tapes have Tallulah Bankhead and Sophie Tucker recorded in cabaret and there is the impressive list of *Salutes* to the great bands brought out by **Music on Tape**.

Chris Barber and Jack Teagarden are among **Saga's** jazz releases, as is pioneer George Lewis. There are many more, of course, issued over the years, but the number and strength of names compares badly with the 400 or so similar LP discs that will be released in 1961 alone.

Nevertheless, this autumn has seen some big names on tape for the first time and more will follow.

Shows are better served. You can get versions of *Oliver!*, *West Side Story* and *South Pacific*, but where are *Fings*, *Bye Bye Birdie*, *Do Re Mi*, even *Stop the World?*

Film sound tracks, often exciting and stimulating music away from the cinema, are virtually ignored except for musicals.

Modern jazz hardly gets a look in with many musicians without a recording contract. But the great omission is the lack of any teenage names—No Cliff, no Helen Shapiro, no Shadows—nor their like.

Teaching tape— on tape

By R. DOUGLAS BROWN

IT seems commonsense that the medium with which to teach about tape recording is—tape. In fact, it is not as simple as that. As the editor of this magazine and as compère of the BBC "Sound" programme it has been made clear to me that there are some things which can only be explained adequately by printed illustration or words, and others that need sound to put across satisfactorily. The ideal medium, maybe, is television, but we have not yet created a big enough audience to justify that.

Meanwhile, several firms have made useful efforts to supplement the flow of printed matter with tape records offering instruction in tape recording.

I have just been listening to tapes produced by three different firms who have used the full resources of professional studios. The results should be of great interest to newcomers to the hobby.

The first thing to be settled when producing this sort of tape is the ideal playing time. E.M.I., with their new *Emiguides* have opted for ten minutes. KLP Film Services have produced an instructional tape that plays for thirty minutes. Esoteric Productions Ltd. decided, with their *Tapecraft* record to go the whole hog and it plays for 60 minutes.

The *Emiguides* cost 8s. 6d. each. The first three of the promised half-dozen have now reached me. John Borwick, who has devised and produced them, is well known as a writer and broadcaster on audio.

The great virtue of these E.M.I. tapes, however, is the way in which they blend speech, music and effects, so that there is the variety that holds interest. Take the second tape, for example, which deals with microphones. Borwick does all the explaining that is necessary, but the really valuable part of the tape are the demonstrations when he speaks first on a professional microphone and then on a cheap one, when he circles a ribbon microphone while speaking to show its directivity, when he demonstrates the result of speaking too close to the microphone when piano and vocalist are introduced to illustrate reverberation and balance problems.

The first tape in the series is very much an elementary introduction. It explains the basic controls on a recorder—volume, tone and level indicator; it discusses and illustrates wow and flutter, cross-tracking, distortion due to heads out of alignment, tape squeal and flutter caused by improperly adjusted pressure pads, print-through, imperfect erasure and even the effect of putting the tape in back-to-front.

Even the dimmest tyro should be able to sort out his problems with the aid of this tape.

The third *Emiguide* I have heard deals with the various forms of tape editing,

again with some very useful sound examples.

Each of the *Emiguides* is recorded full track at 3½ ips on a three-inch reel in a plastic container. Each has a small illustrated leaflet to supplement the sound track. Each has a coupon and six of these will be exchangeable for an Emitray in which to store the tapes.

Now for the KLP production, a 30-minute tape at 3½ ips on a 3¼-inch reel, recorded half-track, titled "An Introduction to Magnetic Tape Recording in the Home." It is described as the first in a series of *Teach-U-Tapes*. Its coverage is very comprehensive. It has something about the history of tape recording; it explains in full the scientific principles involved; there is a full introduction to the mechanical and electronic components of a recorder.

And, finally, there is a good deal of sound advice on the technique of tape recording, covering all the necessary aspects—signal-to-noise ratio, frequency response, control settings and so on.

I should have liked more actual examples in sound of the things that are discussed verbally, but there are enough to break up the narrative.

The narrator has an interesting conversational style, he conveys an authoritative air, and his material is arranged in good logical order. At £1 15s. the tape is a good buy.

The third professional effort is Esoteric's *Tapecraft*.

It covers very much the same ground as the last tape, but rather more comprehensively and with more sound examples. Naturally, it costs rather more, but at 45s. it is a sensible investment for any but the most experienced and expert of enthusiasts.

The sound examples explain acoustics, frequency response, decibels, equalisation, balance, distortion, feedback, hiss, hum, overloading, signal-to-noise ratio, wow and flutter, microphone placing, print-through.

Even that is not a complete list, but it shows that this tape does its job thoroughly.

One of its most valuable features are the recording sessions which are presented, full of practical advice. Recordings illustrated include orchestra, organs, choral music, a piano and a brass band.

The tape concludes with two signals with which to adjust azimuth alignment.

It is recorded at 3½ ips, two-track, on a 5-inch reel.

E.M.I. Sales & Service Ltd., Hayes, Middlesex.

KLP Film Services, 3, Queen's Crescent, Richmond, Surrey.

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

THE emergence of World Record Club into the tape field means that some really big stars are once again made available. **Nat King Cole Sings his Favourites** (TTP 82) is a first-class start.

The tape contains a dozen songs, among them some of Cole's biggest successes. *Nature Boy*, a million seller when it was first released as a single disc is an obvious highlight.

Mother Nature and Father Time, Faith Can Move Mountains and Answer Me are songs that Cole is still called on to sing.

In fact, they are included in a magnificent four-LP set which Capitol, Cole's label for the past 18 years, has issued in America to mark his signing for another 10 years. This set consists of re-recordings of the songs that have made his long career so successful.

Perhaps I should admit a prominent bias towards Cole. He is one of the world's greats, his warm, husky voice, soft yet virile, seems to suit his personality perfectly.

A tall man, he moves with a great grace, has few stage gestures, but all the time seems to be ready for a football pitch.

Pretend is a classic pop ballad and *Dinner for One, please James*, an amusingly told tale of tragedy—the romantic kind.

The man's musical excellence which did not escape after he left behind him the position of one of jazz's leading pianists, completes his qualifications. Listen to him extract everything from *Forgive my Heart*, which is hardly the finest song ever written.

This record is for me, something to play over and over. The material is not new, but is available in Britain for the first time on tape. Cole's very stylised approach does not appeal to everyone. For the rest it should be at the top of every Christmas list.

* * *

Nat Cole is hard to follow. If there is not the same enthusiasm for another WRC tape—a version of Lionel Bart's current London hit musical **Oliver!** (TTP 151)—do not assume that it lacks merit.

The approach to this record was to provide a show souvenir, although the artists were given their heads in individual interpretations.

Inevitably there is a comparison with the stage production and Decca's original cast recording. Though it comes near, it does not quite match up.

When a "cover" of a show album

Beat and Off-Beat

A selection of the new issues

by Don Wedge



is recorded, it is usual to use pop, or near-pop, artists giving re-arranged versions of the songs from the musical. With *Oliver!* the story and the songs are so closely linked that much would be lost if they were taken out of context.

To get a hit parade success out of the score, Lionel Bart had to revise the lyrics of the likeliest song, *As Long as He Needs Me*. But such numbers as *That's Your Funeral*, *Oom-pah-pah* and *Be Back Soon*, even the title song, have little relevance outside the actual production.

World Record Club wisely decided to stick to the show's own type of presentation. Ian Carmichael sings Fagin, the part taken at first on the stage by Ron Moody. Carmichael is sinister and cunning, but is rather less frighteningly snide than Moody was. Joyce Blair (Nancy) rises far above what one has come to regard as good for a revue star, although she does not equal the torridness that Georgia Brown put into the stage cast album, she is more sympathetic.

Bart says that the key song, about which the show revolves, is *Where is Love?* given to Oliver Twist to sing as his world crumbles about him.

On this record David Hovell gets his big chance with the number, not quite equalling Keith Hampshire's stage performance, although the latter had the benefit of playing the part several weeks before making the record.

The WRC version is good in itself, and comes close to equalling the original.

Third WRC tape of the batch—**Great Film Favourites** (TLMP 5)—is an excellent production which includes some of the best-known film songs and themes from the 'forties and 'fifties.

Among them are *True Love*, *Laura*, *Three Coins in the Fountain*, *Gigi* and *Around the World*. With the prolific

outpouring of music for the screen it would have been possible to have compiled a better selection. But it would have been hard.

The selection—there are twelve items altogether—is given a concert treatment by a team which includes Andy Cole and Barbara Leigh, but I enjoyed most of the orchestral items into which the Michael Sammes Singers blend well.

Sammes has, I feel, been long neglected as a choral leader. I would welcome a complete record devoted to his talents—illustrated in *Great Film Favourites* only by brief contributions, particularly in *The Harry Lime Theme*.

ALTHOUGH the latter album is worthy, I personally prefer one mood—or one artist or show—to a record, which I hoped to find on turning to some of Saga's new pre-recorded tapes.

First on the pile was **Favourite Show Tunes** (STG 8044). This did not have different types of singers to upset a continuous style. But I did not go for the style!

The Saga tape features the Sorkin Strings in such standards as *Adios*, *Dancing in the Dark*, *Surrey with the Fringe on Top*, *What is this Thing called Love?* and *Fascinating Rhythm*.

The arrangements, verging towards classical phrases at times, are not to my taste. They get a sort of palm court sound, when lush strings would have been far better.

It is lushness to the fore, though, in Saga's **Silk, Satin and Strings** by "the Radiant Velvet Orchestra, Caesar Giovanni conducting." (STG 8045). I had not previously heard of Signor Giovanni or his unusually named band before, but would welcome much more if it reaches this standard.

It is another great collection of great tunes including *Laura* again, as well

as *Sleepy Lagoon*, *Falling in Love with Love*, *Stella by Starlight* and *Out of My Dreams*.

There is a great deal of well-played and recorded string passages, powerful and full, contrasted with interesting pizzicato parts.

It is a record for a reverie that is not to produce drowsiness. *It's All Right with Me* at the end of track one has a very exciting drum opening and close, with interest maintained by exciting percussion effects throughout.

I enjoyed listening very much, particularly to the first part.

Pleasant too, is **Dancing and Dreaming** (STG 8041), which features good subdued modern dance music. It is equally good for dancing or listening.

Featured is the Jay Norman Quintet, a piano—drums—bass—guitar—vibes group such as might be found in any good hotel ballroom.

Laura is omitted, but again there is a high standard of repertoire—*The Breeze and I*, *The Way You Look Tonight*, *Time on My Hands* and *Easy to Love* being some of the twelve in the package.

Another type of music is also provided by Saga—**Old Time Dancing** (STG 8042) by Harold Davidson and his Orchestra, long ago shown to be masters of this type of music.

A DISTINCTLY off-beat item in the Esoteric range is **Exotic Love Music of Peru** (RS 102) sung by Enrique Torres in both Spanish and English.

The record has a feeling of authenticity about it, although it was made in Hollywood by Protone, one of the firms supplying repertoire to Esoteric.

Les Baxter is credited as one of the arrangers—Ronald Stein is the other—and the record comes up well to his usual high musical standards.

It is exciting, entertaining and very different.

More conventional is an Esoteric trad record, **Eight of the great Original Dixieland Jazz Band Numbers** (R 200). It consists of stereo recordings (it is available in mono also) of such early jazz works as *Livery Stable Blues*, *Clarinet Marmalade* and *Tiger Rag*.

The set is a good recreation, although it lacks some of the soul of the original New Orleans jazzmen—or perhaps it is the muzzy recording of the old discs that is missing!

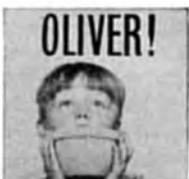
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ANY 3



34. Hervey Alan, Ian Wallace, Marion Grimaldi and chorus sing the immortal 'Cobbler's Song, Robbers' Chorus, Chu Chin Chow, etc. Disc: mono/stereo. Tape: mono only



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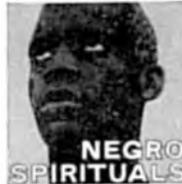


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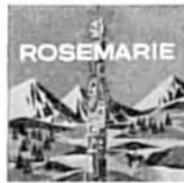
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Address

“Unique performances are now available on tape records”

THE present catalogue very much reflects what was going on in the gramophone world at three different periods.

Broadly speaking, it has been built up in three bursts—a burst of E.M.I. enthusiasm when it issued mono tapes for the first time, and a second burst of enthusiasm when stereo was introduced on to the British market for the first time, inevitably a chancy enterprise when playing equipment was so prohibitively expensive. The third big section of the catalogue is the list of Saga tapes, which have come to us by materialising like the Cheshire cat rather than being issued in the conventionally formal way (no reflection on quality, of course).

As well as largely dictating the shape of the repertory this division into three has also had an effect on price. The E.M.I. mono tapes are still very expensive—£4 4s. for what amounts to the length of a twelve-inch LP, but stereo tapes strangely enough are generally cheaper at £3 3s. for twelve-inch length. The Saga tapes rather more logically have lower prices for mono—£2 5s. for a twelve-inch LP length or £1 12s. 6d. for the alternative versions playing at $3\frac{1}{2}$ ips instead of the standard $7\frac{1}{2}$ ips. The Saga stereo tapes work out rather more expensive than the E.M.I. ones—£4 4s. for a twelve-inch length.

After all these rather high prices it is encouraging to hear of the latest development from World Records with its issues of $3\frac{1}{2}$ ips tapes, twelve-inch equivalents working out at 29 shillings.

Anyone like myself studying the present tape repertory from the point of view of the LP catalogue must first be struck by the high proportion of the E.M.I. mono tapes that are now unavailable on disc. In a sense this has made them more attractive since some outstanding, indeed unique, performances are kept available in this way.

I think of Elisabeth Schwarzkopf in a selection from Richard Strauss's lovely opera *Arabella*, a bewitching portrait of Strauss's vivacious heroine; I think of the selection from Walton's opera *Troilus and Cressida* due to be revived soon at Covent Garden and sung on the record by Schwarzkopf for whom the part of the heroine was originally intended although she never sang it on the stage.

Other interesting British music now available only on tape includes a coupling of Vaughan Williams' delightful Oboe and Tuba concertos as well as an interesting Elgar coupling of *Sea Pictures* sung by Gladys Ripley and the overture *In the South*. Among other out-of-the-way recordings now deleted on disc is Busoni's one-act opera *Arlecchino* performed by a Glyndebourne cast. Two recordings of Borodin's second symphony

By EDWARD GREENFIELD
(Recorded music critic of *The Guardian*)



now unavailable are also still in the tape catalogue and I recommend Malko's comparatively cheap one (plum-label equivalent) coupled with Borodin's unfinished Third Symphony.

The standard repertory in mono reflects the E.M.I. issues of five or six years ago. Klemperer in Beethoven's Third, Fifth and Seventh symphonies, but not in the Brahms symphonies in which with Nos. 1 and 4 Karajan is presented instead. Karajan also in Beethoven's Third, Sixth and Seventh, Furtwangler in the Fourth, Fifth and Sixth—these last all good performances but not the ones one would choose today as a rule. It is irritating, too, that there was so much unnecessary duplication. Among the Beethoven piano concerto recordings I recommend Edwin Fischer's version of No. 3 and Solomon's of Nos. 2, 4 and 5. This last recording of the *Emperor* has not in fact been completely outshone by any performance since. I must put in a reminder, too, for Myra Hess's mellow accounts of the last-period sonatas Opus 109 and 110.

Besides the two Karajan tapes of Brahms symphonies there is Cantelli's glowing account of No. 3. Mozart symphonies are unrepresented surprisingly except for No. 38 in an old recording by Gui and the Glyndebourne Festival Orchestra, coupled with Haydn's little-known symphony No. 60. Interesting concerto recordings include David Oistrakh in the Khatchaturian Violin Concerto, the Prokofiev No. 1 (a very beautiful work) coupled with the Bruch No. 1 and Cherkassky in a coupling of Prokofiev's second piano concerto with Shostakovich's first—two fine performances unavailable now on disc.

Opera on mono tape includes outstanding performances of Puccini's *Bohème* with Beecham and de los Angeles *Tosca* with Callas and Gobbi, Massenet's *Manon* with de los Angeles, Strauss's *Fledermaus* and Humperdinck's *Hansel and Gretel* with Schwarzkopf and Verdi's *Trovatore* with Callas. One of the outstanding operatic tapes is a wonderfully variegated recital of arias by Victoria de los Angeles ranging from Rossini through middle and late-period Verdi to Puccini and Mascagni.

Opera on E.M.I. stereo tapes is just as impressive, even more so perhaps for the added breadth of sound. The complete Glyndebourne recording of Mozart's *Marriage of Figaro* is very expensive on no fewer than seven tapes at £3 3s. each (this was a very early stereo issue), but quickly E.M.I. learnt how to compress stereo recordings on LP tape and the set of Strauss's *Rosenkavalier* with

Schwarzkopf is squeezed on to only four tapes, a splendid achievement even if the tape sometimes spills off the end. Verdi's *Falstaff*, also with Schwarzkopf and Karajan, is another superlative issue, and the recording of the *Beggar's Opera* is also most impressive (not available on stereo disc) though expensive on four tapes. Beecham's account of Mozart's *Entführung* is another set unlikely to be surpassed. Taking the standard classics I recommend Klemperer in Beethoven's symphonies Nos. 6, 7 and 8 (the Seventh not available on stereo disc strangely enough) and the same conductor in Brahms's First. Another recording available on stereo tape but not on stereo disc is Beecham's infectious account of Schubert's Sixth Symphony.

Concerto recordings are not generally well represented in the E.M.I. stereo list, but wonderful pianism can be heard from Michelangeli in the Ravel Concerto coupled with Rachmaninov's No. 4. Other interesting tapes are Moura Lympany's coupling of Prokofiev's concertos Nos. 1 and 3 and her account of Rawthorne's First Concerto coupled with Jacques Abram's of Britten's little-known but fascinating concerto.

Inevitably the Saga list is not so spectacular as the E.M.I., but there are some excellent bargains particularly in the mono list. I think of Alan Loveday's fine recording of the Beethoven Violin Concerto and Leonid Kogan's account of the Tchaikovsky Violin Concerto (this last rather marred by indifferent Soviet recordings).

The Harry Newstone recordings of the Bach Brandenburg Concertos (in stereo as well as mono) are also welcome—E.M.I. strangely having done little Bach on tape. The intonation of the strings is not always quite true however, intelligent as the playing generally is.

Eileen Joyce's admirers will be pleased with her account of the Grieg Concerto (available in stereo as well), and there are some exciting piano records by Sergio Fiorentino, a very sharp, energetic pianist who is dazzling rather than poetic. His Saga tapes include the Tchaikovsky Concerto, Beethoven's *Emperor* and Liszt's No. 1.

The first three World Record Club tapes to have arrived are Sargent in Tchaikovsky's Fifth Symphony, Eugene Goossens in Rimsky-Korsakov's *Scheherazade* (both with the London Symphony Orchestra) and John Hollingsworth and the Sinfonia of London in selections from Tchaikovsky's *Sleeping Beauty*—all in fresh, alert performances which I hope to comment on very soon.

A TAPE TO TEACH YOU TO TALK

QUITE a surprising number of tape records have now been produced containing speech, rather than music. Many have been of the instructional type. What more natural than a tape demonstrating to the would-be conversationalist or orator the techniques of success?

This has been attempted in a tape titled *Psychology of Expression and the Art of Public Speaking*, produced by **Esoteric Productions Ltd.** (22, Coastal Chambers, Buckingham Palace Road, London, S.W.1).

Clearly it is a tape for the really earnest student, for the cost is £6 15s. and the playing time is two hours. The tape is divided into twelve lessons of ten minutes each. Playing speed is 3½ ips and the recording is half-track. A 180-page reading course is available to those who wish to combine visual and aural study.

This course is a very thorough one—too thorough, in the view of this reviewer, who would have preferred to have had the subject broken down into separate parts in separate tapes. There is not all that in common between the art of brilliant conversation and the technique of public speaking. And the successful platform orator may never have to concern himself with the complexities of taking the chairman's role in detailed committee work, which is also dealt with on this tape.

A tape record dealing with the art of conversation should be liberally spiced with examples of some of the world's great wits showing off their form, followed by an analysis of the elements of their technique. Admittedly, it would be almost impossible to get many such examples, for the act of recording would destroy the informality in which conversation flourishes.

But this tape is concerned also with the art of public speaking and it is possible to obtain plentiful examples of the technique of famous orators. If we could have had extracts from speeches by Churchill, Bevan, Boothby, Sir Norman Birkett, Leslie Weatherhead, to mention a few possibles, followed by a discussion of why they were so successful the student would learn much more quickly than is possible by a rather academic approach by a lecturer.

Having made these points, it remains true that this tape is something of an encyclopædia of the formal knowledge available on its subject. For those who aspire to shine in public speaking, it has a wealth of useful guidance. It has been compiled conscientiously. **R. D. B.**

Ballet, Poetry and Rock

2000 TAPES UNDER ONE ROOF

MR. G. H. TUGHAN is a man who can make a very bold claim. "Every tape record currently available is obtainable at our counter," he declares. We've been along to see for ourselves and there they are: elegantly-designed shelves packed with tapes by Audio Fidelity, Bi-Tapes, E.M.I. (Columbia and HMV labels), Fairy Tapes, Jupiter, Music on Tape, Saga, Teach-U-Tapes, Tutor Tapes, "Daily Mail" Visaphon, and World Record Club. Show music, classical pieces, dance music (ballroom, Latin American and Scottish), ballet, opera, jazz, rock'n'roll, educational, poetry, children's stories, all are available for the asking.

Mr. Tughan is the director of Teletape, the Edgware Road, London, tape record and recorder dealers. An impression of the exciting treasure-house of recorded sound over which he presides can be obtained from the photograph on page 13. There, catalogued in his own particular system for quick reference and service are samples of the tapes handled by this six-years-old company. And to substantiate his earlier statement Mr. Tughan produces a forty-page booklet, now in its fourth edition, listing his entire catalogue of some 2,000 tapes.

Pioneers

The company has built up an enviable standing with the major tape record manufacturers; proof is supplied by the latest addition to his catalogue—the World Record Club tapes. In recognition of the pioneering and development work carried out by Teletape, the WRC organisation are making available their special tape offer exclusively through these dealers, who provide the only retail outlet for the new issues. Their customers can now order single titles, and still qualify for the "three tapes for thirty shillings" introductory offer.

It is this pioneering that first drew our attention to Mr. Tughan's firm some four years ago. And during our recent visit, we found he had lost none of his enthusiasm for the tape record market. There are great possibilities for this type of recording; the gradual take-over from disc may not be a swift process, but there can be no doubt that tape records are finding their place in the home as long-playing discs did some ten years ago.

At the moment, said Mr. Tughan, the most popular demand is for show records. Light classical music records are the second most popular, and taste follows conductors rather than particular compositions.

Dance music tapes, which are very popular and purchased to an unvarying degree by public house and hotel landlords, seem to have the greatest number of purchases by the general public during the winter months. Parties and similar social gatherings provide the need during this season.

With the lowest sales, and with

specialist attraction only, are the tape records including ballet, opera, and jazz, and here, like the light classical pieces, the artist is the most important feature. It is interesting to note that in the jazz section the most requested names are not yet issued on tape.

Tape v Disc

We discussed with Mr. Tughan the respective advantages of tape and disc, and he showed very definite views. Stereo began the discussion as we listened to his favourite stereo demonstration tape, the HMV *Philharmonic Pops*, in his snug lower floor demonstration room.

Stereo separation cannot be bettered on tape where the two channels are independent recordings. Mr. Tughan related an unusual experiment he had carried out during comparison tests with both systems. He claimed to have recorded a tape from stereo disc, and found that the separation on the tape was better than had been heard on the disc, even from the same disc. He couldn't explain why either, but sticks by his claim.

The chief advantages of music on tape are that it has very little background noise, that a recording can be played an indefinite number of times without any deterioration in quality, can cope more easily with loud and difficult passages, and has no end-of-side distortion. The absence of stylus noise is also a considerable blessing.

These are substantial advantages well worth the expense of installing a deck. After all, the cost is no more than about twenty LP discs that might have eventually to be written off through wear or damage.

Another point raised to tape's advantage is that if any recording is no longer wanted it can be replaced by the simple process of recording a new work on the tape. Here again, Mr. Tughan showed his positive approach to the subject and deplored the stress many manufacturers place on this aspect.

Of his views on the future of tape with particular attention to the trend of recording systems, Mr. Tughan said that as far as mono recording was concerned 3½ ips was the most likely, and recorded on half-track. To keep up with the mono user as regards playing times, stereo would have to be issued on quarter-track, but here he felt, 7½ ips would come to be accepted as standard.

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Make way for the

LADIES

Personality of
the month.—10

Mrs. ALMA GOODY, F.R.G.S.

A new regular
monthly feature

Edited by
Vivienne Gooding

IT was in the hushed, Victorian quiet of a Kensington hotel that I found her. Hardly daring to breathe in the rarified atmosphere of fifty years ago and awed by the respectably solid comfort of the place, I found a small, dignified lady of middle-age introducing herself to me.

That was the beginning of a conversation stretching far into the night, for Mrs. Goody is consumed with a desire to know more about tape recording. I was calling on her to find out why. I not only learned of her interest but discovered also quite a lot about her as a person.

It was not easy to connect this mild little individual, speaking in low, cultured tones, with the desperate figure of a woman, face streaming with blood, soaked clothing torn from her body as she stumbled alone through the depths of the Burmese jungle. That was one adventure; capture by the Japanese was another. So was the terrorist war in Malaya, a struggle in which her husband lost his life.

I found it easier to believe that she had regularly read the news bulletins in English over All-India Radio, and more recently had recorded the stories of some of her experiences for broadcast by the BBC. Mention of these activities brought us back from the realm of spine-chilling adventure in far countries to the immediate subject of tape recording.

Mrs. Goody is supremely honest, and admitted at once that when she bought a Grundig TK1 about five months ago it was truly a feminine whim of the moment and the choice of machine being simply because she liked the look of it. After a few weeks of recording occasional conversation she felt that the whole thing was a waste of time and advertised the machine for sale. The gentleman who called as a prospective purchaser asked if he could try it, was handed the microphone and recorded his own voice. He must have known a great

deal more about tape recording than Mrs. Goody did at that time, because on playback she was so delighted with the quality of the reproduction she made up her mind there and then that she wouldn't sell at any price!

The next move was a call at the news-agent to ask if there were any magazines on the subject of recording. She then I'm quite sure it will again be my job to supply the shivering waits with the inevitable cups of coffee.

I'm glad to report that the beginners' group I mentioned last month is running very well indeed. Eight or nine people turn up regularly every week and thoroughly enjoy themselves. It's a great satisfaction to me to be able to welcome these people into my home, even more so because two of them are Old Age Pensioners. If you should be experienced yourself may I suggest that the occasional evening spent like this can be both a pleasure to you and a great help to your guests. Why not have a word with your dealer? He's the man who is likely to be able to put you in touch with the people you want to contact.

I've just been listening to a recording of an organ recital we took the other evening. I must confess that the organ is not really my instrument, yet I never fail to respond to the excitement of its more brilliant moments. We took the recording with a single Film Industries' ribbon microphone and a Vortexion at 15 ips.

If the silver rattles on the sideboard, as I can assure you it does when the rich depths of the great bass notes sound out across the lounge, will our neighbours please forgive this our one anti-social weakness?



began to learn how to handle her equipment and discovered that the world of recording is just as exciting and as worthy of exploration as the primitive jungles.

She saw Charles Towers' address in *Tape Recording Fortnightly* and joined his World Wide Tape Talk organisation. This made available a list of names and addresses of people all over the world. When her own name appeared in the list the tapes began to arrive. Not just three-inch tapes, but five-inch tapes as well, so within a few weeks of deciding to sell the Grundig Mrs. Goody was shopping for a larger, standard mains machine. She bought a Civic with a BSR deck.

Again in this magazine she noticed a letter suggesting the formation of the "Tape-writers' Circle." This immediately appealed to her and she was soon busy recording her contribution for this group.

The script, a short story based on her exploits abroad, was no difficulty to her, but the recording. . . .

She wanted to record with a musical background of her own composition. With no experience whatsoever, she recorded and re-recorded that tape twenty-three times before being satisfied with the final result, and even then only felt it was as good as she could hope to get. What an object lesson in tenacity and perseverance.

It's not difficult to understand how she came to survive the perils of life in the equatorial forests. Looking at her frail little form one is at once drawn to the strength of character in her face. Determination achieves so much more than brute force. I've an idea that she is now going to develop her own recording techniques. She could very well be teaching some of us a thing or two in the not too distant future.

☆ My Diary ☆

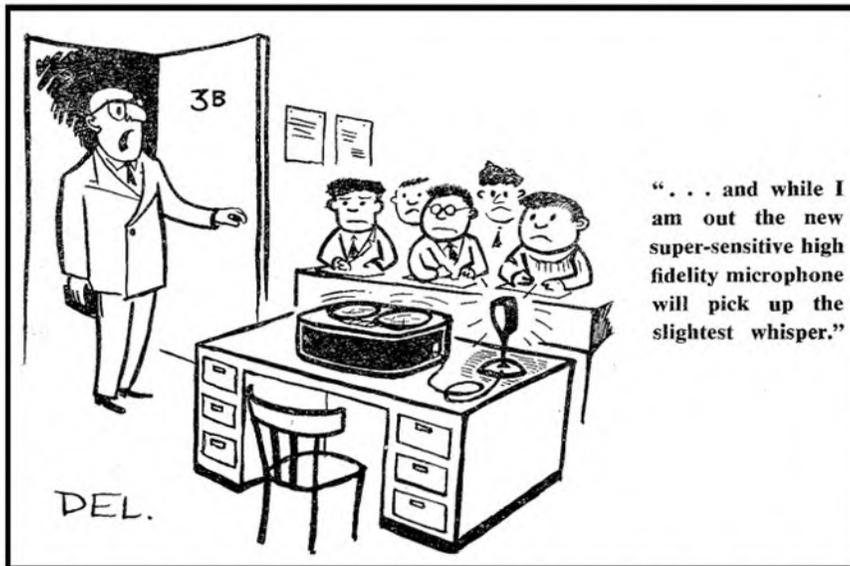
PLANS are already well under way for Christmas. Not the details that my husband assures me are of only minor consideration, little things like ordering the turkey, what to give the children and whether to have a tree or not.

He believes that all those irritating items will miraculously solve themselves if he completely ignores their existence. He's right, of course. A somewhat heavy-weight fairy looking remarkably like me will ultimately have to perform the domestic magic which transmutes a perfectly ordinary day into THE DAY, and he'll never know how it was done, bless him!

No, our Christmas plans, the ones we talk about, are exclusively to do with tape recording. The carol singing, for instance. This year we're going to record a selection of the more popular carols and then dub them from the master tape on to small spools at 3½ ips, suitable for playing back on the Stuzzi or Butoba portables. These we shall take out with our carol singing party collecting for a local charity. There's fierce speculation as to whether we can beat last year's total of £12 10s. Whether we do or not

Continuing a new series of articles introducing

children to tape recording by M. T. POLLARD



IN my first article, I described how I introduced a tape recorder to my class of lower juniors by producing over a period of about a month, a serial play.

When "Footprints in the Snow" had spun to the end of its last gripping instalment, I felt that both the class and I had learned a great deal about the use of the recorder in school.

Most important of all, we had gone some way towards combating what seems to me one of the most potent enemies of school recording—poor acoustic conditions.

Most classrooms have a total lack of absorbent surfaces, matching, some teachers may think, the characteristics of the children who work in them. The natural qualities of bare walls, combined with the high ceilings found in older buildings, make for a sound engineer's nightmare. In shape, structure and furnishings, the classroom, as a studio,

Keep the tape recorder in its place—

says Gordon H. Pemberton

AFTER four years of recording I have yet to see a pinch roller and I would not recognise a decibel if one flew in through the window.

The point I wish to make is that ordinary schoolteachers taking to tape are not interested in detailed specifications. They want to know, quite simply, what it is possible to do with a particular machine.

They know one thing—that a tape recorder for schools should be tough—very tough, as all pieces of apparatus should be—and that wooden cases and metal decks are preferable to anything else.

And they know, from their teaching experience, other truths which the tape recording fanatic is apt to ignore.

It is pure twaddle for anyone to argue that a tape recorder at its best will do better than a teacher at his worst.

Reading to a class, for example, is far more than the reproduction of good diction. The children hang not only upon the teacher's words but also his eyes, his facial expressions, his odd gestures, his bodily movements and the atmosphere he creates with all these.

The magic box, however hard it tries, cannot hope to compete with the human touch.

I have heard it suggested that children will learn better from their mistakes as reproduced on tape. This is a negative way of learning which, if used persistently, will cause the children to "dry up" for fear of making errors. The technique is not wholly bad, however, as long as it is used by a teacher who knows what he is about and who can tell, almost instinctively, when to pack it in.

TAPE IN THE SCHOOLS

In a recent book on recording in schools, the author quoted, in the teaching of grammar, the awkwardness of "I done my sums" and the more pleasant sound of "I did my sums." From the point of view of the reasonably-educated adult, the argument is a fair one.

From the standpoint of the children, it is ridiculous educational nonsense of the worst kind. If one analyses the sequence of movements of the tongue in the former, one will find that it is

easier than in the latter. The correct phrase does, in fact, invite the use of the glottal stop at the end of "did."

Grammar is a pattern of conventions in which the correct use of words seldom bears any relation to the pleasing effect of the sounds made. The use of prepositions in vernacular speech is but one example.

The tape recorder is not a boon to the backward reader. It is a distraction, a time waster and, in the hands of an inexperienced teacher, an absolute menace. The backward reader's difficulty is visual, not aural. He is trying to interpret printed words with his eyes and turn them into sounds. The tape recorder will only reproduce the inadequacies of his interpretations.

In elocution, poetry and drama the machine comes into its own as an excellent aid, for these subjects are concerned with sounds.

In the teaching of music the basic purpose is the *making* of music for the sheer enjoyment of doing so. In this the tape recorder reaches the peak of its value, by allowing the children to listen to the beautiful sounds they have made.

In the making of programme tapes,

2: Techniques in the classroom

THE author has used a tape recorder for the past three years, following the gift of a machine by a parent. When this was subsequently withdrawn he purchased his own instrument with additional microphones and a mixer unit. His school, for infants and juniors at Sevenoaks, Kent, is not large enough for an official tape recorder, but they have managed to purchase their own record player for use in conjunction with his own equipment. In this, the second of three articles, he describes one approach to the problem of recording in a classroom with limited resources.

is about as promising as the bathroom. Its one advantage, however, is its size, and in the middle one may be isolated enough to get the better of the inherent "boxy" effect of the room.

In a small junior school, there is neither room nor opportunity to make any of the permanent arrangements for recording which, as we notice enviously, exist in some of the larger secondary schools. In any case, the applications of the recorder in junior schools must be creative rather than technical, and an attempt to reproduce semi-professional conditions would be inappropriate to

junior school needs. We must make the best of conditions as they are.

Even such an apparently profitless activity as letting each child hear his own voice—an unavoidable preliminary with a new class—can be turned into a useful experiment if the opportunity is taken to find the most suitable position for the microphone.

When we began recording we found that, contrary to natural expectations, the voices which recorded best were the quieter ones—those which went into the microphone without first bouncing off the walls! Often the best actors in recorded plays were the last children one would have considered for a part in a stage production, which of course is another argument for the use of the tape recorder!

I ought to point out that this was in a quiet country school well away from main roads; we could well afford to increase the volume and run the risk of higher background level. In a more compact school in a town, this might not be practicable.

For us, however, it was an important discovery. It led to the development almost without prompting from me, of an intimate style of acting which was ideal for the domestic type of material which we were producing. Indeed, to some extent it influenced our future choice of material, and is an example of how purely arbitrary local conditions can influence the development of an individual school "style".

Together with a close microphone technique, emphasis on a low-level conversational style overcame the worst of the acoustical difficulties. Another tactic which worked very well in my classroom but which depends very much upon the position of the school was to place the microphone near an open window. This not only cut down unwanted resonance but also made the recording of outdoor sequences simplicity itself. All we had to do was to pop the microphone out of the window and send the actors outside.

In other schools, I have seen the screens normally reserved for medical inspections put to good use in an over-lively room. The school's first-aid blankets, hung over easels, form an effective make-shift substitute for which I have often been grateful.

I described last time how, from the beginning of our tape recording activities, we have persevered with the method of building up a play piece by piece with the minimum of preparation, recording each incident in the order in which it appears in the finished tape. This is not

a procedure one would adopt outside school, and it would be more convenient in many ways to record, say, all the playground scenes together in one session, followed by all the indoor scenes, and then to splice them into place. There are a number of reasons why we have not adopted the more professional approach in our play-making.

Uppermost comes the fact that when we are recording a play we very rarely have more than the vaguest idea of what is going to happen in the next scene until we get to it. I have never yet worked from scripted dialogue, and hope, while I have an imaginative class, not to have to do so. Again, I must confess that the cost of tape and the *per capita* allowances for schools being what they are, I have a strong inclination to keep reels of tape whole whenever possible.

I also feel that it is asking rather too much of junior school children, or, at any rate, of those at the lower end of the school, to expect them to give of their best in a play which is recorded in disjointed bits and pieces. Much better to preserve the continuity, even at the expense of some changes of level and other technical failings which, if the teacher feels strongly enough, can always be ironed out afterwards.

One of the dangers of school recording is that somewhere in the process the emphasis will pass from the children to the teacher, or, even worse, to the machine. Teachers who are also interested in tape outside school must guard against a natural tendency to manipulate the children to produce tapes to adult standards, and for that reason I like to keep technicalities to a minimum.

For example, we use only "home-made" sound effects, although we have a couple of effects discs in the school. With the knick-knacks usually to be found in school and crowd-scenes ready-made, it's not too difficult to "knock up" almost any effect, and the delight of the children in having produced a train out of the canteen dinner-wagon and a milk crate makes the effort worth while! The possible reaction of an adult audience is irrelevant.

The everyday use of the recorder is not, after all, aimed at producing competition entries, and one might almost say that the purpose of the recorder has been served once the children's voices are on the tape. At that point, if we have used the machine properly, they will have produced something out of their own imagination and experience; a poor thing, perhaps, but their own.

+++++
I suggest that the teacher should keep himself in the background and let the children work out as much as they can. A few hints from him are normally sufficient. Children are not as devoid of creative ideas as some people imagine.

I have heard many a good tape composed by Juniors in other schools and my own youngsters send this kind of tape overseas several times a year, with very little help from me. They get loads of fun out of it and, although they don't realise it, they are doing good work in written and spoken English and several other branches of the curriculum.

The golden rule, in all children's activities is that the teacher should give as much help as is necessary but should keep out.

A little over a decade ago the Film-strip was in its infancy, just as the magnetic tape is now. Manufacturers and teachers joined in a kind of rat race to bring the filmstrip into every lesson. It failed miserably in those subjects where the teacher's craft is necessary but, after a few years, it settled down as a useful *aid* in those subjects where lavish illustration is helpful.

Let us hope that the super-enthusiasts of tape won't drive us all up the wall by claiming spurious successes in those parts of the curriculum where tape has no proper part to play.

IT was shown in the last article that the extent of the bass register of a loudspeaker mounted upon a flat baffle depends primarily upon its dimensions.

At first sight, it would appear that the same result as a three foot square baffle would be obtained from a one foot cube open at one side. This would preserve the path length from the rear to the front of the cone, whilst reducing the amount of space required. Examples of the application of this idea can be seen in sizes ranging from the smallest table radio to the largest radiogramophone.

In order to discuss the effect of folding back the edges of an otherwise unwieldy baffle let us extend the method until we have an (imaginary) infinite pipe with a cross-sectional area just sufficient to mount a loudspeaker in the end. As before, the output would be the product of the square of the cone velocity and the resistive part of the air load.

The important difference is that the radiation resistance in the case of the

infinite pipe is exactly half that acting on a cone in an infinite baffle. This is not unreasonable when it is realised that the loudspeaker on an infinite baffle only radiates into a hemisphere. This state of affairs is soon put right when the top foot or so of the pipe is sawn off and it is placed in a room of normal dimensions. Here the proximity of the wall would force the radiation to be in one hemisphere, provided that the distance between the wall and the loudspeaker is small compared with a wavelength.

This principle can be extended and at low frequencies, say below 100 cps, the presence of the floor becomes important and the radiation is concentrated into a quarter of a sphere, with

the effect that the sound pressure is quadrupled. This is one of the reasons why room position affects the overall acoustic result.

Taking this into consideration and also the effects of room reflections, resonances and interference patterns, one is tempted to wonder at those who, with lily in hand, call out from their ivory tower, "But my amplifier is flat, it must sound right!"

As long as the pipe is infinite in length the sound from the rear of the cone will travel away, leaving the front to act as a simple point source. The pipe could be considered to be the acoustical equivalent to an electrical transmission line, having distributed constants of mass, acoustic capacitance

Loudspeaker baffles

By PETER MILTON

All set for the tape records

NOW that more interest is reviving in tape records it may be useful to run over a few points concerning stereo on tape, with special reference to the reproduction of music.

Many people have been playing stereo discs for quite a while. It is as well to remember that if the discs have been played a good deal some of the stereo effect may have become lost and any steps that have been taken to compensate for the falling off may have resulted in a speaker arrangement and pre-amp settings that are not ideal for a fresh tape with plenty of separation.

Do not, then, let your appreciation of stereo tapes deter you from making a few experimental changes to see if even better results can be obtained. Listen, for example, for any hole-in-the-middle tendency which could result from having the speakers wider apart than they should be.

Make sure that your tape inputs are correct and that there are no defects due to poor soldering of

Stereo Notes

By D. W. GARDNER

the plugs. It is very easy to make a mistake plugging in the left and right channels. And while you are about it, check that the speakers are in phase.

Four-track recorders can be adapted for playing stereo tapes through an external stereo amplifier and some of them, of course, include complete stereo playing facilities. Their quarter-track heads will play back half-track recordings as well as quarter-track ones, but the quality will not be as good because the signal will be weaker and the signal-to-noise ratio greater. It is not certain, either, that the quarter-track gaps will be in the right position to obtain an equal signal from both half-track channels, since the silent safety-zone between the tracks may intrude a little in one case.

We cannot, of course, expect a half-track machine to play back quarter-track recordings.

I thought that our friend, Don Wedge, came very near to writing himself into my group of reviewers who reveal an unnatural resistance

to stereo, when he said, in the November 15 issue, "I am still wondering why anyone should want to bother making tapes of a steam organ in stereo. I suppose all sound must be better, more complete and 'rounder' with natural separation. But it can go too far."

What does Don really mean by this? The conclusion we are bound to draw from the comment is that if an instrument is below a certain standard musically it is desirable to make it sound worse that it is naturally by keeping it in mono. This is without going into the question of who is to decide which instruments are musically limited. I think there should be no difficulty in agreeing that if anyone buys a record at all, it is because he likes what is on it, that no case whatever can be made out for denying him the opportunity of hearing it to the best possible advantage.

Stereo has arrived and the whole world is slowly but surely moving towards embracing it one hundred per cent. I cannot see that any advantage is to be gained by trying to put the brake on, either broadly or at points selected by the arbitrary application of considerations of taste.

and resistance. The resistance can be in series with either the capacitance or the mass term, depending whether it takes the form of friction existing at the walls or forms part of an obstruction to the flow of gas particles.

The difficulties with transmission lines occur when they are not infinite. When the sound reaches the end of the pipe without appreciable attenuation, it cannot just stop there, but must return to the generator. If the pipe is open, part of the energy will be dissipated in the air load at the end but most of it will be reflected. No pressure can be built up and so the movement of the air particles is at a maximum.

The closed pipe prevents movement at the end and so the returning wave starts back at maximum pressure. This is equivalent to short circuited and open circuited transmission lines respectively. At certain frequencies the outgoing and returning waves are in phase and standing waves will exist along the length of the pipe.

The fundamental resonant frequency of a pipe closed at one end is given by

$$f_1 = \frac{c}{4l} \text{ where } \begin{matrix} c = \text{velocity of sound} \\ l = \text{length of pipe} \end{matrix}$$

The overtones of the closed pipe are always the odd harmonics, i.e.,

$$f_2 = 3f_1, f_3 = 5f_1 \text{ etc.}$$

In the case of the open pipe,

$$f = \frac{c}{2l}$$

and the overtones are all even harmonics.

These formulæ led to the design of the Voigt Domestic Horn and R. West's Decca Horn. In these systems the loudspeaker is placed in one wall of a tapered pipe, one third of the way along from the closed end. At this point, the fundamental standing waves for each section of the pipe are in anti-

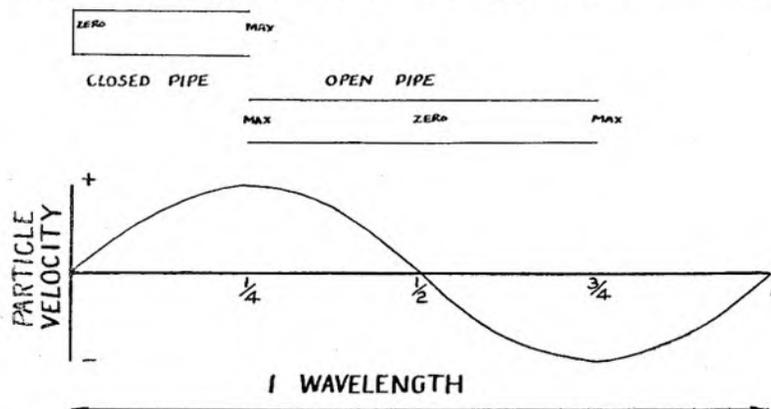
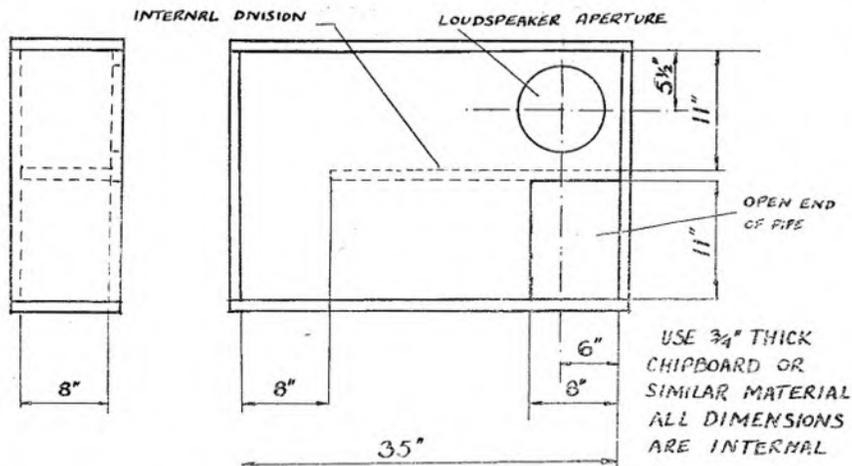


Figure illustrating the velocity of individual gas particles at points in open and closed pipes at the fundamental frequency. Note that for pipes of equal length, the fundamental is an octave lower in the case of a closed pipe



A folded resonant pipe for use with small loudspeakers having a fundamental resonance of 45 cps. This design illustrates the size of cabinet involved, but hi-fi bass is not guaranteed!

phase. This has the effect of killing the third harmonic in the complete pipe.

It is possible to utilise the radiation from the open end of the pipe to reinforce the bass response. At a distance of one half-wavelength, the pressure at the end is in antiphase with that at the rear of the cone, and is therefore in phase with that at the front.

The remaining difficulty is to decide how long the pipe should be. Consider a small volume of air at the centre of the pipe, level with the end. Having no contact with the sides, it transmits vibrations from within to the next volume of air, which is just outside the pipe.

In this way, the mass of the air outside the tube is added to that inside with the result that the effective length is greater than the actual length. The increase is proportional to the radius of the pipe and for convenience in

calculation can be treated as a cylinder of air equal in cross-sectional area to the pipe and extending a definite proportion of the radius beyond it. This is known as the *end correction*. This could, perhaps be illustrated geographically.

According to the map, a river ends on a line across its mouth, taking into account the general curve of the coastline. As far as a freshwater fish is concerned, however, it ends some distance out to sea, where the water becomes too salt.

The end correction for a pipe having a large flange is 0.82R and 0.61 for an unflanged pipe. In practice, the presence of the floor or the rest of the cabinet acts as the flange and the latter value is seldom used.

This brings us back to the question of folded baffles. It can now be seen that the air behind the loudspeaker acts as a pipe having a length greater than the depth of the cabinet. For the example given earlier, the resonance would occur at about 200 cps.

As a general rule it can be said that a deep cabinet will give a more exaggerated peak in the response than a shallow one. The present tendency is to place the loudspeaker and cabinet resonances close together with the result that the amplitude of the peak is of the order of 6 dB with the response below this falling at the rate of 18 dB per octave. Thus for the smoothest results the open backed cabinet should be as large, shallow and rigid as possible, the loudspeaker resonance should be lower than the transition frequency to prevent too rapid a fall in response and the rear of the cabinet should not be obstructed.

Equipment Under Test

THE UHER UNIVERSAL 'S'

TALK about getting a quart into a pint pot! Although this recorder is one of the smallest mains-operated machines on the market, it provides, with its accessories, a most comprehensive range of facilities and can be used for either normal recording, or for remotely-controlled dictation.

The recorder itself is a three-speed, twin-track machine built into a two-tone grey imitation-leatherette finished case. This measures 12½ inches wide x 10½ inches deep x 5½ inches high, and is fastened to the base of a further case with a removable cover (portable typewriter style). Finished in the same material, this cover contains a compartment for microphone, mains lead and connecting leads and pockets for spare spools, etc. The outer case size is 14½ x 13½ x 7 inches, and the overall weight is 17 lb. A grey plastic dust cover is provided, to drop over the recorder when it is desired to use it without the outer case.

The machine will work on mains voltages of 110, 125, 160, 220 and 240, at 50 cps, or inverters, which are also available to provide 220 volts AC from 6, 12, and 24 volts d.c. supplies, and the total consumption is 50 watts. Spare pulleys and drive belts can be obtained to run the recorder from 60 cps supplies.

The mains fuse and voltage adjustment panel are behind a cover on the bottom of the recorder and to obtain access to these, it is necessary to remove the base of the outer case, which is fastened to the inner case by means of four spring split pins. These are locked by four screws, which must be slackened (not fully removed) and the base will then pull away from the recorder.

The machine is supplied with a 6 ft. 6 inches, three-core mains lead, (earth GREY) fitted with a socket to match the recorder plug. Also supplied are a 5-inch spool of tape; a spare 5-inch spool (this being the maximum size usable); a screened extension lead with a three-pin plug at each end; and a low-impedance moving-coil microphone, type 602.

By
ALAN BEAUTEMENT

A switch on the microphone having *Stop, Record, Rewind* and *Playback* positions, provides remote control of the recorder through relays, which override the internal controls. A red lamp on the microphone is illuminated on *Record*.

The 6 ft. 6 inch microphone lead is terminated with a five-pin plug to fit the *microphone/remote control* socket and from this plug is looped a short lead with an extra plug to fit the *Ext./Ls/Earp* socket, which enables playback to be heard, through the microphone, for dictation checking and correction.

DECK AND CONTROLS

The twin-track deck is driven, through idler pulleys, by one hysteresis-synchronous motor, which is permanently connected to a 165 volts tap on the mains transformer primary, making it independent of the supply in use. Speeds of 15/16, 1¼ and 3¼ ips are selected by a knob which also operates the mains on/off switch; clockwise motion switches on and vertical movement selects the speeds, but the latter can only occur when the switch is in the off position, so that the speed cannot be changed whilst the recorder is operating.

Below the on/off switch are concentric controls for Playback Volume (upper) and Tone (lower); to their right is a red push-button for Stop. Five push-buttons in front of the head cover, which contains the record-level indicator valve, select Rewind, Start/Playback, Automatic Playback, Record and Fast Forward. A white push-button operates the Pause control and further right are concentric controls for Record Level (upper) and Automatic Level Control (lower) and behind these is the Fade-over control for changing from microphone to radio/gram input.

A digital tape position indicator is belt driven from the right hand spool spindle. An automatic stop, operated by metal strips on the tape, prevents accidental run-off from either spool.

Further comments upon some of these controls may make their purpose somewhat clearer.

When the automatic Playback button is depressed, it causes the tape to be rewound and played again as soon as the end of the reel is reached, and this operation continues until stopped. The Automatic Level Control is a form of audio a.v.c., which controls the gain of the recording amplifier so that signals of different levels at the input are recorded at the same level, a useful facility when recording a group of people whose voice levels may vary or who are sitting at different distances from the microphone. Incidentally, don't expect a "click" when this switch is operated—there isn't one.

The Fadeover control is not a switch, but a dual volume control, so that when one signal source is changed for another during recording, a smooth fade "out" and "in" is obtained instead of sudden cuts and starts. It is spring-loaded to one side or the other, so that it cannot accidentally be left in the zero position between the two.

Superimposition can be carried out by means of the Uher's "trick" key, which is inserted in a special way in the tape guide slot to prevent erasure of one recording while making a second one in the usual way.

AMPLIFIER AND POWER SUPPLIES

Three valves are used in the amplifier, an EF86 pentode followed by the two halves of a 12 AT7 twin-triode, in cas-

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cade, driving an EL95 pentode, which doubles as audio output stage and bias oscillator.

The recording level indicator is an EM84 "magic eye." Bridge metal rectifiers in the power unit provide outputs of 300 volts d.c. for the H.T. to the valves and 28 volts d.c. for the relays. Each of these supplies is fused, the cartridge fuses being mounted below the push-buttons on the front of the deck. To replace them, it is necessary to remove the recorder from its case. This is achieved by withdrawing the two screws on the front of the case and slackening the two rear screws on the deck cover plate. The "insides" can then be exposed by lifting the front, as the assembly pivots on two brackets between the plastic moulding and a thick rubber strip at the rear.

Care is necessary when performing this operation, at any time, as the fuse holders can be damaged by catching them on the case, and the fuses will not then make proper contact.

Output for the record head is taken from the first half of the 12 AT7, and the audio output on playback, rated at 3 watts, is connected to an internal 6 x 3-inch (elliptical) loudspeaker.

The frequency response extends from 40 cps. at all speeds, to 4,000 cps at 15/16 ips, 8,000 cps at 1½ ips, and 16,000 cps at 3½ ips, and the signal-to-noise ratio is 45 dB, minimum.

An extension loudspeaker socket provides outputs at 4 to 6 ohms and at high impedance, and input sockets provide connections for microphones of low impedance (actual value not specified) and high impedance radio/gram signals. Dynamic or crystal "stethoscope" earphones are obtainable which plug directly into the Ext./Lt/earphones' socket.

OPERATION AND PERFORMANCE

Even after studying the comprehensive handbook and the circuit diagram, which are supplied with the recorder, a little difficulty was experienced in getting the hang of the controls and connections, partly because the pictorial diagrams of the connections shown in the handbook did not quite tally with the socket markings on the model supplied, and all connections shown assume a plentiful supply of the special Uher cables necessary to complete the various circuits.

However, once these snags were overcome and a little practice gained, the operation was found to be fairly straightforward although some trouble was also experienced due to damage to the relay supply fuse holder, in which the fuse was making intermittent contact, resulting in the relays operating at random—that really confused the issue, but when this was put right, no further trouble occurred.

Recordings were made from a variety of sources. The results were fully acceptable, wow and flutter being undetectable and the reproduction, at 3½ ips, being surprisingly good, through an external loudspeaker system, and even using the internal amplifier. Using the remote-control microphone for dictation is simplicity itself—no hopping up and down to erase unwanted sections, just edit from the comfort of your chair as you go. Very efficient and conducive to laziness.

The automatic repeat function is, I think, of doubtful value to most users, as



one must hear the whole tape each time, but if the manufacturers could make it repeat sections of tape, they would really have something!

The action of the deck is very good, with very rapid stopping and starting without tape spillage or undue tension. It is possible to interlock certain controls, so that erasing, for example, can be effected during fast rewind. These are all useful facilities—and to further increase the machine's versatility, one can obtain a foot-operated control; a manual remote control to fit under a typewriter, so that the push-buttons are just in front of the space bar; a telephone pick-up to record

conversations direct; and a transistor mixer to record four channels simultaneously. A wide range of extra connector cables and higher quality microphones can also be obtained.

THE SYNCHRO-AKUSTOMAT

This is a most fascinating accessory—a relay system operated by a valve amplifier, (12AT7) which enables the recorder to be signal operated.

The controls can be set to record, but the tape only moves when the signal reaches the recorder, which stops when the signal stops. Although this is very economical on tape, the amplifier is very sensitive, so that on microphone, every extraneous sound operates the machine. This can be a drawback at times.

Telephone recording also becomes very simple with this unit. The recorder can be set, with the telephone adapter connected, and incoming calls start the motor. The message is taped, and the recorder switched off—as simple as that.

The operation of the circuit is very rapid; only a minute fraction at the beginning is lost and the sense of the recording is in no way impaired. The "stop" function is slightly delayed so that the machine continues running during momentary pauses between words. It can be varied between ½ second and five seconds by means of a pre-set control. The Synchro-Akustomat costs 14 guineas.

CONCLUSION

The Universal is an ideal recorder for the professional individual who requires one for both home and office use. The workmanship, mechanically and electrically, is good, and the performance is all that the manufacturers claim. Accessibility for servicing is better than average.

However, it is a rather specialised machine, and, in view of the fact that the price, with all the accessories, is over £100, I feel it will have a limited appeal to enthusiasts generally, who could spend such a sum on a more professional machine, so that I think that this model is aimed more at companies than the domestic market, but I could be wrong!

MANUFACTURER'S SPECIFICATION

Supplies, AC mains, 110, 125, 160, 220 and 240 volts, 50 or 60 cps, or 6, 12, and 24 volts d.c., through inverters.

Consumption, 50 watts.

Speeds, 15/16, 1½ and 3½ ips.

Recording sense, Twin-track.

Maximum reel diameter, five inches.

Frequency response, 15/16 ips, 40-14,000 cps; 1½ ips, 40-8,000 cps; 3½ ips, 40-16,000 cps.

Signal-to-noise ratio, 45 dB's (minimum).

Wow and flutter, plus 0.3 per cent (maximum).

Audio output, Three watts.

Loudspeaker, 6 x 4 inch elliptical.

Valves, One EF86, one 12AT7, one EL95, one EM84 (level indicator) and two metal rectifiers.

Microphone, Low impedance moving coil.

Inputs, Microphone—low impedance; Radio/gram—High impedance.

Outputs, Extension loudspeaker (4-6 ohms impedance) and high impedance output for earphones.

Dimensions, Outer case—14½ x 13½ x 7 inches, Recorder—12½ x 10½ x 5½ inches.

Weight, 17 lb.

Manufacturers: Bosch Limited, 205 Great Portland Street, London, W.1.

Courteous service

READING the letter from Dave Wiseman who threw brickbats at tape recorder manufacturers (*October 18 issue*) prompts me to write of my experiences at the hands of Philips Electrical. I would like to offer this bouquet to their service division for the quickest, finest, and most courteous service it has ever been my fortune to come across.

As a Welcoming Committee member of World Tape Pals, my machines (EL3542 and EL3541) are in constant use, and I cannot afford to have either out of action for long periods.

When one of the models developed a fault in the volume/record control, I contacted the manufacturers who collected it, and returned it within 48 hours with the fault rectified. Some weeks later amplifier trouble developed and I again contacted their service department. Within 24 hours an engineer was at my door and replaced the switch and valve on the spot.

Misfortune still dogged me, however, and, following further calls, the engineer arrived to replace a complete chassis and deck, and to fit new record/replay heads. Each visit was within 24 hours of my phone call. The machine is now working beautifully, and there has been no charge at all. I hasten to add that the machine was still under the six months' guarantee, but this prompt and courteous service amazed me.

I understand that the company are now offering twelve months' service contracts for £4 15s. which covers all repairs and replacements and a 24-hour service.

Perhaps this letter will give other manufacturers the incentive to provide a really prompt and efficient after-sales-

TAPE EXCHANGES

I WOULD like to thank you for publishing my name in the Tape Exchange column of your magazine. I had almost given up hope of receiving answers until my name appeared in *Tape Recording Fortnightly*. Since then I have established contact with enthusiasts in New Zealand, Singapore, Germany, and two in England, all as a result of your column.

It is a fine way of making friendships, and getting to know people and their way of life. The wide area they have answered from gives you an idea of how far and wide your magazine is read. I say again many thanks to you, and good luck to all the staff of our best tape magazine.

B. OLLIER

Hebburn-on-Tyne, Co. Durham.

IN the August 26 issue of *Tape Recording Fortnightly* you published my name in the Tape Exchange column. Since then, I have been inundated with tapes from all over the world. Your magazine is certainly widely read.

Unfortunately, I have been unable to reply to a number of these tapes due to my annual vacation. In this respect, I would be most grateful if you would apologise to those who have sent me tapes and have not yet had a reply. I have been working overtime since my vacation to get their replies off, and will eventually acknowledge each one.

JOHN W. HOWE.

Detroit, Michigan, U.S.A.

LETTERS TO THE EDITOR

AFTER SALES SERVICE BOUQUETS FOR PHILIPS AND WELLINGTON ACOUSTICS

service; it may even silence some of the critics who say the manufacturer couldn't care less.

G. J. MATTHEWS.

Fulham, London.

My unhappy year

THE experience recounted by Dave Wiseman—that great champion of the retail buyer—prompts me to record my own unhappy year.

I started off in January by ordering a recorder in the £70 range, for which a number of very special claims are made and widely advertised. When it arrived, many weeks later, it had so many faults that I complained to the maker. They apologised courteously and paid the return carriage on it.

A second machine arrived after further weeks of delay. This had no deck function, though the amplifier worked. I sent it straight back, which made the maker cross: he blamed my retailer, who had not been appointed a service agent, and who would have voided the guarantee by laying a screwdriver on the thing.

A third machine was also faulty, and went back. At this point I asked for a change to another model, which was arranged, and it eventually came. We had by this time got to June; and when number Four was also unsatisfactory I offered to go to the works by car and collect the next—British Railways had been blamed for much of the faulty performance, quite unjustifiably, as I believe.

When I arrived at the works, the new machine had been put out for me to

try. I did; and it wowed so horribly that it caused a grimace to appear on the face of the demonstrator, who dived inside the thing and put it right. And with Number Five I had to be content. This has proved to be a good recorder, though by no means without faults and limitations.

Experiences like these are by no means uncommon; and too many people meekly accept the wretched goods they are supplied with, and do not kick. Hence, I was somewhat surprised to see your suggestion last May that manufacturers should put money into the recording-club movement and/or Federation. It seems to me that complete independence, financial or otherwise, is essential if the Club movement or the Federation are to achieve anything in this struggle for decent standards.

I can see no sign that matters have improved; and in my experience it is much more common for a piece of apparatus to fail than to work. Here I must add that my wife recently purchased the new Philips battery recorder, and it has given faultless performance and great satisfaction.

I had an experience not unlike Dave Wiseman's with Wellington Acoustics when a Wharfedale speaker gave a little trouble: Mr. Briggs took up the matter in person, and I was immediately provided with a new unit. With such people one knows that the fault is exceptional, and responsibility for it is accepted at once and unconditionally; but they should not be so rare as they are!

PETER D. TURNER.

Stroud, Gloucestershire.

WE HAVE STARTED WORK ON OUR CLUB ENTRY

THIS year we failed to enter the British Amateur Tape Recording Contest for a variety of reasons. When it was first announced that the section was open to any subject we set about suggesting suitable ideas.

We found no mutually acceptable subject, so it was decided that members should divide into four groups, of three or four persons each, and each group should work on their own chosen topic. The meeting at the end of May was to be the deadline, when the tapes would be heard and the one considered most suitable forwarded as the club's entry. None was completed, even by the Contest closing date, and even then, one had a large portion accidentally erased.

At a recent meeting we discussed entering next year's contest as suggested in "News from the Clubs," October 4 issue. During the same evening we played a dubbing of the London club's winning entry *Just by Accident*. Inciden-

tally, our congratulations to London on such a good tape.

The playback of their tape made us realise once again the amount of work and time necessary for such a tape, and their choice of subject made the tape more interesting because of its originality.

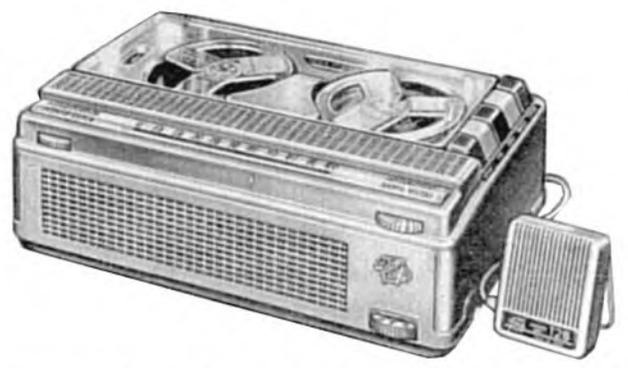
During the discussion that ensued our members decided that a set subject was best suited for the club section. All our competitions are evolved thus, and we find a variety of approaches from the different individuals. This may answer any criticism from those unable to tackle a set subject. However, a great deal of time is necessary for the preparation of an entry, and we feel each moment's delay may affect our success of entering. We have, therefore, started work on the assumption that it will be once again an open subject.

PETER HOLLOWAY.

Secretary, West Herts. Tape Club.

New Products

ELPICO ANNOUNCE LATEST MODEL —24 guineas



A SINGLE recording speed of $1\frac{7}{8}$ ips is provided in the latest model to be announced by Elpico Geloso, the Italian manufacturers. Their new recorder, the G-257, illustrated right, accommodates a $3\frac{1}{2}$ inch spool, making available a maximum playing time of 85 minutes.

Right: The latest Elpico model

Full specifications are not yet available, but the distributors have supplied salient features which include press-button operation, linear type counter dial, and automatic take-up for tape threading.

Standard twin-track operation is incorporated. The new model weighs $6\frac{1}{2}$ lb., and measures $10\frac{1}{2} \times 6\frac{1}{2} \times 4$ inches. The price is 24 guineas.

Lee Products (Great Britain) Limited, 10-18, Clifton Street, London, E.C.2.

G.E.C. ENTER TAPE MARKET

THEIR first entry into the tape market is announced by G.E.C. with the introduction of a single-speed recorder.

Incorporating the BSR Monardeck, it has a claimed frequency response of 60-8,000 cps at $3\frac{1}{2}$ ips, accommodates $5\frac{1}{2}$ in. spools providing a maximum playing time of three hours using double-play tape, and costs 25 guineas.

Among the features are automatic interlock to prevent accidental erasure, separate tone control to provide full bass to treble response, external loudspeaker sockets automatically muting internal

It measures $14\frac{1}{8} \times 14\frac{1}{8} \times 6\frac{1}{2}$ inches, weighs 18 lb., and is encased in an elegant suitcase styling finished in red and black leather cloth trimmed with satin brass.

G.E.C. (Radio and Television) Limited, Langley Park, Slough, Buckinghamshire.

Mains unit for Grundig portable

A MAINS unit for use with their TK1 tape recorder as an alternative to the batteries has been introduced by Grundig. The unit which clips neatly on to the bottom of the machine when the batteries have been removed, allows mains operation wherever normal AC supply is available.

Weighing only $2\frac{1}{2}$ lbs the mains unit in no way detracts from the portability of the TK1, and costs 8 guineas.

Grundig (Great Britain) Limited, 39-41, New Oxford Street, London W.C.1.



The Grundig TK1 with mains unit

SOUNDCRAFT TAPE PRICES

FURTHER details of the recently announced Soundcraft tape are now available. Four different types will be marketed—Standard and long-play Tri-Acetate, and long- and double-play Mylar. Reel sizes will include 3, 5, $5\frac{1}{2}$, and 7 inches, and for a limited period Index Tabs will be included with every seven-inch reel purchased.

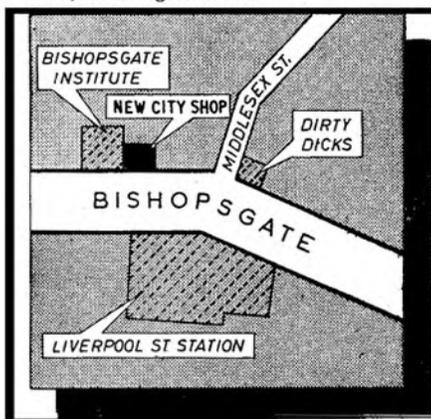
The prices of the tape are as follows:—
Standard Tri-Acetate: 150 ft., 5s.; 600 ft., 17s.; 900 ft., 23s.; and 1,200 ft., 27s. 6d.
LP Tri-Acetate: 225 ft., 7s. 6d.; 900 ft., 24s. 6d.; 1,200 ft., 27s.; and 1,800 ft., 39s. 6d.
LP Mylar: 225 ft., 9s.; 900 ft., 28s.; 1,200 ft., 35s.; and 1,800 ft., 50s.
DP Mylar: 300 ft., 13s. 6d.; 1,200 ft., 42s.; 1,800 ft., 52s. 6d.; and 2,400 ft., 77s. 6d.

Soundcraft Magnetics Limited, Haddenham, Buckinghamshire.

speaker, and a neon recording level indicator.

The $7 \times 3\frac{3}{8}$ in. elliptical loudspeaker provides $2\frac{1}{2}$ watt output into 3 ohms, and the power consumption is rated at approximately 55 watts.

Accessories include a crystal microphone, 600 feet of standard tape, spare spool, mains lead with plug and socket, and a radio and pick-up screened lead.



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News from the Clubs

IN the current edition of the *Tape Recording Yearbook* are listed over one hundred club secretary addresses, an increase of thirty since the edition last year. In the same period the number of club meetings per month has also been on the increase. There are now only a handful of clubs that meet once a month. The majority meet fortnightly, a number meet weekly, and four even meet twice weekly.

This changing pattern of clubs and the regularity of meetings leads, of course, to an increase in the number of reports received in this office. To continue our policy of providing the greatest coverage of club meetings we have decided to adopt a different lay-out pattern in future. Instead of a continuous text as at present, we shall publish reports under the individual club titles, and in a slightly reduced type size. This will provide instant recognition for members looking for particular reports and, with the limitations on space, increase the number of reports contained in one issue.

The new look club news page will appear in our December 13 issue, when we shall also have some important news regarding the magazine itself.

Expansion in the ranks of the **WORLD TAPE PALS** organisation is announced with two items received from the UK representatives Rhona and John James. First is the acceptance of membership application from the **Tanganyika** tape society who now become the first official "reel" in East Africa, and the inclusion of seven schools in Africa who are to participate in the World Tapes for Education programme.

The second expansion concerns membership in this country. Since they accepted their office, Mr. and Mrs. James have pushed up membership to its present figure of 150, an increase in twelve months of some sixty members. As a further push, they have now inaugurated a competition on the theme "Our Town."

Open to members only, the contest has received official support from E.M.I. Sales and Service and Wellington Acoustic Laboratories who have donated prizes. Closing date is to be March 1, 1962, allowing "plenty of time to join WTP and enter the contest."

Holiday tapes have stolen most of the glory of the latest meetings of the **WARWICK AND LEAMINGTON** club. After a summer break during which many of its members holidayed abroad, the group re-formed to compare notes and tapes. First out of the box for the November 15 meeting was a tape-slide show entitled *Alpine Angles* presented by the vice-chairman, Graham Harris. Brian Race's programme produced during his holiday in Malta is down for an early

hearing, and Frank Stiles, reversing the procedure, produced a tape on his Philips portable featuring his two grandchildren who had visited him from Canada.

One big disappointment, it happens to everyone once, was Eileen Jones' programme recorded during her holiday in Czechoslovakia, Austria and Germany. During her tour she met Anton Karas of *The Third Man* fame, in his Viennese restaurant. Permission was sought and granted to make live recordings of his zither-playing, but not wishing to run the batteries down for playback at the time, it was not until she returned to England that she found the recordings were hardly audible.

Visits from other club members have also been arranged. On one particular occasion twelve members from the **Coventry** club, and another three from the club in **South Birmingham**, visited them for a questions and answers session.

Location recordings have been achieved, the most outstanding concerning the Dedication Ceremony of a new Church in Warwick. Dubbings of the service have since been distributed to the church's archives and to a Canadian tape correspondent, and others are to be made available to locals who were unable to attend the ceremony.

A five-minute feature "spot" on the BBC Overseas Service was devoted to the **CRAWLEY** club last month, as a result of a visit made to the town by a BBC Mobile Unit. In a regular programme *Postmark U.K.*, the BBC includes a description on one particular area. This time it was the turn of the New Town, and the secretary of the club, Mr. R. C. Watson, was asked if he could be interviewed. During his talk he described the club's formation and aims, and spoke of the interviews the members themselves have achieved.



In **BROMLEY** also the members have been concerning themselves with competition tapes. In this case the usual five-minute limit had been set, but the subject was left open. Messrs. Perry and Price demonstrated subtle humour, and Robin Tims had travelled to Oxford to record Public House ballads.

Their latest meeting included a practical dubbing session. For this David Hart's Fi-Cord and Nigel Manly's home-built amplifier with a Truvox deck were used to great effect.

A magazine on tape for members of the Scout and Girl Guide movement has been produced by Albert Greenway of the **SOUTH BIRMINGHAM** club. To be distributed to scouts in Germany, South Africa, Australia, Ceylon, Holland and America, *Scouting Around* will be the general title for a series of tapes, the first of which includes a talk on one of the scout badges and the purposes behind the awards. Other programmes already produced and to be issued during the next six months include *Rovering and Cubbing* by two representatives of the London Scout HQ, and a programme from a Berlin representative. The tapes, to be produced quarterly at 3½ ips, are available to any member of the movement on receipt of a 3¼-inch reel of tape.

The club is also seeking to expand its tape programme production in other directions, this time in conjunction with the Birmingham Hospitals Broadcasting Association. The club has suggested it produces a monthly hour-long tape of messages from relatives to patients.

Another of their activities is the production of a cine film with sound track. Jim Tetlow, Denis Osborne and Albert Greenway have been touring Birmingham's redevelopment areas with a Fi-Cord for this purpose.

A move into plush surroundings has been announced by the **CATFORD** members. The move, into a very comfortable room with fitted carpet, soft chairs and heavy drape curtains now provides them with ideal acoustic surroundings, and they have changed their programme accordingly.

The first of their "new era" meetings was held on September 7, when a *Music to listen to* evening was arranged. Members took along 15 minutes of their favourite music and, with first-class equipment reproducing the tapes, settled down to a very comfortable programme.

Chairman Brian Blakeney shook them from the peaceful frame of mind at the following meeting on September 14 with a practical demonstration of editing and splicing, and illustrations of the currently available splicers. In no time at all the club was busily engaged editing and splicing, and seemed to have put aside their hopes of another languid evening.

No peace for the wicked they say, and the members were kept on their toes at the following meetings with evenings devoted to comparisons of loudspeakers (Sept. 21), recording from the radio and record player (Sept. 28), and how a tape recorder works (Oct. 5), for which a Ferrograph, with its ease of access to the interior workings, was used.

Lined up for the future, with perhaps vexed murmurings from those who wish to make most use of the newly-acquired

comfort, are a tape recorder comparison night, a general recording session and a practical dubbing exercise.

Latest addition to their club tape and book library is a tape of sound effects recorded by the members.

The secretary, Derek C. Harker, advising of their new plush club, makes a special note for new members. Anyone interested is invited to contact him at 62, Barmeston Road, Catford, S.E.6, or drop in at the meetings at their weekly Thursday meetings at the Black Horse, Rushey Green, S.E.6.

News from a society which first appeared on the scene some three years ago, then broke up after a fruitful existence. The club is, of course, that in **JARROW**, where John Rippington's endeavours have once again led to the formation of a club.

Resuming their headquarters at the Central School, Jarrow, the re-constituted club has arranged to meet on alternate Mondays. On October 2 their first official meeting was held and members took along their recorders for servicing. Mr. W. Troupe, the chairman, followed this practical evening with a talk and demonstration on mixers and magnetic tape, held on October 16.

This in turn was followed with a special meeting called for October 23, during which the members judged the tapes of the **Newcastle** club's tape competition.

Main speaker of the first "at home" of the new season for the **SOUTH DEVON** club, was Mr. Albert Pengelly, winner of the "Music or Speech" section of this year's British Amateur Tape Recording Contest.

Mr. Pengelly and two of his associates, Peter Cox and Mr. Penty had journeyed from Plymouth to describe the production of his tape, *Final Curtain*, which had been recorded in the Plymouth City Library. Some examples of his earlier work were also heard, and the South Devon members were then shown Mr. Cox's home-constructed four-channel mixer used during the production of the prize-winning tape. Mr. Penty also presented his home-built condenser microphone.

A month later, the members held their first birthday party. Combined with an "open night," to which members of the public were invited, the evening included recorder demonstrations. On show were machines ranging from the minute Grundig TK1, to a Brenell Stereophonic unit which had been built to one of the member's own specifications.

During the course of the evening a cake was cut and distributed to the party.

For those interested in overseas club exchanges, a line to Alan Bone of **Southern Rhodesia**, may well be the answer. This gentleman announces the imminent formation of a club in his area. He asked for advice on the formation of a club, so if any clubs would like to assist in this direction with past experiences, drop him a line direct at 33, West Road, Avondale, Salisbury, S. Rhodesia.

And finally to close, readers in the **MEDWAY** area may be interested to hear that Charles Brown of 23, Edward's Close, Wigmore Estate, Rainham, Kent, has recently formed a club. Meetings are being held at his home address, and interested parties are invited to drop in on any Monday evening.

CLUB MEETING DIARY

Is your club included in this list? If not, send details, on a postcard please, including date of the next meeting.

- ABERDARE:** Alternate Wednesdays at 81, Brynmair Road, Godreman. (Dec. 6.)
- ABERDEEN:** 1st Tuesday in every month at 8 Deer Road, Woodside.
- ACTON:** Alternate Fridays at the King's Head, Acton High Street. (Dec. 8.)
- BARNSELEY:** Every Tuesday at YMCA, Eldon Street.
- BATH:** Alternate Wednesdays at St. Mary's Church Hall, Grove Street. (Nov. 15.)
- BATH (2):** Alternate Wednesdays at 41, Herbert Road, Oldfield Park. (Nov. 29.)
- BEDFORD:** Final Tuesday in month at 131, London Road.
- BELFAST:** Every Thursday at 44, Dublin Road, Belfast 2.
- BETHNAL GREEN:** Every Friday at Shoreditch Tabernacle, Hackney Road, E.2.
- BIRMINGHAM:** Every Monday at the Chapel Tavern, Ludgate Hill.
- BIRMINGHAM (SOUTH):** Alternate Mondays at Starchley Institute, Hazlewell Street, Starchley. (Dec. 4.)
- BLACKBURN:** 1st and 3rd Tuesdays at Blackburn YMCA.
- BLACKPOOL:** Every Wednesday at "Habonim," Lonsdale Road, off Lytham Road.
- BOURNEMOUTH:** Alternate Tuesdays at the Queen's Hotel, Queen's Road, Bournemouth West. (Dec. 12.)
- BRIDGWATER:** Every Tuesday at Evis' Radio Shop, West Street.
- BRIGHTON:** Every Wednesday at The Brunswick Arms, 38, Ditchling Road.
- BRISTOL:** Alternate Wednesdays at Redcliffe Church Hall, Guinea Street, Redcliffe. (Nov. 29.)
- BRITXON:** Every Tuesday at The White Horse, 94, Brixton Hill, S.W.2.
- BROMLEY:** 2nd and 4th Thursdays at St. Mary's Church Hall, College Road.
- CAMBRIDGE:** Every Wednesday at the Mitre Hotel, Bridge Street.
- CARDIFF:** 1st and 3rd Tuesdays at 46, Caroline Street.
- CATFORD:** Every Thursday at the Black Horse, Rushey Green, Catford, S.E.6.
- CHESTERFIELD:** Every 3rd Monday at the Yellow Lion Inn, Saltergate. (Dec. 18.)
- COTSWOLD:** Fortnightly, alternating Monday and Thursday at Bayshill Hall, Royal Well Lane, Cheltenham. (Nov. 30.)
- COVENTRY:** Alternate Wednesdays at Holyhead Hotel, Coventry. (Dec. 6.)
- CRAWLEY:** 1st and 3rd Mondays at Southgate Community Hut.
- DARTFORD:** Every Thursday at 41, Winsor Drive.
- DERBY:** Alternate Wednesdays at Osmaston Park Hotel. (Dec. 6.)
- DONCASTER:** Alternate Thursdays at Lancaster House, Westlith Gate. (Dec. 7.)
- DOVER:** Alternate Mondays at the Priory Hotel, Dover. (Dec. 11.)
- DUBLIN:** 1st Monday at "Hardy House," 6, Capel Street.
- DUNDEE:** Alternate Mondays at The Salvation Army Hostel, 31, Ward Road. (Dec. 4.)
- EASTBOURNE:** Alternate Saturdays at Hartington Hall, Bolton Road. (Dec. 9.)
- EAST HERTS:** Alternate Mondays at 3, Chadwell, Ware. (Dec. 4.)
- EDINBURGH:** 1st and 3rd Fridays at 22, Forth Street, Edinburgh 1.
- FRIERN BARNET:** 2nd Friday at 7, Harmsworth Way, N.20, and 4th Thursday at 146, Friern Barnet Lane, N.20.
- GLASGOW:** Fortnightly, alternating Tuesday and Thursday at the Christian Institute. (Dec. 5.)
- GRANTHAM:** Weekly, 1st week in month Wednesday; 2nd, Monday; 3rd, Thursday; 4th, Friday at Grantham Technical College, Avenue Road.
- GRIMSBY:** 1st Monday at 21, Langton Drive, Nunthorpe, Grimsby.
- HARRGATE:** Every Wednesday at 4, Belford Road.
- HARROW:** 1st and 3rd Thursdays at St. George's Hall, Pinner View, North Harrow.
- HASTINGS:** Every Tuesday at 62, Vicarage Road.
- HINCKLEY:** Alternate Wednesdays at The Wharf Inn, Coventry Road. (Dec. 6.)
- HOVE:** Every Thursday at 44, Hogarth Road, Hove.
- HUDDERSFIELD:** 1st and 3rd Wednesday and last Monday at the Public Library, Ramsden Street.
- HULL:** Alternate Tuesdays at 281, Hessle Road. (Dec. 5.)
- ILFORD:** Every Tuesday at the RAFA Rooms, Cranbrook Road.
- IPSWICH:** Alternate Thursdays at the Art Gallery, High Street. (Dec. 7.)
- JARROW:** Alternate Mondays at Jarrow Central School. (Dec. 11.)
- JERSEY:** 1st and 3rd Mondays at "Santa Barbaba" Maufant, St. Saviour.
- KEIGHLEY:** Alternate Wednesdays at the Spencer Street School Rooms. (Nov. 29.)
- KETERING:** 2nd and 4th Wednesdays at the Rising Sun, Silver Street.
- KIDDERMINSTER:** Alternate Wednesdays at the Town Hall. (Dec. 6.)
- LEEDS:** Alternate Fridays at 21, Wade Lane, Leeds 1. (Dec. 8.)
- LEICESTER:** Alternate Fridays at the Newark Girls' School, Imperial Avenue. (Dec. 1.)
- LONDON:** 2nd and 4th Thursdays at the Abbey Community Centre, Marsham Street, S.W.1.
- LUTON:** 2nd and 4th Tuesdays at Flowers Recreation Club, Park Street West, Luton.
- MAIDSTONE:** Every Wednesday at the Ex-Services Club, King Street.
- MANCHESTER:** Every Saturday, 6 p.m., at 20, Naylor Street, Hulme, Manchester 15.
- MEDWAY:** Every Monday at 23, Edward's Close, Rainham, Kent.
- MIDDLESBROUGH:** Every Wednesday and Friday at 130, Newport Road.
- MILLOM:** Every Wednesday at Millom Centre.
- NORTH LONDON:** Alternate Wednesdays at Bush Hill Park School, Main Avenue, Enfield. (Dec. 6.)
- NORTHAMPTON:** Tuesdays and Thursdays at 36, Spring Gardens.
- NOTTINGHAM:** Alternate Thursdays at the Co-operative Educational Centre, Heathcote Street. (Nov. 30.)
- NORWICH:** 4th Tuesday at "Lady Chamberlin Hall," 38a, St. Giles' Street.
- PONTYPOOL:** Every Monday at the Hospitality Inn, Crumlin Road.
- PLYMOUTH:** Alternate Wednesdays at Virginia House, Plymouth. (Nov. 29.)
- READING:** Every Monday at Abbey Gateway.
- REDDITCH:** 4th Thursday at The White Hart Hotel, Headless Cross.
- RHYL:** Alternate Tuesdays at Studio A, Bedford Street. (Dec. 5.)
- RUGBY:** Alternate Thursdays at the Red Lion, Sheep Street. (Nov. 30.)
- SHEERNESS:** Alternate Fridays at Arthur Gisby's, 136, High Street. (Dec. 8.)
- SOUTHALL:** Every Monday at Southall Community Centre.
- SOUTHAMPTON:** Alternate Thursdays at Southampton University. (Nov. 30.)
- SOUTH DEVON:** Alternate Wednesdays at the YMCA, Castle Circus, Torquay. (Dec. 6.)
- SOUTH-WEST LONDON:** Every Wednesday at Mayfield School, West Hill, S.W.15.
- STAFFORD:** Alternate Tuesdays at The Grapes, Bridge Street. (Dec. 12.)
- STEVENAGE:** 1st and 3rd Tuesdays at the Tenants' Meeting Room, Marymead.
- STOCKPORT:** 1st Friday at the Unity Hall, Greek Street.
- STOKE NEWINGTON:** Every Wednesday at 53, Londesborough Road, N.16.
- SWANSEA:** Every Thursday at the YMCA Buildings, St. Helen's Road.
- URMSTON:** Alternate Thursdays at Davybulme Scout Hut, Barton Road. (Dec. 7.)
- WAKEFIELD:** Alternate Mondays at York Street Hotel. (Dec. 4.)
- WALSALL:** Every Wednesday at Bluecoats School, Springhill Road.
- WALTHAMSTOW:** Alternate Fridays at 22, Orford Road, E.17. (Dec. 8.)
- WARWICK & LEAMINGTON:** 1st and 3rd Wednesdays in Room 18 of the Royal Leamington Spa, Town Hall.
- WEST HERTS:** Fortnightly alternating at the Cookery Nook, High Street, Watford (Dec. 20) and Heath Park Hotel, Hemel Hempstead. (Dec. 6.)
- WEST MIDDLESEX:** 2nd Thursday at the Railway Hotel, Station Road, Hampton, and 4th Thursday at Dormers Wells Primary School, Dormers Wells Lane, Southall.
- WEST WALES:** 1st and 3rd Fridays at The Meeting House, New Street, Aberystwyth.
- WEYMOUTH:** Alternate Wednesdays at The Waverley Hotel, Abbotbury Road. (Nov. 29.)
- WINCHESTER:** Every Friday at 45a, St. Swithen's Street.
- WINDSOR:** Every Thursday at The Royal Adelaide Hotel.
- WOOLWICH:** Alternate Mondays at the North Kent Tavern, Spray Street, Woolwich. (Dec. 4.)
- YORK:** Every Thursday at 62, Micklegate. Unless otherwise stated, meetings start between 7 and 8 p.m.

Classified advertisements

Rate—Sixpence per word (minimum 5s.); **Trade**, ninepence per word (minimum 10s.); **box numbers**, one shilling extra. **Payment with copy. Copy should be sent to Advertisement Department, "Tape Recording Fortnightly," 1, Craze Court, Fleet Street, London, E.C.4.**

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B.B.C. "Sound" Programme

A magazine for radio and recording enthusiasts

2.40 p.m. December 10

RADIOPHONICS

A second discussion, this time about the nature and purpose of artificial noise with illustrations provided by the BBC Radiophonic Workshop.

Taking part are Chairman H. A. L. Craig, Desmond Briscoe, of the Workshop and Donald McWhinnie, until recently a BBC drama producer and largely responsible for the creation of the Workshop.

"Sound" is broadcast on alternate Sundays on Network Three

The next programme is on December 24

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When writing to manufacturers for information about new products, please mention that you saw it in "Tape Recording Fortnightly."

TAPE EXCHANGES

TAPE recorder owners who would like to make contact with others of similar interests to exchange news and views by tape are invited to send their name, address, sex, age and special hobby or interest (but only one, please) for this special new section.

Unless otherwise mentioned tape contacts will be made using a speed of 3½ ips, on half-track tape. If space permits, additional speeds, or track usage will be published. Maximum spool size only is given.

Bailey, F. C. (Male 53). 18a, Booths Farm Road, Birmingham 22a. Colour photography, stamps, Esperanto. 3½ ips. 5-inch spools. Male contacts anywhere, letters first please.

Dewitt, David, A. (15). 42, Addison Road, London, W.14. Philosophy, psychology, gymnastics, microscopy. 1¼, 3¼, 7½ ips. 7-inch spools. Contacts anywhere welcome.

Germann, Gerhard (28). 8, Hartmann Strasse, Stuttgart-Feurbach, Germany. Model railways, short-wave radio, jazz, opera and folk music. 3¼, 7½ ips. 7-inch spools. Can speak a little English.

Kerr, G. (Male 23). Block A., 4, Waterloo Square, Camberwell, London, S.E.5. Pop music and films. Any speed. 7-inch spools. Anyone, anywhere.

Keszei-Koch, Janos (25). 48, Allen Park, Stillorgan, Dublin, Ireland. 35 mm. photography, 8 mm. colour cine, any music except rock'n'roll. 3¼, 7½ ips. 8¼-inch spools. Anyone, anywhere, English or Hungarian language.

Knight, Michael. 220, Ringland Circle, Newport, Monmouthshire. Classical music, instrumental rock. 3¼, 7½ ips. 5-inch spools. Female contacts preferred.

Lawson-Smith, P. (23). 4, Fisherman's Way, Bourne End, Buckinghamshire. Brass bands, catering and stereo. 1¼, 3¼, 7½, 15 ips (7½ ips for music). 8¼-inch spools.

Maguire, William. 13, Arthur Avenue, Whitewell Road, Newton Abbey, N. Ireland. Country and western music. 3¼ ips. 5¼-inch spools. Contacts anywhere welcome.

McLean, R. T. (32). 20, Beaconsfield Road, Fareham, Hampshire. Fishing, boating, travel. 3¼ ips. 5¼-inch spools. 2- or 4-track. Overseas contacts preferred.

Messenger, Margaret (Mrs). 5, Beaulieu Park, Wellington Road, St. Helier, Jersey, Channel Islands. 1¼, 3¼ ips. 5¼-inch spools. Family exchanges wanted.

Moorhouse, T. (49). Grange Villa, 39, Warren Road, Rhyl, North Wales. Motoring, fishing, stereo and mono. 3¼, 7½ ips. Contacts required in Commonwealth countries and USA.

Press, G. A. (21). 2, Westcliffe, West Street, Durban, South Africa. Fishing, scootering, photography, travel, stereo. 1¼, 3¼, 7½ ips. 7-inch spools. English speaking contacts required.

Sculthorpe, A. C. Cleeve. 82, Lichfield Road, Coleshill, Birmingham. Ham radio, cycling, camping. 1¼, 3¼, 7½ ips, mono or stereo. 7-inch spools. Male contacts required in Commonwealth countries and USA. Message spools first please.

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TAPE RECORDING YEARBOOK

High Fidelity & Cine Equipment Guide 1961-62

The eagerly awaited new edition of "Tape Recording Yearbook, High Fidelity and Cine Equipment Guide" is now ready. The first copies of this unique reference book were off the press earlier this month. If you want to be certain of getting your copy, fill in and post the form below NOW.



Orders for the Yearbook will be dealt with in strict rotation. In previous years many were disappointed when the book was sold out within a month of the publication date. Be sure you are not unlucky this year by returning the form below together with the 6s. (plus 9d. postage), and ensure immediate delivery.

THE CONTENTS INCLUDE

- ★ The only available up-to-date catalogue of every tape recorder and microphone on the market, with full specifications, price, etc., and photographs.
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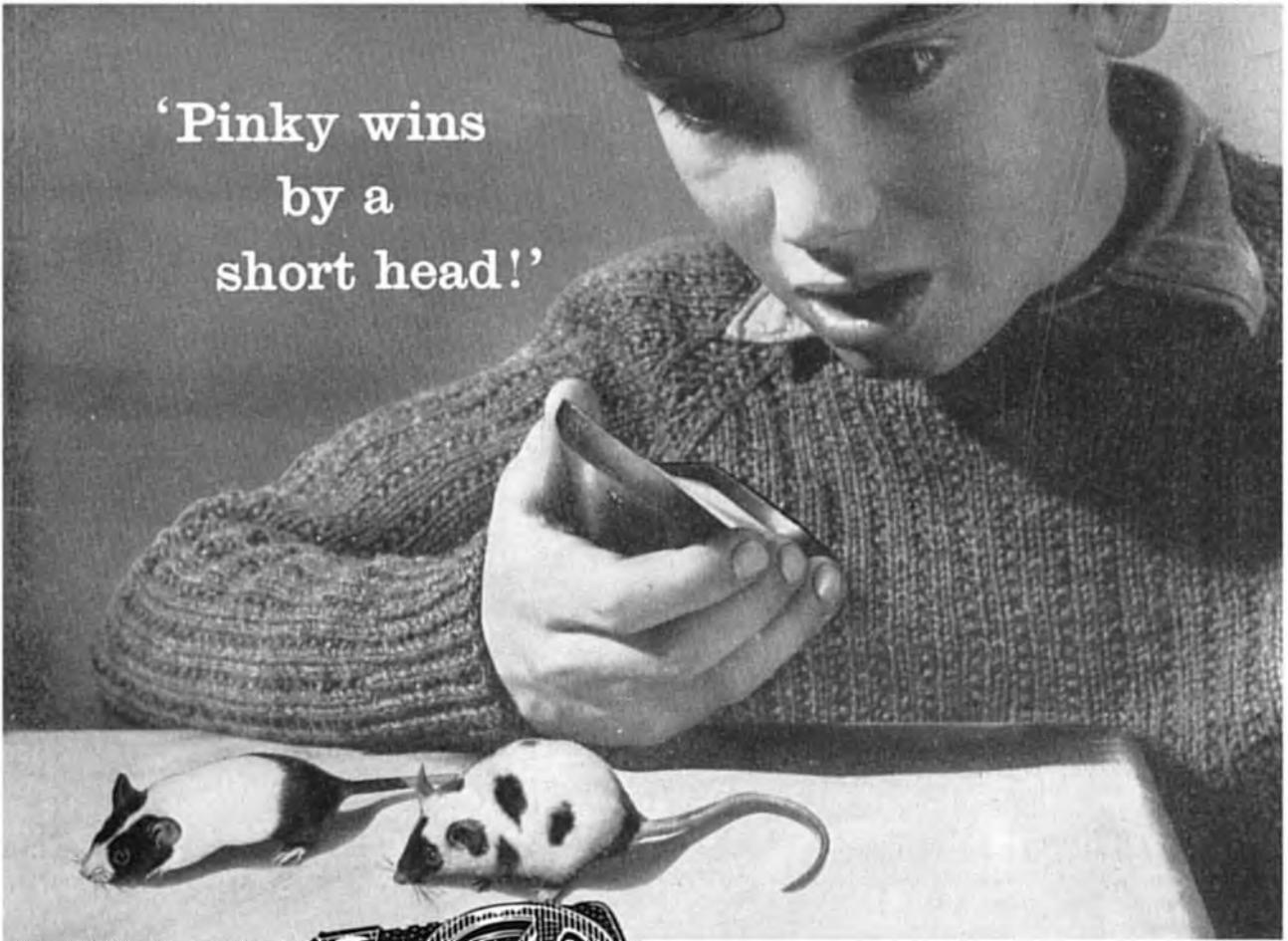
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1/6

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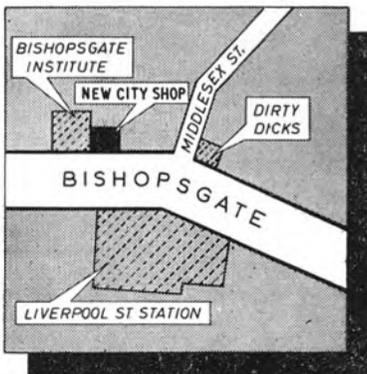


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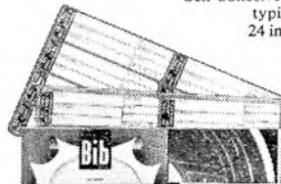
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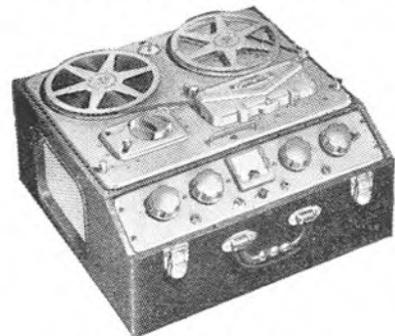
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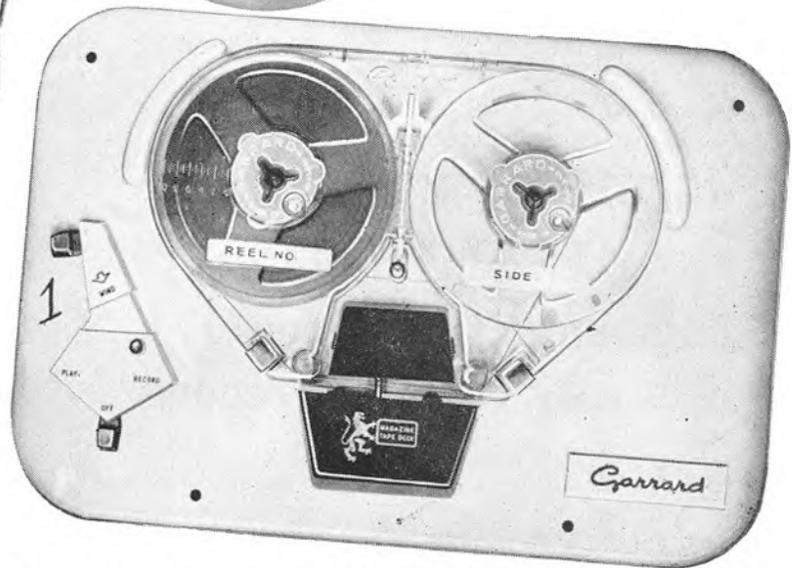
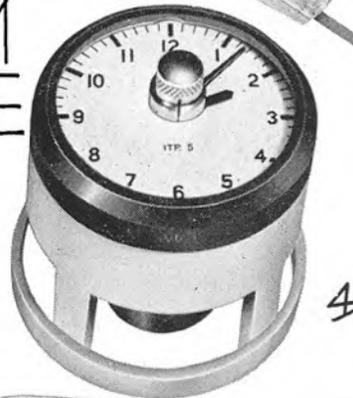
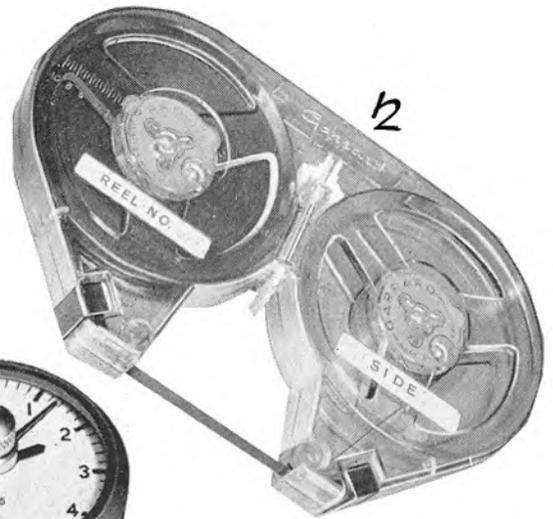
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Microphones from Vienna

TAPE

RECORDING
FORTNIGHTLY

Vol. 5 No. 25 13th December, 1961

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"Tape Recording Magazine" will henceforth be published on the third Wednesday in the month, by Print and Press Services Ltd., from 7, Tudor Street, London, E.C.4.

The Editor is always glad to receive articles, news items, illustrations, etc., intended for publication. When not accepted, material will be returned if a stamped addressed envelope is enclosed, but the Editor cannot accept responsibility for the safety of such material.

"Tape Recording Magazine" is available by a postal subscription of 20s. per annum, including postage, or it can be obtained at newsagents, bookstalls and radio and music dealers. In the event of difficulty, write to the Publishers at 7 Tudor Street, London, E.C.4.

Back numbers, if still in print, are available at 2s. 6d. per copy for issues up to November 1959, and 2s. per copy for later numbers.

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EDITORIAL

Editor,
R. DOUGLAS BROWN

ADVERTISING

Advertisement Manager,
KENNETH P. WILSON

We take the view . . .

TAPE RECORDING MAGAZINE will appear in a new form from the next issue.

Out on December 20, dated January 1962, will be the first number of a new, enlarged, greatly-improved monthly—and the price will stay at 1s. 6d. This will be the finest money's-worth not merely among tape magazines, but in the whole world of magazine publishing.

All the familiar features will remain: news of new products, test reviews, club news, features for schools and battery portable owners and for the ladies.

There will be many new features, such as the "technical paper" for more advanced enthusiasts. In the January issue this will take the form of an authoritative survey of the development of magnetic heads.

Some established features will be developed further: for example, there will be more articles for the home constructor and more space for those who are interested in international tape exchange.

In the January issue there will be a special stereo section, with the fullest information published so far about developments with stereo radio transmissions. Other features in this issue will include Denys Killick on "special assignment" with a battery portable in the bell tower of Big Ben, Harry Mack discussing tape transport systems in his "service bureau" series, and Alan Edward Beeby reporting on a fascinating, exclusive interview with Sir Brian Horrocks, who combines the distinctions of TV star, "Black Rod" in the House of Lords and distinguished ex-soldier.

With the launching of the new monthly edition, we

AN IMPORTANT ANNOUNCEMENT

plan a major drive to increase circulation. *Tape Recording Magazine* should henceforth be much more easily obtainable at all newsagents and bookstalls. If any reader has any difficulty in buying a copy, will they please send full details to The Editor (see form page 32) and appropriate steps will be taken.

It is to cater for a new and expanding audience that this change has been made in our publishing arrangements.

To our old and immensely loyal readers we feel a full explanation of the change is needed.

First tape magazine

We were the first tape recording magazine in this country, published initially as a monthly. Later, two competitors appeared in the field, at a moment when the tape recording industry was enjoying a boom that was unprecedented and which has not been repeated since.

Two problems then confronted us. One was that firms desired to place so much advertising with us that we could not accommodate it in a monthly magazine without such an increase in size as would have meant an increase in selling price. The second was that considerable confusion arose in the minds of the public about the identity of the various magazines.

We solved both problems by becoming *Tape Recording Fortnightly*. The success of this operation exceeded all our hopes. In eighteen months we have consolidated our position as the leading magazine in the field, with a unique standing with the serious recording and hi-fi enthusiasts.

But a new situation now exists and must be taken account of.

An increased audience

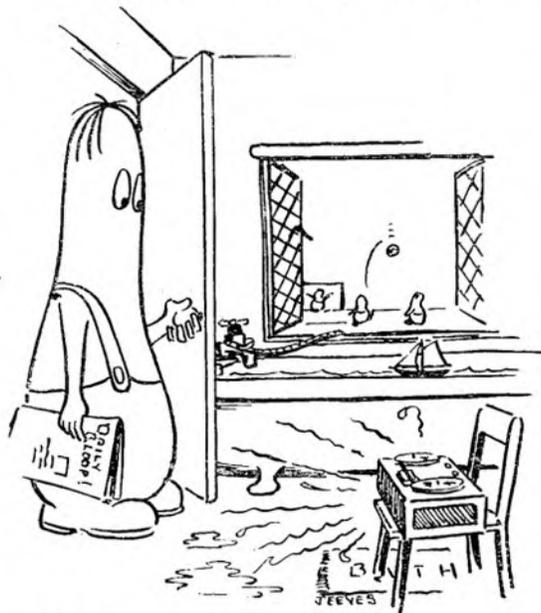
The industry has now settled down to a stable level of activity and a steady rate of growth. At the same time, a large number of people are buying recording equipment who assimilate this new activity into their family routine without becoming, or wanting to become, the sort of keen enthusiasts who join clubs or buy large quantities of literature.

The industry and the public audience can, therefore, be better catered for in these new circumstances by a first-class monthly, large enough to cater for the expert enthusiast and the enquiring newcomer, serving every interest of the industry, and selling at a price that will appeal to the big new audience.

Hence our decision, taken after thorough investigation and careful assessment, to change to monthly publication.

We promise our devoted readers that we shall not disappoint them. We prepare to greet a big new audience.

LAUGH WITH JEEVES



"So that's why he insisted on me recording that waterfall."



TEA FOR THIRTY-TWO

A TEA-PARTY, a visit to "The Black and White Minstrel Show," plus a prize presentation was the reward for 32 children of the Pennington Junior Mixed School in Hampshire who won the Grundig Cup in the school section of the British Amateur Tape Recording Contest.

The day out for the children is now a regular feature of the prize awarded by Grundig, and last month the trip included a visit to Bournemouth where the Grundig Shield was presented to the head boy and girl by Mr. Alan Stableford, Chairman of the Federation of British Tape Recording Clubs. Also present were Mr. Peter Earl and Miss Brenda Marriott of the Grundig Publicity Division, and Mr. Fred Chandler, News Editor of "TAPE."

Our photograph shows Linda Haynes with the trophy and Nicholas Feast with the Cup (presented earlier in London) with, left to right, John Wylie, Eric Veal, Mr. Alan Stableford, and Eric Phimister.

TAPE TRACKS THE SATELLITES

THREE magnetic tape recorders for use by the Department of Scientific and Industrial Research observing stations for recording data telemetered from instrumentation satellites, have been ordered from the Solartron Electronic Group Ltd.

One machine, destined for the Falkland Islands, has already been despatched. The second machine will be used in Singapore, and the third will go to the Radio Research Station at Winkfield, Berkshire, for use in association with the Minitrack installation.



The equipment going overseas is recording machines, but that at Winkfield will be able to make recordings and also reproduce the tapes made on all three machines. In addition it can, if required, be used for playing back tapes produced at other observing stations.

All three equipments have been modified for this specialised application; the modifications including bandwidth extensions using normal tape speeds. Two of the machines are shown above being completed at Solartron's Farnborough plant.

THE WORLD OF TAPE • A NEWS ROUND-UP

British Railways are taped

THE tape recording hobby of a British railway executive has resulted in some interesting innovations in railroad efficiency.

The making up of a goods train is a complicated and serious matter. Each wagon must be individually listed, details of its source and destination noted and its contents clearly marked. At the busy marshalling yards trains are made up and sent to another destination where they are broken up for dispatch to points throughout the British Isles.

At Temple Mills, goods wagons arrive from throughout the Eastern Region as well as on the Hook of Holland—Harwich ferries. Listing these details was a slow and tedious procedure. A train maker had to note the necessary information as he coupled the various wagons together. Often this had to be done in darkness, or in rain or snow and with insufficient light.

Mr. Watson, Deputy Head of Trains (Freight) of the Eastern Region had a problem. Could tape recorders not help, he thought?

Climbing under railway trucks is an arduous task and any equipment carried by a railway employee would have to be sturdy and capable of taking hard treatment. It would have to be light and small and easy to operate.

Eastern Region instituted an investigation of available machines before experimenting with the listing of trains on tape. Only one appeared to be able to stand the treatment, the American "Mohawk" Midgetape made for the Thomas A. Edison company of London.

A number of recorders were purchased and the train preparers were issued with a special harness holding the machine against the body and a microphone hanging from the neck.

As they handled each wagon they recorded all the pertinent information. Or



at their discretion, having made up the train, they walked its length dictating a description of each wagon, stating from which end of the train they were operating and giving the number of the locomotive and goods wagon, if attached.

The cassette was then surrendered in the Yard Master's office. (The Mohawk is a one-reel cassette loaded machine.) From there a message was sent to the telegraph centre at Liverpool Street station that a recording was about to be sent, the circuit was adapted and the tape was relayed to an Edison Voicewriter, a disc-recording machine.

A Liverpool Street operator, listening to the Voicewriter through earphones then relays the information received over a teletype network using perforated tape, to the various interested centres including other marshalling yards.

It was found that the railway employee could record all the necessary information of a train in well under ten minutes and that all pertinent information could be in the hands of interested offices by the time the train had left.

The Mohawk, housed in a metal container, is battery driven, weighs 3 pounds, measures 8½ x 3¾ x 1½ inches and has a tape speed of 1½ ips. One three contact plug battery operates the transistorised unit, and motor. Forward and rewind are manually wound.



In the
Christmas
showrooms
you will
find a
wonderful
range of

GIFTS FOR TAPE FANS

FOR the relative or friend of the tape enthusiast, the choice of Christmas presents this year is purely a matter for the pocket. The current range of tape recorders, numbering some 160 machines, is so wide that you will find whatever type of machine you decide you can afford. Two-track, four-track, mono or stereo, with a variety of facilities, or as a basic record-replay machine, the choice is there.

Although the price is, for most folk, the biggest single factor in making a choice, the use to which the machine is to be put must also, of course, be a vitally important consideration. How many speeds, playing times etc., will provide only the basic specifications for the intending purchaser. Work out a short list of models suitable for the specific jobs, examine these, and then make the final choice. The survey opposite will provide a number of ideas, and the main features of the most widely used decks will guide you in a selection of recorders.

ALTHOUGH a tape recorder is itself an ideal present, the pockets of many will be limited for such a purchase; or perhaps a tape recorder is already owned. This problem may quickly be solved by a visit to a dealer for a browse around the associated equipment department.

From empty tape spools at prices varying from 3 to 5 shillings, up to and including a four-way mixer unit at £40. Microphones, splicing kits, bulk erasers, headphones, telephone adaptors, head demagnetisers, are all necessary items for the keen tape man, and any of these would be welcome on Christmas morning, and a boon for the rest of the year.

If the enthusiasm does not extend to practical articles such as those mentioned above, why not choose from the extensive catalogue of tape records now available. It is possible to obtain records on tape of nearly every type of music, language courses, poetry, or, for the family man, children's stories. A visit to your local dealers, or if satisfaction is not received, a letter or phone call to the dealers who specialise in tape records will assist your choice of presents; you can find their addresses in our advert columns.

For the practical man, a practical item, and the following general survey may contain the ideal gift for you.

There is now a great variety of instruments for splicing tape. There are two distinct groups of design, and it is very much a case of individual choice as to which is used. One type is essentially a slab of metal with a specially designed channel less than one-quarter-inch wide, with a slight undercut so shaped that the tape can be pressed in to it and gripped tightly. Among this group are the Editape, E.M.I. Edi-Tall, Gibson Girl, Quik-Splicer and Romagna Editing Block. The second group, which incorporates a groove to fit the tape and two pressure arms which can be brought down to clamp the tape in position while it is being cut includes the Bib Splicer, Bond Splicer, Easysplicer, Irish Tape Splicer, Metro-Splicer, and the Sonocolor SM6. The prices and manufacturers are as follows:

Bib Splicer (Multicore Solders Ltd.), 18s. 6d.; **Bond Splicer** (Cine Accessories Ltd.), £1 12s. 6d.; **Easysplicer** (Easysplice Co.), 5s.; **Editing Block** (Romagna Reproducers), 7s. 6d.; **Edi-Tall** (E.M.I. Sales and Service Ltd.), 10s. 6d.; **Editape** (BASF Chemicals Ltd.), 5s.; **Gibson Girl**, 18s. 3d., and **Irish SP3 Splicer**, £3 7s. 3d. (Wilmex Distributors Ltd.); **Metro-Splicer** (Metro-Sound Manufacturing Co. Ltd.), 15s.; **Quik-Splicer** (David Williams Cine Equipment Ltd.), 17s. 6d.; and the **Sonocolor SM6** (Tape Recorder (Electronics) Ltd.), £1 12s. 6d.

Two other items which come into the category of a "third hand" for a tape enthusiast are bulk erasers and telephone adaptors. In the first instance, if a clean tape is required in a hurry the only way of erasing satisfactorily is by the use of a bulk eraser.

There are four manufacturers, including **Harvey Electronics** who make units varying in price from £6 5s. to £15 10s. The price depending on the size of spool to be accommodated. **Levers-Rich** also have a choice of instruments, from £6 5s.

Tape records, splicers, bulk erasers, telephone adaptors, head demagnetisers, magnetic tape— the choice is yours

for their Junior ER30A, £9 10s., Standard ER31B, and £15 for the Senior ER31B. **Osmabet Ltd.** and **Wellington Acoustic Laboratories** manufacture one standard size, the former at £1 7s. 6d., and the latter, for any size reel, at £7 18s. 6d.

A telephone adaptor enables both sides of a conversation to be recorded

THE DECKS

Three decks widely used in present day recorders are the B.S.R. Monardeck, the Collaro Studio, and the Garrard Magazine. The main features of these units are as follows.

B.S.R. MONARDECK: Single speed, $3\frac{1}{2}$ ips. Maximum spool size $5\frac{1}{2}$ inches, giving about 45 minutes playing time per track on standard tape. Operation: A joystick control has three active positions; record/replay, fast forward and reverse winding. A fourth position stops all the mechanism except the motor, thus providing a pause control. A second control allows choice between record and replay, an interlocking device providing complete safety against accidental erasures. A full 850 ft. reel can be re-wound in almost exactly three minutes.

COLLARO STUDIO: Three speeds, $7\frac{1}{2}$, $3\frac{1}{2}$, $1\frac{1}{2}$ ips. Maximum spool size, 7 inches, giving a total of 120 minutes playing time per track using standard tape at the slowest speed. Operation: Five piano-type keys to provide start, fast forward and reverse winding, stop, and pause control. Two rotary switches give record/replay/straight-through-amplification and speed selection. Incorporates a small red button above the "start" key which must be used on "record" to prevent accidental erasure. Digital rev. counter fitted. Rewind time: 65 seconds for 1,200 ft.

GARRARD MAGAZINE: Single speed, $3\frac{1}{2}$ ips. Maximum spool size 4 inches, giving 32 minutes playing time per track on double-play tape. Operation: Two controls for record/off/playback and fast wind. As the tape magazine incorporated in this deck can be turned over easily, fast wind is provided in a forward direction only. Fitted with red button to prevent accidental erasure. The advantage of the magazine system is that it can be removed from the deck at any time without winding the tape on to one of the spools. When replaced later, the tape will still be in the exact position at which it was originally stopped. A spring-loaded brake prevents tape spillage when the magazine is off the deck.

without the extraneous noises met when attempting the job with microphones. It is a simple device actuated by simply placing it alongside the base of a telephone. In some cases a small rubber suction pad is attached to affect a more secure location.

Cosmocord, **Elizabethan** and **Truvox** produce such an instrument for one guinea. Then there are the **Dektron Telecon Pick-up** and the **Lee Products AT10** at £1 7s. 6d., followed by the **Welmecc Model 8266743** (£1 15s.), the **WyndSOR T.A.** (£1 19s. 6d.), the **Saba T.A.** (£2 5s.), and the **Uher 801** (£2 10s.). Top of the price list are the **Grundig TA3** and **Philips EL3969/11** both at 3 guineas.

A very important item for any tape recorder owner is a head demagnetiser. Even with the most careful of users there will come a time when the heads need "cleaning." Apart from the various cleaning fluids now available to rid the head of solid matter such as dirt, grease, etc., the magnet also needs a lease of life. There are three manufacturers making these instruments, and any one of these items can be assured of a warming welcome. First is the **Cinesmith Depolariser**, consisting of a plastic moulding with a simple push-button switch, for £1 15s. At £2 10s., **Wright and Weaire** produce their **De-Fluxer**, and **Wellington Acoustic Laboratories** their **WAL D-MAG** which is also suitable for erasing short passages from a recorded tape. This latter item was reviewed in our November 12 issue.

A universal gift is a reel of tape. At present there are more than a dozen separate manufacturers, and each issues tapes in varying thicknesses and lengths. In many cases choice of these brands is a fine art, dependent to a large extent on the type of machine with which it will be used, and to a considerable degree to the amount of use and handling it will receive.

If your intended recipient has no definite ideas on the particular brand required, and in some cases in spite of one of the surest methods of matching the right tape for the best performance on a given machine is to obtain short lengths of as many different brands as possible. These should then be joined together and a signal recorded on the resulting length.

Tapes made by different companies differ slightly in the composition of their oxide coating, and as such match up with the characteristics of certain machines. Played back on a given machine there will be a noticeable difference in each. Points to watch for include treble response, bass response, distortion, and hiss, as well as "drop-outs."

The prices of these various brands may also lead to some confusion, and it is no guide to buy the most expensive to ensure the best results.

In an article *Choosing the Tape*, J. Gordon Holt outlines the many factors that should be taken into consideration when buying. His article appears in the **Tape Recording Yearbook**, another ideal buy for those looking for presents: for the newcomer to tape recording wishing to purchase equipment themselves; and for the keen tape enthusiast who wants to keep up to date with the latest developments. An idea of the contents of this popular annual can be obtained from the review published on page 21.

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IF one has children and a tape recorder, an ideal opportunity exists for passing many a pleasant hour recording a home-made pantomime as an alternative to watching the television screen. Writing, producing, rehearsing and recording a "show" of this kind appeals to children of all ages and gives Dad an opportunity to prove his skill with the tape recorder.

Most children like the idea of being able to "act," and often they are quite good at disguising their voices so that they can take more than one part in the production.

One great advantage of using a tape recorder is that as explained later, it is not strictly necessary for the younger children to be able to read or follow a script, since continual prompting is possible without this being too apparent in the final recording. With careful script preparation, even the youngest member of the family can usually be given a small part even if he, or she, is still limited to monosyllabic utterances in the range of "Mum", "Dad", and "Cat", etc.

The only equipment that is necessary is a tape recorder with two inputs for microphone and pick-up. If additional facilities, such as a mixer unit, are available, a much more ambitious type of presentation can be attempted. However, such luxuries as these are not absolutely essential.

PREPARING THE SCRIPT

The first step is to decide which pantomime is likely to be most suited to the circumstances, taking into account the number of persons who can take part, the standard of talent available and the technical recording facilities that are obtainable. In the writer's experience, *Cinderella*, *Dick Whittington*, *Jack and the Beanstalk*, *the Three Bears* and *Aladdin* all lend themselves very favourably to this kind of treatment.

Record your own pantomime

says

V. RASHEED

Having decided how the individual parts are to be played, the next move is to persuade that member of the family who shows the most obvious talent in this direction, to sit down and begin to write the script. Suggestions can of course be put forward by everyone and one need not attempt to adhere very closely to the original story which can be adapted to suit the circumstances. Music can then be chosen to link up the various scenes or to be used as "background" if mixing facilities are available. Remember that it is illegal to "dub" commercial discs on to tape without permission, but some families will be sufficiently fortunate to be able to produce their own music; others may be in possession of private recordings that can be used for this purpose.

It is necessary to remember when preparing the script that a recorded programme is like a radio show in that it is entirely aural and the complete sense of the story must be made obvious by the sound alone. The simplest way to achieve this is to allow a "Narrator" to tell the story between the various "scenes".

The following short excerpt from the writer's version of *Dick Whittington* may help to indicate the way in which a script can be built up; The scene is played by 8-year-old Robin as the hero,

with "Mum" as the landlady and "Dad" as the Narrator and Puss:

NARRATOR: . . . and one evening they came to a hill overlooking a great city. *Music, hold under and fade.*

DICK: Oh, look, Puss! There's a big town. I wonder where we are now?

PUSS: Wow? *(Fade up disc. Bow Bells.)*

ANNOUNCER: (Recorded) This is London!

MUSIC: (Recorded) *(Hold five seconds and fade.)*

DICK: Come along Puss—we'll be just in time for Wagon Train!

NARRATOR: And so they came at last to the Great City and set about looking for somewhere to stay for the night.

EFFECT: KNOCKING ON DOOR—DOOR OPENS. *(Live.)*

LANDLADY: Well, what do you want?

DICK: Please can you let me have a room for tonight?

LANDLADY: No, sorry, no animals here! *(Start music, hold under.)*

DICK: Oh, dear!

NARRATOR: So they walked sadly away and asked somewhere else . . .

It is important where young children are concerned, that too long a programme should not be attempted unless it is possible to record it in a number of fairly short sessions. Children tire quite quickly under the strain of "getting it right" and about half-an-hour is long enough for one session. A twenty-minute programme can be expected to take anything up to two or three hours in actual recording time.

MAKING THE RECORDING

First, assemble all the cast for a particular "scene" and put ready all the discs and any apparatus that is needed for "effects" so that they are near at hand when required. Make sure that the machine is working properly and that the recording levels are correct; then work through the script from the beginning, stopping at the end of each individual speech or musical passage at a convenient point, to play back the tape and ensure that the desired effect has been produced. If not, that part can be repeated straight away. Do not be tempted to leave spaces or to "do that bit again later on". Subsequent accurate timing of an "insert" to fit unobtrusively into a "space" on the tape can be extremely difficult and it is always better to avoid editing afterwards by cutting and splicing the tape, if this can be avoided.

If music is being used as a background, ensure that the level is well below that of any speech that has to be heard above it, or intelligibility will almost certainly result.

In passing, it is worth mentioning that if the "Superimposition" button is used as a means of superimposing speech and music, in the absence of a mixer, the button should first be operated where this can be done unobtrusively, for example at the beginning of a scene or at a change from one speaker to another. This mode should continue until another suitable point is reached where the button can be released unobtrusively, even if this entails keeping it operated longer than is necessary from the point of view of the length of the actual superimposed material. When a mixer is not

(Continued on page 19)



WHEN the subject of holidays eventually came up in the Rogers' household, I plumped for seeing Britain first, whereas Bill suggested we go to the Continent.

A compromise was reached, and one dull Saturday morning, Bill drove our old pre-war Morris out of the garage and headed north.

On the floor between my feet lay our portable tape-recorder, and Napoleon, our ever-faithful labrador stretched across the rear seat, fast asleep.

With a tour of the Highlands as our objective, we were ready for anything. The "anything" we had in mind, would, we hoped, end up on record on one of the half-dozen reels of three-inch tape we had purchased just before setting out.

By the time we returned home, we hoped to have a clear sound picture of our journey, the most interesting parts of which we could edit on to one large reel on our domestic machine.

By the fifth day of the trip, we had completed our third reel, when a sudden downpour of rain sent us scurrying into a village with a name that defied pronunciation, for shelter for the night.

Our luck was in. We managed to get a room at the first hotel we tried. After a meal we wandered into the lounge and met our fellow-guests:—A young couple from Edinburgh, three young energetic hikers from Glasgow, a retired couple and Claude.

AT first sight, Claude was a character. He was one of those fast-talking commercial travellers, born within the sound of Bow Bells. His Cockney accent sounded quite incongruous among the heather and the lochs, but he didn't let this deter him. He talked to anyone and everyone, and although I never did get the chance to find out what his line was, I'm sure he could sell a refrigerator to the Eskimos and then trade them ice-cubes for some seal-skins.

After a few hours, his conversation became boring. No matter who said what, Claude pitched in with his opinion, asked for or not.

I don't remember how we managed to get on to the subject of ghosts, but quick as a flash, he declared with authority that they didn't exist.

One of the hikers dared to disagree, but Claude brushed him aside. They were almost at the stage of stripping off their jackets to settle the question physically, when old Mr. Smith, the retired gentlemen broke in, "Well, it might interest you to know, sir, that some of the locals are quite convinced that there is a ghost in this very village."

"Go on," Claude replied. "They're having you on."

"Maybe. But just you ask them. About a week ago two of them said they heard unearthly noises coming at dead of night from that old distillery on the edge of the village."

"Nah." Claude scoffed, "Scotch

spirits hang over a long time, but those ain't the kind of spirits we're talking about."

Mr. Smith raised a hand. "The minister himself heard them on Monday night. He's a sober, educated, level-headed person. What do you say to that, young man?"

Claude shrugged. "It must have been the wind. That old distillery is a deserted ruin. The wind comes through the valley like no one's business, of a night. It stands to reason—"

Before we had another Bannockburn on our hands, I managed to quell the rising storm by fiddling about with my portable recorder.

It was a fatal move. For once, this was something that Claude *didn't* know anything about, but of course, he wanted to find out.

For the next two hours we had a concert of songs of rather dubious smoking concert type, complete with playback. One by one the guests trooped off to bed until only Claude, Bill and I were left.

Midnight was striking when he finally decided he had had sufficient fun out of the machine, and stretching himself, he too, went to bed.

NEXT morning the topic at the breakfast table was again ghosts. Andrew, the hotel handyman, explained that a late home-coming villager had again reported hearing weird noises coming from the distillery, but had been too frightened to stop and investigate.

As the guests chatted about it, I peered out at the old ruin. The building had been a solid one at one time, but a fire about ten years ago had completely gutted it. The roof had fallen in, the walls had crumbled and it had been written off by the firm.

Andrew explained to Claude that its history dated back hundreds of years, and in the dim, dead days beyond recall, it had been a castle, and the stronghold of a fighting clan.

Claude was almost spellbound by Andrew's tale, told in a soft Highland accent. The handyman related the legend of the invading English armies and the captured Scottish piper who had defied his captors, been sealed up in the dungeons and left to die.

I felt quite sure that old Mr. Smith was going to spoil it all by explaining that the English armies had never at any time in their history come so far north, but when he saw the twinkle in Andrew's eye, he thought better of it.

Claude still maintained that it was the wind the villager had heard. The arguments blew up again, and then, out of the blue, Claude looked across at us, and said, "All right, Mr. and Mrs. Rogers, let's see if we can settle this for once and for all. Will you both come up to the ruins with me this evening, and bring your recorder? If there are any

Christmas Spirit

A Short Story by JEAN ROGERS

sounds to be heard we'll record them, and listen to the recording in the sensible light of day. That should settle it once and for all."

I glanced at Bill. He shrugged. "I don't mind."

"Nor do I," I replied.

That was all there was to it, Claude told us that he'd be out all day visiting some nearby villages, but he'd be back in time for supper.

ABOUT an hour later I was chatting to the couple from Edinburgh in the lounge. Bill had suggested that as it looked as though it would be a beautiful day, he would take Napoleon and me for a run. While he got the petrol, I waited in the lounge.

The Thompsons were a pleasant couple. I asked them if they'd like to join us, but Mr. Thompson said he was waiting for a 'phone call about noon.

We chatted about the intended visit to the ruins and I said I hoped the ghost would walk that night for the benefit of the sceptical Claude.

Mr. Thompson agreed and while I chatted to his wife, he looked thoughtful, then said, "Of course, that could be arranged."

"What do you mean?" I asked.

He smiled. "I always was one for practical jokes, and this seems too good a chance to let slip."

"Supposing it turned out to be the wind after all. Claude would never let us hear the end of it. You see," he said, looking out of the window, "there might not be a breath of wind tonight."

"Yes," I admitted, "It is rather a beautiful day."

"But," he continued, "supposing the wife and I nip over to the distillery this morning and have a look around while Claude is away. We'll see what the place looks like. Then tonight, before you and Claude go over, we'll go back with some chains and other ghostly appliances and make sure there is a ghost around when you come."

I laughed. "That sounds a very promising idea. What would you do, though?"

"I don't know yet. I've got one or two ideas," he added, with a smile.

"Then I could record the sounds you make, plus Claude's reactions and play it back to the rest of the guests at breakfast."

Christmas Spirit

A Short Story by JEAN ROGERS

We all agreed that it should certainly be worth hearing.

I left the Thompsons to their planning and went off with Bill.

WE stayed out till late evening and when we got back to the hotel, it was quite dark and supper had already been served.

Claude was sitting impatiently in the lounge waiting for us. "Ah, there you are. I thought you were never coming. When do you want to leave?"

"Er—well," I said, "just give me a moment to clean up and we'll be right with you."

I met Andrew on the stairs and asked him if he had seen anything of the Thompsons. He told me they had left the hotel about half-an-hour previously.

I felt quite happy and after a quick wash, threw on my raincoat, grabbed the recorder and went back to the lounge.

The three of us started out for the old building. Claude led the way and Bill and I followed behind. The ruins had an eerie appearance. I gripped the recorder tightly in one hand, and Bill just as tightly in the other. It was all so creepy, I really did feel scared!

Claude saw me shiver. "There's nothing to be frightened of," he told me. "The visit won't be a complete waste of time, at least, just look at the view from up here."

I nodded, but I didn't say anything. I didn't want to spoil things.

At the entrance, Claude took a torch from his pocket and played it round the walls. "This way," he said, and began wending his way through the rubble until we reached a large room in the centre of the building. Plaster was strewn everywhere. Burnt-out beams and masonry surrounded us.

I clicked on the recorder and moved forward gingerly in the darkness. The wind souged mournfully and wood creaked groaningly and I became rather worried. In the darkness among so many hazards, this was no longer a silly prank, it was a dangerous one. Not having studied the geography of the place by daylight, I realised that at any moment the wind might dislodge something far above and we'd be crushed in the avalanche which I felt was sure to follow.

Such depressing thoughts were running through my head, when Bill sneezed and I nearly dropped with fright.

"Sorry folks," he said, "some dust got up my nose."

Every few seconds I glanced at the reassuring flicker of the magic eye which stood out a bright green in the darkness.

AFTER a while the sensation of fear wore off. My eyes had become accustomed to the darkness, so I moved around slowly peering into the corners of the vast hall.

Then I heard a noise that made me jump. "What was that?" I said involuntarily, forgetting for the moment that I had intended recording any noise I heard.

"I didn't hear anything," Bill said softly.

"Nor did I," added Claude.

"If you do hear anything," Bill continued in a low voice, "keep quiet. It will give Jean a chance to get a good recording."

Claude nodded.

A few minutes later I heard the noise again, and from the facial expressions of the others, I knew they had heard it too. I had the recorder running and I held the microphone out in front of me without taking my eyes away from the level indicator. In this position I edged forward slowly until I saw I was getting a good signal.

Claude shone his torch ahead of me to let me pick my steps and when I was about ten feet away from me, the noise suddenly became stronger. Just as suddenly, it stopped, but I let the recorder run on.

Claude swung around. "What was it?" he asked, his voice shaking.

I edged a little closer to a gaping hole in the floor. At one time it had been a staircase, but over the years it had crumbled away.

Claude was looking frantically around for the source of the noise and muttering away to himself.

Then from below me, came a droning noise accompanied by a thumping noise.

"It's the — piper!" exclaimed Claude in utter disbelief. He stepped back hastily. "It must be the — ghost!" His voice had become a cracked whisper.

Bill grabbed the torch and shone it down into the darkness, but we saw nothing.

We all listened to the wailing noise, petrified. I was shaking all over, not only with cold, but with the really eerie effect the Thompsons had managed to create.

The thumping continued in time with the bagpipe music, which I recognised as a lament.

"I'm getting out of here!" Claude screamed "I can't stand it any longer!"

He began stumbling over the rubble back the way we had come. Bill touched my arm. "Let's go," he said, "between you and me, I've had enough, too."

I allowed myself a smile in the darkness and switched off the recorder.

Claude couldn't get away quickly enough. Even when we were outside, he was shaking like a leaf and his face was as white as a

sheet. He kept babbling incoherently about "the ghostly piper" all the way back to the hotel. When we were about fifty yards from the entrance he broke into a run and went straight to his room.

NEXT morning, I took the tape-recorder with me into the dining-room. Only Claude and the Thompsons were absent, but I gleefully tried to contain myself until they arrived.

"Where's Claude?" I asked the waitress.

"He left very early this morning, ma'am. He said he wasn't feeling too well."

I was disappointed, but before I could comment, she added, "Oh dear, there's a note for you on the mantelpiece, Mrs. Rogers. I should have given it to you last night, but it slipped my mind, I'm afraid."

Nonplussed, I walked over to the fireplace and read it.

Later, Bill told me I just dropped like a log, taking someone's bacon and eggs with me. Certainly I don't remember a thing about it. After I read the note, my heart seemed to stop completely.

"Dear Mrs. Rogers," it said, "We have been called back to Edinburgh on urgent business. Sorry we won't be able to 'assist' you in making the ghost walk tonight." It was signed "Jack Thompson".

When I came round and had a chance to gather my wits, I spoke to Bill. "The pipe music last night. If the Thompsons were in Edinburgh, it must have really been a ghost we heard . . ."

Bill nodded and patted my hand, his eyes thoughtful and grave. Half-an-hour later though, we were able to see the funny side of the episode. Andrew found us chuckling together and asked to be let into the joke.

Bill finally explained and Andrew roared with laughter. "Wait here," he bade us, and disappeared for about twenty minutes. He reappeared at the door of the lounge, and beckoned us with a smile into the hall.

OUTSIDE and looking rather sheepish and out of his element, stood a burly, bearded Highlander. He looked down a huge beak of a nose and at Andrew's bidding, spoke up.

"My name is Donald MacDonald," he said in pleasant lilting tones. "I think I owe you an explanation and possibly an apology. I live in the village here, about half-a-mile from the hotel. Recently I bought myself a set of bagpipes, but it is the hard, hard job I am having learning to play them. My family complained so much that I had to find somewhere to practice. I decided finally on the old distillery as no one ever goes there now . . ."

I didn't really hear the rest of what he said. I was laughing fit to burst. But the funniest part of all, was, visualising Claude belting hell-for-leather for the border to the sanctuary of his own country, convinced that ghosts really do exist.

Record a pantomime

(Continued from page 17)

available, and music and speech have to be recorded alternately, a more "polished" effect is obtained if the musical passages are faded slowly in and out or else cut clean at the end of a musical phrase, etc.

RECORDING THE YOUNGER MEMBERS

With a number of tape recorders, it is possible to stop and restart a machine at any natural pause in the scripted material without any very obvious effect to the completed recording. Whilst it is preferable to record an entire speech in a single continuous run, to avoid differences in recording level or quality, this facility of stopping and re-starting at will can be used with advantage in recording the very young members of the family who are not yet able to read their parts.

The method is to arrange them comfortably in front of the microphone and stop the tape at the point where the child's part begins he (or she) is then told the first sentence to say, and is encouraged to try it over a couple of times without actually recording and this procedure also enables the correct recording level to be obtained. At the next attempt, the child is given a signal when to start and a recording is made. The machine is again stopped at the end of the sentence just recorded and the same procedure is carried out for the next sentence and so on.

This system has been found to be entirely satisfactory with small children who will usually co-operate enthusiastic-

ally. The only points that require special attention are firstly, that the child's position relative to the microphone must not be altered too drastically during the entire recording or variations in level and quality may result. Secondly, it is necessary to "set up" the machine spot on for each "take" or unduly long gaps will appear between each sentence.

It sometimes happens also that faint clicks are produced by the machine on starting and these can be avoided if the gain control is faded down just before the start and then brought rapidly back to its correct position. This manipulation must be done very rapidly, or the first words of the speech may be lost or severely attenuated. A little practice however is all that is usually required to obtain the desired result.

It is perhaps worth mentioning that the technique of stopping and starting cannot be used so easily where any kind of musical or other continuous background is required. The procedure then is to record the speech first on to a tape and then to "dub" it with the required background on to another tape. This of course, necessitates the use of two tape decks, and it is felt that with previous careful planning, such involved techniques can be avoided.

It is surprising how well some of these children's programmes sound when completed and played back and it is interesting also to see how much pride and interest the children take in their own performances. Apart from the amusement it provides, the completed tape is a permanent and living record of the children growing up, and as such, is surely worth an entire library of snapshots or family albums!

For the pure amateur . . .

THERE is no excuse these days for lack of knowledge of the principles and practice of sound recording and reproduction: the explanatory works seem to pour endlessly from the presses. Three recent efforts are before me now, written at three quite different levels for three types of audience.

Since one of them is by the Editor of *TAPE* and since also, in terms of hard cash, it seems to me the best value for money, I propose to start with it.

This is introduced by the author as a book not so much for the audio expert as for everyone—man or woman—who liked, as a child, to shout in a tunnel to hear the echo of their voice; for everyone who may get a quiet satisfaction by twiddling knobs or throwing switches on a not-too-complicated control panel, but who stops short of trying to solder wires into a circuit; for everyone who savours the best in quality, whether it be of clothes, or food, or music in the home."

In short, this is a book that is highly readable as a book, and coaxes the information into the mind with considerable artifice.

After the writing, its next virtue is in the arrangement of the material. There is an introduction to whet the appetite of the man or woman whose interest is tentative; then a survey of the equipment available, with some severely practical advice about prices; then advice on purchasing and fitting it into the home.

After that, the author sets about explaining the way in which audio equipment works and how it should be cared for. After that a very full survey—possibly the fullest available anywhere—of how one gets oneself fully involved in audio activity: a survey of the recorded music available, information about clubs, and several chapters packed with facts and guidance about creative recording activity.

The publishers draw special attention to a chapter in the copyright law, which does as much as anyone can at present to clarify the situation. I liked the final chapter, called "The exciting future," which vividly conveyed the feeling that we are all involved in an exciting scientific and technical revolution which has barely begun. With this chapter the book comes to so readable a conclusion that one wishes there were more chapters; but the story has been told, very fully indeed, particularly on the tape side.

BASIC FACTS: Tape Recording and Hi-Fi, by R. Douglas Brown, Arco Publications, 12s. 6d. 160 pages (150 of text, 32 half-tone and 8 line illustrations, stiff covers).

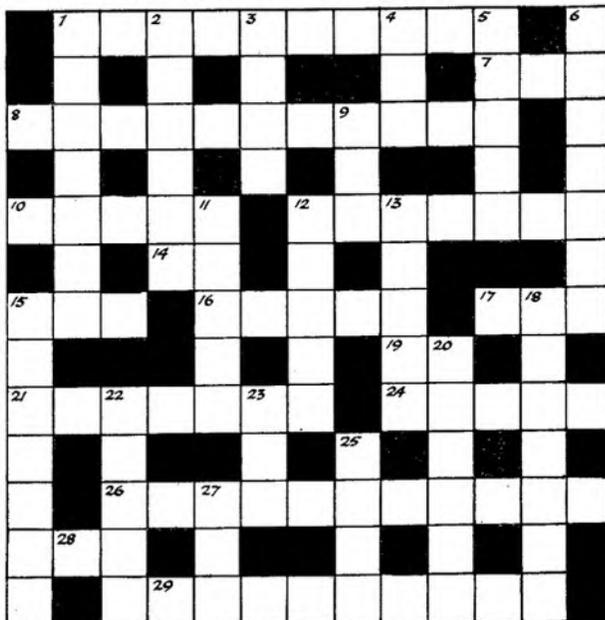
. . . and the serious student

If the previous book is designed for the fireside armchair, the next one is appropriate for the evening-school desk.

TAPE RECORDING CROSSWORD BY MICHAEL A. STOREY

ACROSS

1. It's incomparable! (10).
7. Sol left the Geloso here (3).
8. Your microphone may be one (11).
10. Do it to the wire before soldering (5).
12. Where the diver goes? (4, 3).
14. Reverse the input—and output (2).
15. A limb got lost in the far Magnafon (3).
16. A soldier's vacation (5).
17. Cut off some of the power and you're in debt (3).
19. Definitely in the negative (2).
21. An order to the gardener! (5, 2).
24. Does it to the knob before switching off (5).
26. Dub the music over the speech (11).
28. The copyright people may be after you for one (3).
29. It's used in a battery portable (10).



DOWN

1. You might get it on the high notes (7).
2. The disturbed trainer loses a letter (6).
3. What an elliptical loudspeaker is (4).
4. Nearly a microphone manufacturer (3).
5. What one does to the warnings in the instruction manual (5).
6. Check it before plugging in your recorder (7).
9. The Plymouth club members may record on it (3).
11. Do all flyers have this type of lamp on their recorders? (5).
12. It might be an idea to make one before finalising the script (5).
13. An important one should be worth recording! (5).
15. What your pre-amp should do (7).
18. Responsible for Victor! (7).
20. There should be a socket for this somewhere (6).
22. Most will agree a recorder is one (5).
23. Mighty cold in the magic eye! (3).
25. Most enthusiasts aim to own this sort of equipment (2, 2).
27. Be'ongs in the whistle (3).

(Solution in next issue.)

THE NEW BOOKS

Four recently published books that will make ideal Christmas gifts

A First Course in Sound Recording and Reproduction is as much a text-book as the title suggests; but a very excellent text-book.

It covers much the same ground as Mr. Brown's book, but in a very different way. In this case the introduction states that it is "for the reader who already possesses a reasonable knowledge of electronics as applied to sound broadcasting." It is, in fact, for the student who regards audio as a potential means of earning a living.

The author begins with a discussion of the nature of sound and does not hold back from introducing formulæ into the first few pages. He then discusses the development of recording and reproductions systems, with the emphasis on disc. Then there are chapters on disc recording and reproduction, chapters on film and magnetic sound recording and reproduction, and an outline of professional radio practice.

Chapter eight concentrates on recorders and reproducers for home use, before the author gets back into more serious business with a discussion of studio and auditorium acoustics and sound distribution.

Microphones and speakers are next dealt with; the microphones chapter details the types and their characteristics, but it is not concerned with practical

advice of the kind that amateur recordists may need in their everyday recording activity.

Finally, there is a very useful chapter explaining measurements used in audio and a rather patchy one pointing to some of the "miscellaneous applications" of recording techniques.

The more advanced reader of *TAPE* will find this an extremely valuable book that may advance his knowledge and, at the least, will enable him to get it better co-ordinated in his mind.

BASIC FACTS: A First Course in Sound Recording and Reproduction, by "Decibel," Pitman, 12s. 6d. 128 pages (115 of text, 44 line illustrations, stiff covers).

Introduction to Hi-Fi

The third book is the biggest of the batch, very well produced and illustrated, but quite a bit more expensive. Its explanatory level is approximately midway between that of the two books already reviewed. It has some very striking virtues. Its author has had a close association with both engineers and musicians and has studied audio from both aspects.

He does not overlook, as some audio enthusiasts tend to do, the wealth that is offered us by the BBC.

I did not find the arrangement of the book altogether logical, for example, the introductory chapter begins with some general guidance on elementary essentials, breaks off to provide a brief dictionary of "some basic terms" and then returns to a simple exposition of the three sources of hi-fi sound.

The information is there, however, and well presented, particularly on the disc side. The description of the way in which discs are cut and of the construction and characteristics of pick-ups and turntables is valuable.

Then we get information about amplifiers, radio tuners and speakers; a discussion of room acoustics; a special chapter on stereo (about which the author is properly enthusiastic); and a chapter on tape.

Only after this thorough introduction do we get the practical advice on choosing and installing equipment.

Discussing tape versus disc, the author seems to show a slight predisposition to believe that tape will come out on top in the end. But he is cautious, summing up that tape has many advantages over disc, but is a little more expensive and complicated.

This, again, is a good book, and it should not be beyond the comprehension of the keen enthusiast, even if he lacks formal scientific training.

BASIC FACTS: Introduction to Hi-Fi, by Clement Brown, Newnes, 21s. 224 pages (173 of text, 11 of glossary, 10 of appendices—including one on "recommended records," 4 of index and 16 of advertisements; 71 line and 20 half-tone illustrations, stiff covers).

D. K.

HALF AS BIG AGAIN — price unchanged

THE *Tape Recording Yearbook* is now such an established institution that it would be difficult to find something to say about the new edition, were it not for an important development. This year, for the first time, the title includes the supplementary **High Fidelity and Cine Equipment Guide**. And, in addition to the customary full catalogue of tape recording and ancillary equipment, we are now given a complete catalogue of cine cameras and projectors.

The result is to make the *Yearbook* half as big again as in previous years, though the price remains unchanged at six shillings. It is, incidentally, printed on a very handsome imitation art paper. In every sense, it is as good a book bargain as you're likely to find in an afternoon's browsing along the Charing Cross Road.

The cine development is significant. During the past year there has been more talk than ever before about the possibilities of recording pictures on tape by amateur enthusiasts. It is coming, for sure, the next big technical break-through in magnetic recording. The fields of sound and vision recording are now

merging. And the publishers of the *Yearbook* have clearly recognised the fact.

There is no need to describe in detail the catalogue sections of the publication. Recorders, tape decks, microphones are all tabulated in the way that makes swift comparison easy. The information is summarised in twelve columns: type of deck, price, speeds, frequency response, output, weight and dimensions, spool and speaker sizes, type of microphone and other facilities.

Details of the various brands of tape and of the whole range of tape recording accessories are given. There is a directory of manufacturers, agents and principal dealers in the field, and a complete list of secretaries of tape recording clubs.

OTHER BOOKS

Three other suggestions for Christmas gifts:

Audio Biographies, by Gilbert Briggs, Wharfedale, 19s. 6d.

Microphones, by John Borwick, Focal Press, 7s. 6d.

The Tape Editing Guide, by Ronald Hack, Focal Press, 7s. 6d.

Reviews of these new books will be published in our next issue.

This material has been brought up-to-date (and amplified a little) from previous years. But elsewhere in the *Yearbook* there is some entirely new and extremely valuable content. Five recognised experts have contributed full articles: Alec Nisbett on Editing Techniques, H. Burrell Hadden on Microphones, J. Gordon Holt on Choosing the Tape, Geoffrey Hodson on Tape in the Schools, and John Aldred on Tape and Cine.

It can be stated categorically that to get as much information elsewhere on any one of these subjects you would have to spend at least as much as the price of this *Yearbook*.

In addition to all this, there is the familiar survey of the past year's developments in tape recording, a succinct guide to Choosing—and using—a tape recorder, full details of the British Amateur Tape Recording Contest, and chapters on club activities, on copyright and on tape records.

Every keen recordist, certainly every dealer in equipment, MUST have a copy of this *Yearbook*. Everyone who knows someone else with a tape recorder should hand over a copy as a Christmas present: it will be an economical solution to the gift problem, and you'll make a friend for life.

RUDOLF DYNER.



TEACHING WITH TAPE

A NEW SYSTEM OF USING A TAPE RECORDER FOR EDUCATION

JOHN REDDINGTON

IN an experiment carried out last year, a class of backward children were taught to read automatically with the aid of a four-track tape recorder and stethoscope earphones. Devised and produced by electronic equipment, this new system presents an obvious field in which science can aid the pupil in his learning process.

The apparatus, which has an equal application in the field of foreign language training, was set up without any prior knowledge of American

language laboratory techniques. Since the initial experiment, some very light "noise cancelling" microphones have been added to the earphones, and bearing in mind that the tape recorder can be shared on a working basis between two or three teachers, the equipment can be installed for approximately £120 a class.

The addition of the earphones to the tape recorder renders valuable aid to the teacher in his use of the machine. Attached by parallel wiring to the extension loudspeaker outlet and radiating

from sockets fixed to the wall or desk, they enable any given number of children to receive the recorded tuition without interference to the remainder of the class.

The instruments themselves reduce any extraneous noise and prevent their own output disturbing others in the same room.

This factor, combined with the role of the four-track recorder, which allows a whole reading series of six books to be accommodated on one tape, means that 2 or 3 groups, all at different levels of attainment, can receive tuition within one period.

In essence, the aim of the method is to inspire the child by close contact with

Concluding his series of articles introducing children to tape recording by M. T. POLLARD

3: The School Documentary

SO far in this series of articles, I have concentrated mainly on the introduction of the recorder and its use as a dramatic medium. Here alone, of course, the scope is immense, in almost every subject in the curriculum. Dramatic work has for many years been accepted as a valuable instrument in the teaching of history and religious knowledge in particular, and the application of tape to these subjects can be just as rewarding.

To stop there, however, is just to skim the surface of the medium of tape. The reaction of most junior school teachers offered the use of a tape recorder is probably anticipation of the help the machine will afford in the development of spoken English. When one gets down to practicalities, however, it is not easy to decide how best to do this, and it is all too easy to be side-tracked into virtually worthless exercises in the use of the machine, with the result that the novelty wears off and both teacher and pupils discard it.

The essential virtue of the tape machine, as anyone who ever used a disc-recorder will know, is the ease and cheapness with

which recordings can be made. It is the ideal medium for educational use because it affords the opportunity for limitless experiment. If full advantage is not taken of this, the machine is to some extent wasted.

If school recording is to be developed to the full, use must be made of "real speech," as distinct from dramatic work or material recorded from prepared scripts. No junior class will react well to half an hour spent on recordings of individual speakers aimed at correcting faulty intonation or pronunciation, but

TAPE IN THE SCHOOLS

this necessary and valuable work can be done more subtly in the making of documentary tapes of various kinds, which at the same time will stimulate the children's powers of oral composition. "Our School" may appear to be a commonplace starting-point, but it is, I think, a good one because there is plenty of material readily available on the spot, and it is a subject on which every child

can contribute something. When my class first approached this subject as their first venture outside recorded plays, we envisaged the usual sort of conducted tour in sound, planning pieces about the various rooms, about the school field, about the library, and so on. However, when we came to consider the actual recordings, it turned out that the children had very little to say, and what there was, was pretty dull stuff.

Quite by accident, I discovered that many of the children had very vivid memories of their first day at the school—which takes juniors and infants. This made good recording material. We therefore scrapped our original ideas and the couple of preliminary recordings we had already made, and started to build up the plan again, taking a time instead of a space plan as the basis. The tape would trace the life of a child in the school from the reception class up to the time he left at the age of 11.

It was at this point that I had to cast aside my ideals about keeping the splicer out of the classroom. I had heard the "radio ballads" of Charles Parker and Ewan MacColl, which are classics of tape-recording, and had the vague idea of using a similar form to put "Our School" on tape, carrying the story along

the human voice so that he will bridge the gap naturally between speaking and the written word and so form a basis for development in the knowledge and expression of the living language. As one eleven-year-old put it: "It seems to get into your mind better!"

The distinct advantage of tape recording the material is, not only that it is thoroughly prepared in advance, but also that it provides, if needed, constant repetition without any drop in quality. The ultimate in patience can be achieved, which is especially helpful with slow children.

The form of the tuition which was based on the class-reading series is as follows. The "new words" for each page of a basic booklet are introduced by saying them very clearly twice on the tape, in sequence, followed by a pause. In the book these words are underlined in red, providing easy recognition for the child.

The page is then read through slowly and carefully in sentences, after which the child is invited to read it through to himself whilst the tape "waits" for him. After an appropriate pause the page is re-read so that the pupil can check for accuracy.

To endorse this system, comprehensive questions are asked at four-page intervals so that each child can grasp the story and meaning of the book as a whole. This procedure is modified as the books advance.

A phonic scheme based on the words used can also be introduced at the half-

way stage in the series. Thus the child is made to think at every opportunity.

Changes from book to book and page to page are facilitated by the use of the track switch and dial indicator when selecting new material for each group. Without the distribution of sound by the earphones this grouping could not take place. This is especially important with very large classes.

As far as is known, this is the only automatic audio method of reading tuition so far devised. The new microphones enable each child to record his reading or oral work, from his own desk, on to the lower track for "playback" later.

The number of earphones used depends on matching their impedance with that of the set. Using the R 30 u type designed for U.S. Army signallers and obtainable here for 12s. 6d., up to twenty have been employed. Of the stethoscope variety, they have two distinct advantages in themselves.

The first is that the amplified sounds emerge with a far greater clarity than you would obtain from the ordinary loudspeaker. This assists the child with pronunciation and so provides speech training. Secondly, and this by far their most valuable asset from the teaching point of view, they make the child listen and so focus his attention on his work.

A marked difference in the standard of concentration can be observed when the children hear the tuition through the earphones than when listening to an open speaker. The method thus helps to solve

various classes by children who had been in them, and descriptions of some of the senior school events and activities which the children had seen. These included craft work in the top class, the choir, the school play, and so on, interspersed with the rhymes we had recorded earlier. To represent the infants, one of their songs recorded by the reception class, was also added.

In editing the material. I tried to ensure that every child contributed something to the finished tape. Inevitably, some children had more to say than others, and were better at saying it, and this in fact rather weighed the tape in favour of the girls. However, the first play-back of the completed tape brought smiles of pleasure as each voice was recognised.

It was impossible to script a piece of work of this type, and in fact the only written notes I used were summaries of the subject of each recording. Many of the best touches in the tape were contributed "out of the blue" by the children and could not have been planned; for instance, the opening, in which one of the play-chants was interrupted by the bell for the beginning of school. This was suggested by one of the boys, and recorded after school one afternoon.

Someone in the BBC "Sound" programme once said that real interest in tape recording begins when the amateur makes his first splice. I certainly found this true of the children in my class. I think we rather overdid it with "Our School," which, as I look back now, I recall as too much of a hotch-potch, but it did open up, both to the class and to myself, the possibilities of the machine, and it gave us experience which is continuing to bear fruit.

its own discipline problem and provides each child with a form of individual tuition which it might otherwise be impossible to give. The rhythm of the sounds is compulsive and this motivates the child in his work.

A controlled test was carried out in the summer so that the system could be compared with other methods. The main result was that those taught by earphone and tape recorder equipment scored about the same number of "new words" right as those taught by ordinary class teaching. Only eight children were used in each case and the time covered was one week.

The conclusion drawn was that if the automatic approach compares favourably with conventional methods with a small group of children over a short space of time, over much longer periods of a term or a year it will become a valuable and efficient aid in the hands of the hard-pressed teacher often dealing with greater numbers than he can reasonably manage. It will give him, as it were, a "mechanical advantage."

When tried out with partially-deaf children the repetitive factor was found to be most helpful in correcting their speech responses. It definitely does appear, too, that children remember better by this method and a more comprehensive test is needed to prove this.

The two main obstacles in the path of instituting this system are, firstly, the difficulties of making and utilising recordings of the books—the facilities for reproducing really good four-track recordings are at present limited, and, secondly, the suspicion and conservatism evoked by inspectors and others in education who should be in a position to encourage this type of work.

The incorporation of the "noise cancelling" microphones which relieve the necessity for sound-proofing, means that the equipment can be quickly fitted into any school classroom without installing specially constructed booths. And for a fraction of the cost of the language laboratory.

There is no doubt that the "language lab" has gone a long way towards providing for individual student differences, but its main drawback is that it does entail very heavy financial expenditure. A recent advertisement offered one at £3,500 for only 16 positions.

This equipment, though only providing for the rate of the group could give authenticity to foreign language teaching from the junior school upwards—in fact in any school where the language laboratory for reasons of educational level, operational complexity or expense, or a combination of all these, might prove prohibitive.

In conclusion, the writer of this article must express his thanks to "Grundig" for lending him for over four months a TK24 machine whose endurance and reliability proved ideal for this purpose, and to the Lustraphone Company for their loan of the microphone equipment.

Let us hope that the educational authorities will prove just as generous. We are now in the middle of a scientific revolution, and to what better purpose can we harness its gifts than for the benefit of the school-child in the ordinary classroom?

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A PRACTICAL GUIDE TO LOUDSPEAKERS

Cabinet construction

by PETER MILTON

BEFORE the various types of loudspeaker enclosures are discussed in detail, some space ought to be devoted to the more practical aspect of their construction and acoustic treatment. This will avoid unnecessary mistakes in the choice of material and will allow the diagrams to be less complicated.

It will be appreciated from the previous articles that the prime purpose of an enclosure, besides spacing the loudspeaker away from the ground, is to prevent the radiation from the rear of the cone interfering with that coming from the front. One could extend this and say that the perfect cabinet would only affect the movement of the cone and the surrounding air in the manner specified by the particular design.

Two factors affect the performance of a loudspeaker mounted in an enclosure. These are the direct transmission of sound through the walls and the modification of the cone velocity due to the presence of standing waves.

Direct transmission through the walls of the cabinet is dependent upon the frequency of the radiation and the material density. Assuming the wall of the cabinet is rigid and that the thickness is small compared to the wavelength, Fig. 1 enables the attenuation through the wall to be calculated. On this basis, a brick wall $\frac{1}{2}$ -inch thick would attenuate the sound by approximately 50 dB at 200 cps, $\frac{1}{2}$ -inch plywood between 22 dB and 28 dB, and $\frac{1}{2}$ -inch thick oak about 24 dB. On these figures there seems to be little to choose between the various types of wood and the choice boils down to selection on the basis of "dB per shilling."

A panel in the side of the enclosure is to all intents and purposes a diaphragm clamped at its edges. It has distributed mass and stiffness depending upon its dimensions. Some of the sound striking the surface will be reflected, some transmitted through the wall and the remainder will be absorbed. Of the frequency absorbed, part will be dissipated

in the form of heat and the rest will be spent in moving the panel, which then acts as an auxiliary loudspeaker driven by the rear of the cone. At the panel resonance relatively low power is required to drive it and it becomes acoustically transparent.

The effect of the unwanted radiation is most marked when the panel is thin because the resonance occurs at a lower frequency and is less damped. James Moir has shown that for a small loudspeaker in a cabinet with a $\frac{1}{2}$ -inch thick wall, the sound pressure from the rear of the cabinet is only of the order of 4 dB below that from the front at the lowest resonance (100 cps). Doubling the thickness moves this to 160 cps and reduces the unwanted radiation to 17 dB below the on axis value. Regarding the panel as a parallel tuned circuit, the transmission can be reduced by increasing the frictional loss, mass or stiffness. This is the same as lowering the Q factor of the circuit. Thus a selection of woods would have to take into account the loss in the fibres.

Judged from this standpoint, plywood appears to be the most satisfactory material by reason of its layered construction, although chipboard would be the best compromise between price and performance. A very cheap non-resonant cabinet can be made by filling the space between a double skin of plywood with dry sand. The calculated attenuation for a $\frac{1}{4}$ -inch layer between two $\frac{1}{4}$ -inch sheets is approximately 36 dB, but the extra friction existing between the granules could improve on this figure. Before rushing off to build one of these wonder-cabinets be warned that a modest affair 30 x 20 x 10 inches with all panels sand-filled would weigh about 120 lb.

In practice it is only necessary to fill the larger surfaces. Additional mass can also be incorporated by attaching tiles or slate to the panels. The stiffness may be increased by cross bracing the sides and force fitting struts between the baffle and the rear of the cabinet. An alternative method of increasing the resistive losses would be to use a sandwich of synthetic rubber or foam plastic and plywood.

Vibration can be transmitted directly to the cabinet walls via the loudspeaker chassis. In order to prevent this it is advisable to mount the unit on a sub-baffle, spacing it away from the main baffle by means of a resilient gasket. Care should be taken to ensure an airtight seal between the baffles.

The objection to panel resonances is not made on the grounds of acoustic transparency or even extra radiation of uncertain phase, but because the oscillation, once started, takes a definite time to decrease to an amplitude at which the radiation becomes unimportant. During this time, the original note may have ceased and the succeeding note might well be dissonant.

In addition to this effect it is possible to excite a resonance by sounding a note near in frequency to it. If a frequency of 196 cps is assumed and a Q factor of 20 then only a slight increase in sound pressure, say 30 per cent at F sharp or G sharp would be needed to sound a spurious note of G.

An important influence on the quality of the sound is the presence of standing waves between opposite faces of the cabinet. These are caused by repeated reflections being in phase at a particular frequency. Long narrow enclosures are more liable to this trouble than short ones. It would be a mistake to go to the opposite extreme and use a cube since the frequencies would be coincident. It is best to spread the effect over as wide a band as possible and the proportions which I have found satisfactory are 2:3:5.

Standing waves can be damped by placing a layer of absorbent material in the plane where the movement of the air particles is greatest. Hanging a curtain of cellulose wadding down the centre of the enclosure is usually sufficient. Lining the sides is of little help because damping can only be applied where there is movement. The main reason for lining the sides is to absorb the high frequencies just behind the loudspeaker preventing the reflection of the rear radiation and its possible transmission through the cone. The linings and the curtains should be sufficiently light and fluffy to allow the sound to pass through because it must penetrate the material if it is to be absorbed. For this reason the harder grades of felt are unsatisfactory.

(Continued on page 27)

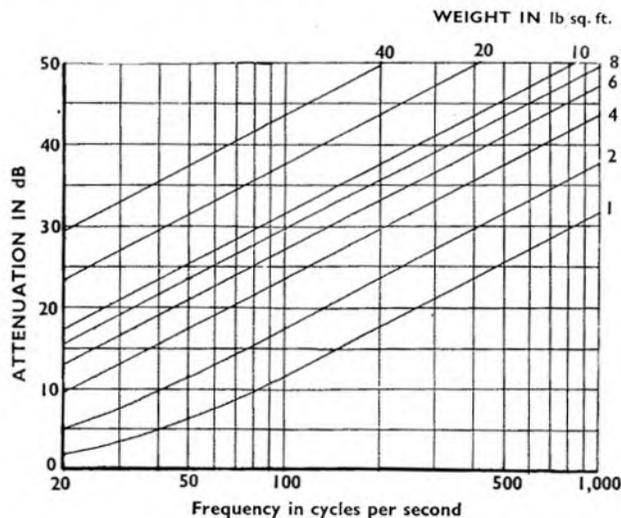


Fig. 1. Graph showing the attenuation through a rigid wall versus frequency for various values of weight per square foot of surface area, assuming that the thickness of the wall is small compared with a wavelength.

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TAPE RECORDS REVIEWED

Rimsky-Korsakov: **Scheherazade**. London Symphony Orchestra, Sir Eugene Goossens *World Records TTP 148*.

Tchaikovsky: **Symphony No. 5 in E minor**. London Symphony Orchestra, Sir Malcolm Sargent *World Records TTP 76*.

Tchaikovsky: **Sleeping Beauty—ballet suite**. Sinfonia of London, John Hollingsworth *World Records TTP 44*.

THESE are the first three pre-recorded tapes to come from World Records, which is now promising all its club issues in tape form as well as disc and at the same price, three for 30s. or 29s. singly. They are also the first pre-recorded tapes at 3½ ips that I have had for review, and naturally after having long been used to the more luxurious standards of 7½ ips in EMI and Saga productions I was wondering what deterioration of quality I would have to put up with. On the whole I am delighted that the quality is so acceptable.

Until I have had more opportunity to play them on different instruments I shall not commit myself finally, but anyone on a good commercial tape-recorder will get far better results than are normally possible with home-dubbing. EMI tape is used.

On one thing however I am disturbed. Every now and then there is a "blip" in the sound when for a fraction of a second the volume wavers. Once or twice it was a serious flaw that would always be disturbing. The **Sleeping Beauty** was the one most seriously affected, but I assume that the flaws were in fact the result of less than perfect dubbing, and so would vary from copy to copy. I hope that dubbing standards will quickly improve. E.M.I. and Saga too have set a high standard and any consistent falling-short by World Records will obviously require more severe censure.

Goossens has made far too few records in recent years, particularly of the colourful Russian classics of which in the inter-war years, beginning as Beecham's assistant, he was a renowned interpreter. One of the difficulties has been his self-imposed exile from this country over two long periods, first in Cincinnati and more recently in Sydney.

With one of our finest English orchestras, the L.S.O., one can appreciate that none of the sharp vitality of Goossens' youth (when he was active as composer as well as a conductor) is lost. This is a comparatively straightforward reading. He does not linger over the sumptuous phrases as some more romantic conductors do, yet this is always rich and sympathetic playing, hard-hitting and atmospheric.

The violin solo at the beginning of the

THE CLASSICS by Edward Greenfield

(Recorded music critic of *The Guardian*)



second movement in **Scheherazade's** melody for example is wonderfully rich and fruity (a pity the soloist is not named) and when with the beginning of the *Story of the Kalendar Prince* first the bassoon and the oboe enter there is some superbly pointed playing with exactly the right lilt and lovely sharp grace notes from the oboe. The woodwind chording too when the dance appears more fully scored is beautifully precise. It is the precision and refusal not to linger unduly which helps to avoid any feeling sentimentality even in the luscious passages with harp, flute and tremolo strings near the end of the movement. There is some beautifully muted horn playing too which helps to make up for some comparatively clumsy work from the horn in his big solos in the first movement (I imagine this was not the masterly Barry Tuckwell who appears in many L.S.O. recordings).

The third movement, entitled *The Young Prince and the Young Princess*, brings a dance in which the clarinet is accompanied by a tambourine, and Goossens introduces just the right lilt. Again the movement is not so luscious as in some performances but it is in some ways more satisfying. The last movement beginning with a picture of the *Festival at Baghdad* is played with appropriate fierceness. It is all very fresh and tense with some of the speeds faster than usual. An excellent performance then which shines in any company.

Sargent's account of the **Tchaikovsky Fifth** is also fresh and straightforward. There are moments such as the slow introductions to the first and last movements when I would welcome greater intensity, a sense of drama about to be enacted, but few will complain of lack of excitement when the outer movements get under way. While mentioning the opening of the work however I must note a slight flutter which is naturally more noticeable in a slow woodwind passage than anywhere else. Again it may be a dubbing fault limited to my copy. In any case it is so slight a flutter that even I, a stickler on this point, am barely disturbed.

The slow movement opens with the horn solo beautifully played without the distorting mannerisms that too many players seem to think necessary to express emotion. (Here I imagine the soloist is indeed Barry Tuckwell.) The waltz third movement is on the slow side without much lilt. This might have made it seem dull, but it is completely redeemed

by crisp playing particularly from the woodwind.

The finale is exciting, but unfortunately at the opening of the main allegro the hall atmosphere interferes for once with the clarity and definition of the strings. I am sorry too that Sargent has persisted with his unforgivable habit of cutting the movement. Many years ago it was quite normal to slice out a great chunk from the middle, but I thought we had got past such barbarousness. Maddeningly this leaves about a third of the second side of the tape blank, though no doubt most purchasers will find a purpose for that with their own encore.

The *Sleeping Beauty* excerpts also get straightforward readings from John Hollingsworth, though he is evidently less adept at avoiding a feeling of plodding than Sargent. The famous Waltz from Act 1 is clean and fresh enough but it is lacking in style and subtlety. Similarly the great adagio which follows is vigorously done with a strong climax, but I for one prefer this to sound more sensuous.

The Panorama movement is included from Act 2, a comparatively rare choice in selections from this ballet. Its sweeping string melody over chugging woodwind chords—how typically Tchaikowskian—is most welcome. Track 1 includes the Introduction, Entrance of the Fairies, Waltz, Pas d'Action: adagio and Coda—Finale from Act 1; Track 2 includes Panorama, The Awakening, The Pas de Quatre, the Pas de Deux, the finale and Apotheosis from Acts 2 and 3.

CABINET CONSTRUCTION

(Continued from page 25)

Many critical listeners prefer the cabinet to be incompletely damped. On several occasions I have been asked to "Do something" with an enclosure which had limited bass and sounded lifeless. In the majority of cases the cure was to substitute a more open texture of lining for the carpet underfelt used and to omit the lining on the baffle.

The correct choice of material to cover the port and loudspeaker apertures has an important bearing on the performance of the complete system. Any obstruction to the flow of air at these points adds to the effective mass of the cone if it is moved and also tends to attenuate the treble. When selecting a covering for the front of the cabinet ensure that it is not difficult to breathe through and can be seen through easily. The hard texture of synthetic fibres as used in Tygan are very suitable by reason of their low surface resistance and light weight. They have the additional advantage that they can be tightened if necessary by gentle heat from a hair drier.

It is a good plan to paint the baffle board matt black in order to prevent the outline of the loudspeaker appearing when the cabinet is viewed from a distance. If natural fibres are used a very light layer of black scrim or butter muslin could be used as a support.

To sum up, the qualities which make a successful enclosure are sound construction, adequate lining, open weave of grille material and good proportions.

This is the information which is not given in the design formulæ.

THE "Voicemaster 65A" tape recorder is the latest product of the Gramophone Company, one of the companies under the E.M.I. group. This group is well known for its very fine professional tape recording equipment and so any product for the domestic market may be expected to show the benefit of this professional design experience. This machine has in fact some interesting professional features not often found in domestic equipment.

The machine records at $7\frac{1}{2}$ and $3\frac{3}{4}$ ips on four tracks, and will accommodate seven-inch diameter spools. Using the recommended tape (E.M.I. 99) the maximum playing time at $7\frac{1}{2}$ ips using all four tracks is $3\frac{1}{4}$ hours. Fast spooling is provided in either direction, and the rewind time for a seven-inch spool (1,800 ft.) is approximately 90 seconds.

Separate high impedance inputs for microphone and radio or other high level source are provided, and these have separate gain controls so that they can be mixed together. A master gain control enables the recorded volume to be adjusted without disturbing the balance of the two inputs. The sensitivity at the microphone socket is 2 mV, and at the radio socket 500 mV.

The internal loudspeakers provided

Equipment Under Test

VOICEMASTER 65A

By H. Burrell Hadden

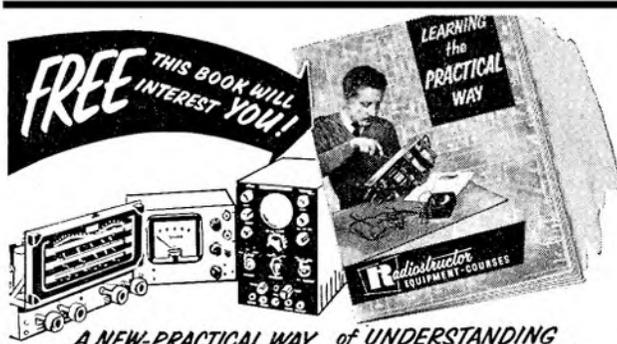
are a $9\frac{3}{4} \times 4\frac{1}{2}$ inch elliptical covering the lower register, and a round $2\frac{1}{2}$ inches diameter tweeter for the upper register. The power output is $4\frac{1}{2}$ watts.

Two output sockets are provided, one for feeding an external high quality loudspeaker (3.5 ohms impedance). Inserting a plug into this socket mutes the internal loudspeakers. The second output socket is for feeding to a high quality amplifier, with the output adjustable up to 500 mV by means of the replay volume control. The output impedance is 27 K ohms.

Three four-track heads are provided for erase, record and replay, and thus it is possible, with the separate record and replay amplifiers, to monitor a recording from the tape whilst it is

being made. This feature is absolutely necessary for the professional user but is still only rarely found in domestic equipment.

The four tracks are arranged as two pairs, inner and outer, and either pair may be selected by means of the track-switch. It is necessary, of course, to turn the reels over in order to use the second track of each pair. The track-switch has four positions, the first giving record and replay on the outer tracks; the second record and replay on the inner tracks; the third gives replay on the outer, record on the inner, and the fourth replay on the inner, record on the outer. Thus in these last positions it is possible to play back and listen on one track, say track One, and at the same time record a quite different programme on track Three.



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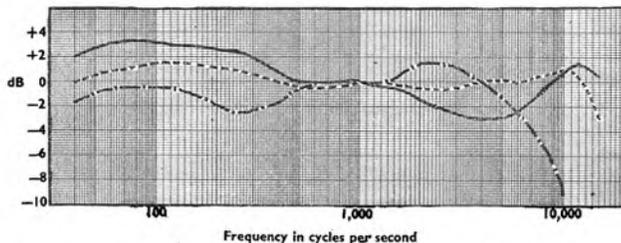
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My special interest is.....

This ingenious facility can be combined in a way which will be very useful when making a tape production, and is also indispensable to cine enthusiasts, since it is possible by linking the low level output socket with the radio input socket to transfer a recording from one track to another. A suitable lead fitted with plugs is provided for this purpose.

Because of the mixing facility described above, it is possible to add microphone speech or another input via the microphone channel at the same time as this transfer is taking place. In this way, it is possible to record a music track, say on track 1, transfer this to track 3, whilst adding effects for a particular film, and then transfer music and effects back to track 1 again, at the same time adding a spoken commentary. In the process, of course, the original music on track 1 would be erased. Thus one machine can do for the amateur film maker the work that he would previously have needed two machines to do.

The record level indicator is an edgewise meter, calibrated in decibels, having a danger area coloured red. It operates in the "off" as well as the "record" position of the record/replay switch, thus enabling the machine to be set up for recording before the tape is set in motion. A clock type counter is provided to give an indication of a particular position on the tape. A pause control provides instant start and stop of the tape during recording and play back.



Continuously variable tone controls for bass and treble are provided, and these operate on the replay amplifier. This amplifier can be used as a straight-through-amplifier for the reproduction of the pick-up output of a disc player, a switch on the panel labelled "Tape/Rec" enabling this to be achieved.

As might be expected with the number of facilities available, this machine is rather on the large side, its dimensions are 24 1/4 inches wide, 16 1/2 inches deep, and 9 3/8 inches high and the weight of the complete equipment is approximately 46 lb.

Space is provided in the lid to carry the crystal hand microphone supplied with the machine and also spare reels of tape. The case is of wood and neatly finished in black imitation leather cloth.

The replay response was measured using the standard C.C.I.R. test tape at 7 1/2 ips as also was the overall response from record amplifier input to replay amplifier output. The results are shown in the accompanying graph. The replay only response will be seen to be within ± 3 dB, from 40-15,000 cps and so this machine should give a good account of itself on commercially available pre-recorded tapes.

The overall frequency response is equally good being limited only by that of the signal being recorded whether it be radio or microphone. The overall response at 3 1/2 ips is also shown in the graph, and it will be seen that in the machine under review this fell slightly outside the maker's specification at the high frequency end.

The signal-to-noise ratio was per-



adverse comments need to be made. Firstly, was it really necessary to make the machine so bulky? It cannot really be said to be portable. Again, although the excellent instruction book gives notes on the cleaning of tape heads and capstan, only the rear section of the head cover is readily removable to enable such cleaning to take place. This does not give sufficient room for easy access to the heads.

Furthermore, and this may be a serious point for some users, it is not possible to mark the tape on the heads for editing purposes. If the front head cover had also been made removable both of the operations would have been facilitated.

The price of the Voicemaster 65A is £68 5s.

MANUFACTURER'S SPECIFICATION

Frequency response: 60-15,000 cps—3dB at 7 1/2 ips; 60-10,000 cps ± 3 dB at 3 1/2 ips.

Wow and flutter: Less than .15 per cent at 7 1/2 ips, less than .3 per cent at 3 1/2 ips.

Signal-to-noise ratio: Better than 45dB unweighted.

Power output: 4 1/2 watts.

Loudspeakers: 9 1/2 x 4 1/2 inch elliptical (3.5 ohms impedance at 1,000 cps) and 2 1/2-inch round (4 ohms at 1,000 cps).

Microphone: Acos crystal Microphone 45.

Outputs: Loudspeakers (3-5 ohms) self-muting; and low level adjustable by replay volume control up to 500mV at 27 K ohms.

Manufacturers: The Gramophone Company Limited, Hayes, Middlesex.

fectly satisfactory and wow and flutter were not noticeable at the higher speed. Slight wow was heard at 3 1/2 ips on the model tested but this speed was perfectly satisfactory for speech recording.

The machine is provided with a very well-written instruction book, giving full details of how to operate the many features of this recorder. In addition a separate circuit diagram is included. This last is very welcome and is an item so frequently omitted by tape recording manufacturers.

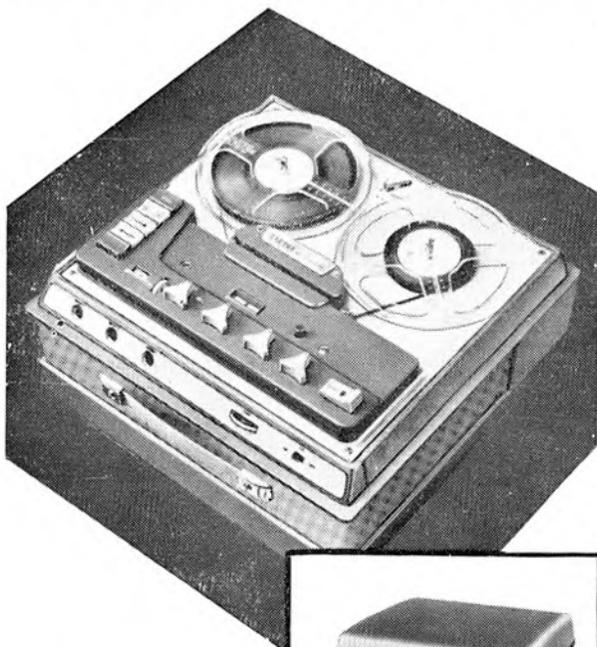
In a machine with all the advantages outlined above, it is a pity that some

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New Products

NEW GERMAN RANGE ANNOUNCED

FIRST news of a new German range of tape recorders to be introduced into this country comes from Highgate Optical Manufacturing Co. who announce three models, including a mains/battery machine, from Leowe Opta, the continental radio manufacturers.

Designated the Optacord 403, the first model incorporates two speeds, $3\frac{1}{2}$ and $1\frac{1}{2}$ ips, and has a quoted frequency response of 40-16,000 at the top speed, and 40-8,000 cps at $1\frac{1}{2}$ ips.

Employing standard two-track system, and accommodating six-inch reels, it provides a maximum playing time of six hours, using double-play tape at the slower speed. Rewind time is given as $1\frac{1}{2}$ minutes.

Among the features are facilities for superimposition and monitoring, pause control, combined bass and treble tone control, magic eye recording level indicator, automatic tape and stop, and a remote (foot control) switch.

Inputs are provided for microphone (0.6v to 150mV—1M ohm); radio (3mV to 500mV—150,000 ohms); and pick-up (15mV to 2v—1M ohm). The valve line-up is EF86, ECC83, EC92, EL84, EM84, two dry rectifiers and a pilot light.

It measures $14\frac{1}{2} \times 13\frac{1}{2} \times 7\frac{1}{2}$ inches, and weighs 21 lb. The price is £45 3s.

The second machine, Optacord 404, is a four-track version of the 403. The features are identical, with the addition of facilities for listening on one track while recording on another, as well as separate recording and simultaneous

playback of two tracks. Power output, as with the 403, is estimated at 5 watts. The 404 measures $14 \times 13\frac{1}{2} \times 7$ inches and weighs 21 lb. The price is £61 19s.

The third model, to be available at the end of December, is the Optacord 412, a single-speed, $3\frac{1}{2}$ ips, recorder for use with batteries or AC supply.

The standard two-track recording system is employed, and with accommodation for a spool size of $4\frac{1}{2}$ inches it provides a playing time of 90 minutes, using double-play tape. Fast rewind of up to thirty times the regular tape speed is claimed.

The quoted frequency response is 50-12,000 cps, with a dynamic range better than 46 dB. One watt push-pull output is claimed through an elliptical loudspeaker with a $6 \times 3\frac{1}{2}$ inch cone.

The battery complement is five battery cells of 1.5 volts each, and optional operation is provided for 110, 220v 40-50 cycles, AC supply. Six transistors are incorporated, plus two triodes and one dry rectifier for stabilisation.

Weighing only $9\frac{1}{2}$ lb., it measures $14\frac{1}{2} \times 9 \times 4$ inches.

Inputs are provided for microphone and radio/pickup, and other features include magic eye recording level indicator, tone control, digital rev. counter, push-button controls, and an output socket for extension loudspeaker. The price has still to be announced.

*Highgate Manufacturing Co. Limited,
71, Great Portland Street, London, W.1.*

HMV introduce domestic recorder

BBRITISH Radio Corporation Limited announce the introduction of their first tape recorder carrying the HMV label. The new model, HMV 2202, is a four-track monaural instrument with a

single speed of $3\frac{1}{2}$ ips. Maximum spool size is $5\frac{1}{2}$ inches, providing a playing time of 91 minutes per track using double-play tape. Rewind time is three minutes.

Features include facilities for superimposing, and playing back half- and full-track recordings, digital rev. counter, push-button control system, safety erase lock, extension speaker socket, magic eye recording level indicator and an 8×6 inch elliptical loudspeaker is incorporated. An unusual design feature is the grouping of all controls outside the lid.

Housed in an elegant wooden cabinet, covered in durable leathercloth with gilt fittings and gold anodised grills, the 2202 measures $17\frac{1}{2} \times 14\frac{1}{2} \times 7\frac{1}{2}$ inches, and weighs 16 lb.

A crystal microphone, reel of Emitape, spare spool are included in the price of 34 guineas.

*British Radio Corporation Limited,
2-5, Upper St. Martin's Lane, London,
W.C.2.*

ADDENDUM

The price of the Uher Universal "S" reviewed in the November 29 issue is 83 guineas.



The HMV 2202 tape recorder

TWO MORE MODELS BY VOLMAR

TWO new recorders are announced by Volmar Limited. The first, called the Vista, is a three-speed model, $1\frac{1}{2}$, $3\frac{1}{2}$ and $7\frac{1}{2}$ ips, employing the Collaro Studio deck. Quoted frequency response is $80-12,000 \pm 3$ dB.

The loudspeaker is a 9×5 -inch elliptical, and the printed circuit amplifier provides an output power of 4 watts. Other features include tone control, facilities for monitoring and superimposition, pause control, magic eye recording level indicator and two inputs for microphone and radio/pick-up.

It is housed in a wooden case with a two-tone covering, measures $17\frac{1}{2} \times 15\frac{1}{2} \times 8\frac{1}{2}$ inches, and weighs 27 lb. Included in the price of 39 guineas is an Acos 40 crystal microphone, 1,200 ft. of tape and a spare spool.



Above, the Volmar Vista, and below, the Gainsborough

The Gainsborough accommodates a seven-inch spool providing a maximum playing time of $4\frac{1}{2}$ hours using double-play tape.

The Vista is a lower priced instrument incorporating a BSR Monardeck with a Volmar printed circuit, and is available in two- or four-track versions at 25 and 29 guineas respectively. Its single-speed, $3\frac{1}{2}$ ips, plus maximum spool size of $5\frac{1}{2}$ inches makes available a total playing time of 91 minutes per track using double-play tape.

The quoted frequency response is again $80-8,000$ cps ± 3 dB and the power output is rated as $2\frac{1}{2}$ watts. It measures $14\frac{1}{2} \times 12 \times 7\frac{1}{2}$ inches and weighs $18\frac{1}{2}$ lb. An Acos 45 crystal microphone is included in the price.

Among the features are facilities for mixing, tone control, magic eye recording level indicator and extension speaker socket.

*Volmar Limited, 154, High Street,
Brentford, Middlesex.*

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2.40 p.m. December 24
TAPE CLUBS AND INTERVIEWING

Douglas Brown talks to members
of the Coventry, Eastbourne and
London tape recording clubs about
their activities.

Interviewers from these clubs
discuss technique with BBC inter-
viewer and former Talks producer,
Leslie Smith.

**The next programme is on
January 7**

NEWS FROM THE CLUBS

ACTON

Although the Acton members are without permanent headquarters at the moment, their meetings are continuing unabashed and membership is on the increase. American secretary Dave Wiseman has a number of friends in the US Air Force and the club now has a predominantly American membership.

Their prowess across the Atlantic has also grown, and the *Tennessee Daily Herald* recently featured a full page write-up on their activities complete with photographs of members. This was due to a sixty-minute film of London photographed by the secretary, with a sound-track recorded on a Butoba MT5 by Tell Warner and Eddie Harris. Filming took place and recordings were made in the tube, on a river-bus, at London Airport, in and around the West End and in the club studio for the climax—Trooping the Colour. This was achieved by fitting in commercial colour films with recordings of military bands made on other occasions. Cheating, but even so! The complete film was introduced by the Mayor of Acton and has so far been shown in about five American towns.

Electronic music has been introduced to the club by Steve "Duke" Russel, of the USAF. He produced a tape at a recent meeting made entirely from a signal generator and featuring his variations on modern pop tunes.

Largely due to the filming activities now enjoyed by the members, the club now has a wide variety of portable battery recorders in its possession. Almost every make is represented including several Japanese, Philips, Stella, two Butobas, three Fi-Cords, a Stuzzi Magnet, Grundig Cub and TK1 and two Clarions.

The mains models are also well to the fore including two Tandbergs and Ampex, and a Korting. These are to be used in an ambitious plan for the next film—with a stereophonic sound track.

(Secretary: Dave Wiseman, 8, Woodhurst Road, Acton, London, W.3).

BOURNEMOUTH

After the summer recess the Bournemouth club re-opened at a new meeting place, and were pleased to welcome a number of new members. Attending during the evening was Mr. C. Cotgrove of the Rugby club who was visiting the town.

Among their recent services has been the relaying of a tape to a Mr. Newton whose brother is a patient in a Bath hospital. With a little feminine persuasion from chairman Miss Slack and the secretary, Mr. Newton, who was a complete stranger to tape recording, was able to record a reply to his brother and the club members sent the tape off.

(Secretary: Mrs. J. L. Lawson, 8, Dolphin Avenue, Northbourne, Bournemouth). Meetings held on alternate Tuesdays at the Queen's Hotel, Queen's Road, Bournemouth West. Next: Dec. 26.

CAMBRIDGE

As a result of the recently held exhibition organised by the Cambridge club,

membership has increased to forty, and weekly attendance is now said to be often over 35. Their three-day autumn exhibition, supported by manufacturers and dealers, was visited by some 2,000 persons, and a number of these decided to join.

Their recent activities have included a recorded quiz on October 25, which Pete Shiston won. The marks awarded in these regular sessions go towards a grand total, the all-round winner being awarded a prize at the AGM scheduled for January 31. On November 8, Dave Neech demonstrated the new Truvox 80 model, the demonstration serving as a preview to the meeting on January 10 when Mr. E. Morris of Truvox will attend to give a lecture and answer questions.

Several members made recordings of events on Poppy Day in Cambridge. The recordings achieved were later edited and used to form part of the first programme for the local Blind Society. Other similar recordings achieved during the society's first year in formation, are being compiled for *ESTRA Echo*, a recorded tape magazine issued by the English Speaking Tape Respondents Association.

(Secretary: Mike E. Renshaw, 6, St. Vincent's Close, Girton, Cambridge). Meetings every Wednesday at the Mitre Tavern, Bridge Street.

HINCKLEY

Practical sessions are occupying a great deal of this Yorkshire club's time. One of the members, John Thorpe, is currently gathering material and components to build the slow scan television apparatus described in the August and September issues of *TAPE*. John is also constructing his own recording studio, complete with soundproof room and control desk.

Among recent tapes heard was one from Paul Perrio of Guernsey who is in regular contact with the club because there is no club on the island. His tape included a not-too-serious talk on producing sound effects, which, he assured the listeners, would be found absolutely useless for any practical purposes. Outstanding effect was what he imagined life would be like to a woodworm living in a bass reflex cabinet.

(Secretary: Keith Smith, 117, Wykin Road, Hinckley, Leicestershire). Meetings held on alternate Wednesdays at The Wharf Inn, Coventry Road (Next: Dec. 20).

RUGBY

Inter-club contacts are an important feature for the Rugby members, and their recent activities on these lines have taken in tapes to and from the clubs in Bournemouth, Millom and York. Their meeting on October 5 included the playback of the York tape. The same evening president John Bannister reported on his attendance at the Northampton tape club's rally, and played a tape of greetings to Jack Willis from his former fellow members of the Warwick club. The meeting a fortnight later had as its main speaker Mr.

Frank Parrington of BASF Chemicals Ltd, who was playing his third visit. During the evening members were entertained to a slide show, a German comedy film, that popular evergreen *The Magic Tape* and a talk and demonstration of the firm's products.

For the meeting on November 2, tapes from the Bournemouth and Millom clubs were heard. The former tape contained a quiz, won by Dennis Middleton, and the members then set to to reply to the two clubs.

For the November 16 meeting, Alec Lovett was to present a tape recently completed by the play production group, and talk about the activities of this specialised section. Other meetings have included interviewing techniques and the playback of a miscellany of items from their tape library.

Following their Christmas Social, to be held on December 21, the club will close down and resume their fortnightly meetings on January 4.

(Secretary: Michael Broon, 219, Clifton Road, Rugby). Meetings alternate Thursdays at The Red Lion, Sheep Street (Next: Dec. 14).

WALTHAMSTOW

Recordings made in Walthamstow's busy High Street by the local club members (*October 4 issue*), brought a quick reaction by tape contact Sgt. Tony Clarke in West Berlin. The club members had answered his request for sound effects of his home town, and in reply to the dispatched tape the sergeant sent his own recordings made during a journey through the German city in a 4½-ton Mercedes army lorry. Despite the current political situation, an unmistakable air of gaiety was present on the tape, which described some of the landmarks, including a 3,000 ft. man-made hill composed of war rubble which has been made into a ski-run by the Berliners.

The members are now busy collecting recorded material of a bus journey through Walthamstow for the sergeant who was once a bus driver in that area.

Other recent activities have included a visit to the local telephone exchange where they recorded and filmed for a feature tape, and the beginning of another tape play production. Vi Burnett has written the script and will produce the play for which a cast is now being sought. On the practical side, Ron Avis has recently constructed a mixer unit. This had its first "public" airing at the November 10 meeting.

Their regular fortnightly request programmes for the Connaught Hospital continues. The members have now enlisted the help of two 14-year-olds, John Avis and Colin Stares, who presented a complete programme by themselves recently. This meant the collection of requests from visitors, scripting, editing, dubbing, providing a commentary and finally presenting the programme all within seven days. "All without any aid from the adults," says Maurice Dudley, the normal hospital service organiser, "and jolly good luck to them too."

(Secretary: Ken Perks, 9, Third Avenue, Walthamstow, London, E.17.) Meetings held on alternate Fridays at 22, Orford Road, Walthamstow. (Next: Dec: 22).



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Dewitt, David, A. (15). 42, Addison Road, London, W.14. Philosophy, psychology, gymnastics, microscopy. 1¼, 3¼, 7½ ips. 7-inch spools. Contacts anywhere welcome.

Germann, Gerhard (28). 8, Hartmann Strasse, Stuttgart-Feurbach, Germany. Model railways, short-wave radio, jazz, opera and folk music. 3¼, 7½ ips. 7-inch spools. Can speak a little English.

Kerr, G. (Male 23). Block A, 4, Waterloo Square, Camberwell, London, S.E.5. Pop music and films. Any speed. 7-inch spools. Anyone, anywhere.

Keszei-Koch, Janos (25). 48, Allen Park, Stillorgan, Dublin, Ireland. 35 mm. photography, 8 mm. colour cine, any music except rock'n'roll. 3¼, 7½ ips. 8¼-inch spools. Anyone, anywhere, English or Hungarian language.

Knight, Michael. 220, Ringland Circle, Newport, Monmouthshire. Classical music, instrumental rock. 3¼, 7½ ips. 5-inch spools. Female contacts preferred.

Lawson-Smith, P. (23). 4, Fisherman's Way, Bourne End, Buckinghamshire.

TAPE EXCHANGES

TAPE recorder owners who would like to make contact with others of similar interests to exchange news and views by tape are invited to send their name, address, sex, age and special hobby or interest (but only one, please) for this special new section.

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Maguire, William. 13, Arthur Avenue, Whitewell Road, Newton Abbey, N. Ireland. Country and western music. 3¼ ips. 5½-inch spools. Contacts anywhere welcome.

McLean, R. T. (32). 20, Beaconsfield Road, Fareham, Hampshire. Fishing, boating, travel. 3¼ ips. 5½-inch spools. 2- or 4-track. Overseas contacts preferred.

Messenger, Margaret (Mrs). 5, Beaulieu Park, Wellington Road, St. Helier, Jersey,

Channel Islands. 1¼, 3¼ ips. 5½-inch spools. Family exchanges wanted.

Moorhouse, T. (49). Grange Villa, 39, Warren Road, Rhyll, North Wales. Motoring, fishing, stereo and mono. 3¼, 7½ ips. Contacts required in Commonwealth countries and USA.

Spring, H. A. M. (Male). 16, Newquay Avenue, South Reddish, Cheshire. General interests, all tastes in music. 1¼, 3¼, 7½, 15 ips. 8¼-inch spools. Anyone, anywhere.

Thomas, Klaus (29). Wurzburg, Am Dicken Turm 4, Germany. Books, photography, travel. 1¼, 3¼, 7½ ips. 7-inch spools. Wish to exchange language conversations.

Thompson, H. (Male). 4, Priory View, Priory Road, Hastings, Sussex. Light classical music. 3¼, 7½, 15 ips. 7-inch spools.

Thompson, Raymond P. The Meteorological Office, R.A.F. Lyneham, Chippenham, Wiltshire. Film, brass band and pop music. 3¼ ips, four-track. 7-inch spools. English-speaking contacts required.

Varley, Derek (23). "Redbrae," 89, Ferrybridge Road, Castleford, Yorkshire. Pops, country and western, rhythm and blues music. Message spools preferred.

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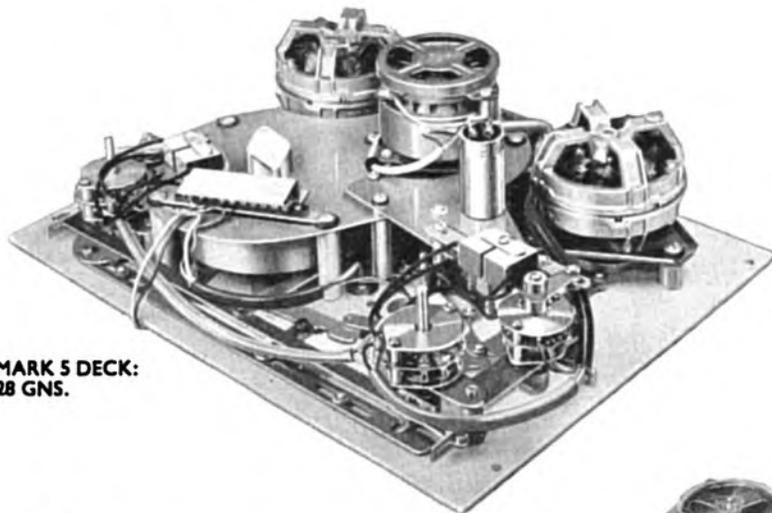
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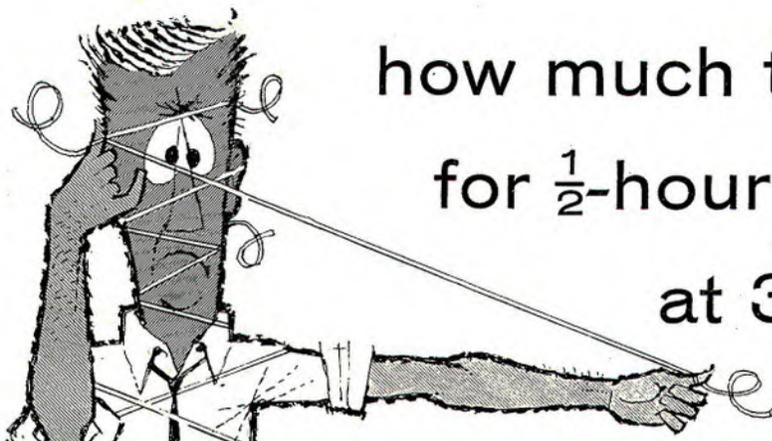


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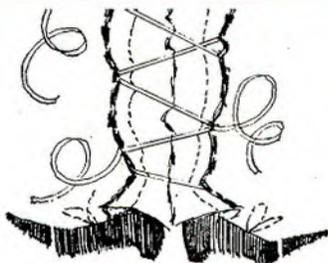
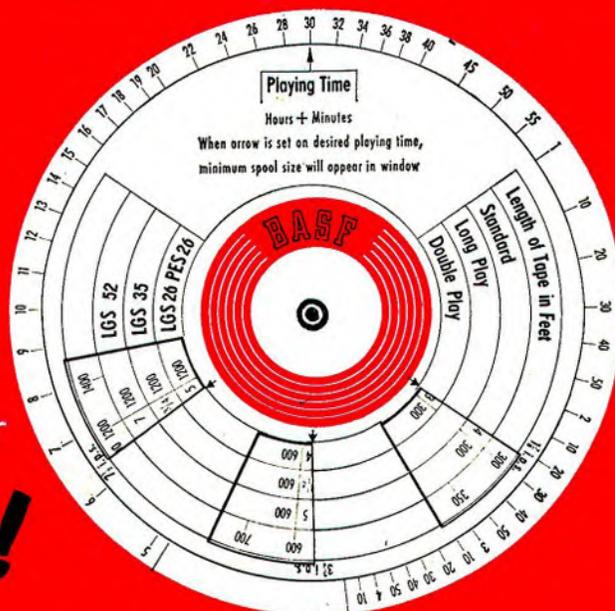
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