

amateur TAPE RECORDING

INCORPORATING PRACTICAL TAPE RECORDING AND THE RECORDIST

Vol. 1. No. 7

FEBRUARY, 1960

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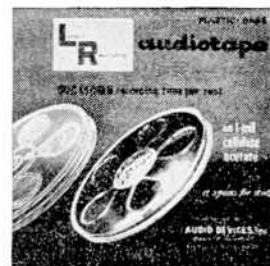
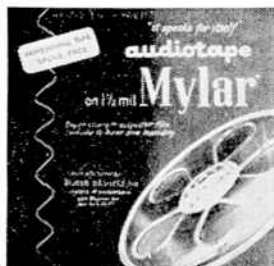
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**THE AIMS OF THE
BRITISH
RECORDING CLUB**

- (1) To act as a central organisation for enthusiasts wishing to "Tapespond" throughout the world.
- (2) To assist in every way possible the advancement and enjoyment of Tape Recording and its many facets.
- (3) To act as a liaison link between Manufacturers, Dealers and enthusiasts.
- (4) To advise and answer members' queries.
- (5) To keep readers abreast of the times with new ideas and equipment in the fields of Tape Recording, Hi-Fi, Stereo and Recordings.

The "Amateur Tape Recording" magazine is published monthly for the AMATEUR and is supplied free to full members of the British Recording Club.

It contains : —

- (1) Club News.
- (2) "INTER - TAPE" for enthusiasts wishing to "Tapespond" throughout the world.
- (3) Articles of general interest to the AMATEUR.
- (4) Members' letters.
- (5) Questions and answers.
- (6) Reviews of equipment.

**THE BRITISH RECORDING CLUB
Membership Form**

FULL MEMBERSHIP - 21/- PER ANNUM

To THE SECRETARY, THE BRITISH RECORDING CLUB,
123 Sutton Common Road, Sutton, Surrey.

Dear Sir,

I am desirous of becoming a member of The British Recording Club. I now enclose my membership fee of 1 guinea (21/-), which includes my annual subscription to the "Amateur Tape Recording" Magazine.

Name..... Date.....

Address

Make of Tape Recorder used..... Size of spool.....

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I am desirous of becoming an Associate Member of The British Recording Club, and now enclose my annual subscription fee of 5/-.

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Make of Tape Recorder used..... Size of spool

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“TAPE-SPOND”

ARE REQUESTED TO COMPLETE THE FORM BELOW

I am desirous of "Tapesponding" and agree to my name and address being published.

Name Age if under 21.....

Address

BLOCK LETTERS PLEASE

Interests Club Number.....

Taste in Music

Type of Machine usedSize of Spool.....

At what speed..... Occupation.....

With what part of the world do you wish to "Tapespond"?

amateur TAPE RECORDING

Incorporating Practical Tape Recording and The Recordist

Vol. 1. FEBRUARY, 1960 No. 7

THE OFFICIAL MAGAZINE OF
THE BRITISH RECORDING CLUB
INCORPORATING
THE BRITISH TAPE RECORDING SOCIETY

145 FLEET STREET, LONDON, E.C.4
Telephone: FLEet Street 7732/2110

Editor:
C. A. LANE.

Assistant Editors:
J. A. PEARCE.
K. W. PETERS.

Club Secretary:
A. ALEXANDER.

Club News Editor:
T. NURSE.

Executive Council:
Chairman:
E. YATES.

Technical Adviser:
F. WINSTON REYNOLDS,
A.M.Brit.I.R.E., M.I.W.M.

Editorial and Advertisement Offices:
145 Fleet Street, London,
E.C.4.
FLEet Street 7732/2110

Manchester Office:
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A doctor from Ilford Public Health Department makes a tape recording appealing for people under 25 to register for vaccination against polio, watched by Mr. Stuart Barker, of Unique Radio Service, Goodmayes, who afterwards toured the district relaying the message through his mobile public address system. By his own adaptation of a method employed in industry to control machinery, he used an endless tape to make the record.

OUR FIRST BIRTHDAY

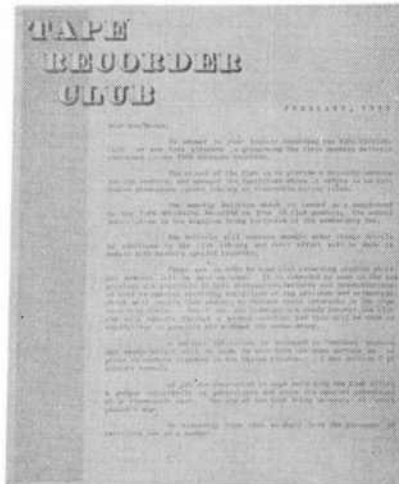
THE British Recording Club came into being in January, 1959, and in the twelve months since then has grown from a twinkle in the founders' magic-eyes to a young Atlas straddling the World of Tape.

Club membership has climbed from nil to 5,500 and the Club's magazine, "Amateur Tape Recording," from 25,000 to 60,000 copies per month.

Inevitably the speed of our growth has caused growing pains in our own organisation and envious pangs in others. Differences and disappointments were unavoidable, but we trust have all now been resolved.

The first landmark of the year was in that inaugural month when Issue No. 1 of the Club Bulletin appeared. Then in March, plans for a national publication were formulated, and August saw its appearance despite all imaginable and unimaginable hazards culminating in the nationwide print strike. In September the British Tape Recording Society joined us, and in the following month a further amalgamation occurred when we undertook the sponsorship of the Hospital Broadcasting Services and the Tape Reading Circle for the Blind. Finally, December saw the commencement of the British Recording Club Educational Division.

It has been an exciting year. But this time next year we hope to be able to look back on an even more eventful period, containing the establishment of a National Club Headquarters. That is the coming year's major target; and talking of targets...



The first Bulletin as it was in those days. Rather a far cry from to-day's A.T.R.

THE TAPE BANK TARGET

Our aim is to lay a trail of tape (figuratively) from Land's End to John O' Groats for the use of the Hospital and Blind Services.

We have up to now appealed for donations of tape or money. But a reel of tape is quite an expensive item and some people would be reluctant to send the little cash they could afford, thinking that it would not be of any help. So we are setting off towards John O' Groats asking only for half-crown donations, each two and a tanner to represent a trail distance of a hundred feet. You will see from

THE BRITISH RECORDING CLUB is organised under the auspices of Lane & Potton Ltd., 7-8 Norfolk Street, London.
"AMATEUR TAPE RECORDING" is published Monthly as the official magazine of THE BRITISH RECORDING CLUB and affiliated Clubs throughout the World by Lane & Potton Ltd.

The B.R.C. Secretary, Alec Alexander opening a parcel of tapes for the Tape Bank from Messrs. Philips Electrical Ltd.



our Trail Map on the next page that with the donations received to date we are already quite a way towards Penzance, our first big objective. So far we have passed through Sennen (1½ miles from Land's End) and have drawn level with St. Just, travelling along an undulating road through well-wooded country. The Trail is at present in Cornwall, so we would make our half-crown appeal especially to any tape recordists or clubs in that county. It is less than a packet of twenty, but the satisfaction is much more lasting.

Each month we will let you know where we have arrived along the Trail. But remember that the distance travelled depends on you!

We would like to thank "Anon" for the 7in. tape donated, and also Philips Electrical Ltd. for a generous gift of tapes.

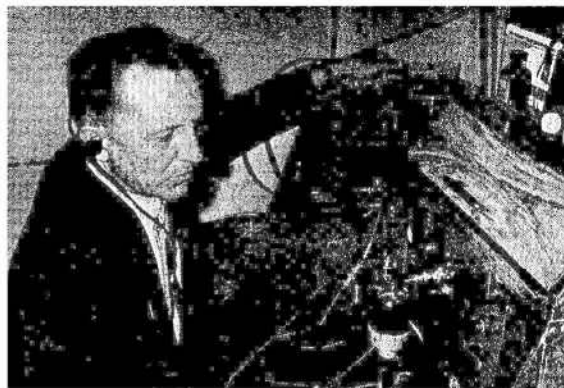
CHIPMUNKY TRICKS

The forthcoming series of home constructions, by Mr. F. C. Judd, is sure to be a star attraction each month. His photograph herein shows him producing *Musique Concrete*, and it inspired me to rake round the old homestead for some "concretary" sound sources. So far all I have found is the bell of the typewriter which sounds just like—a bell! I think I'll leave it for the time being, and try out Bob Wyeth's trick instead. Bob, who is from Grove Park, London, S.E.12, writes to tell us how we can all "Sing, sing, sing like the Chipmunks sing." He says "Anybody can do this trick recording as long as they have a two-speed recorder, a three-speed gramophone or record player, mixer unit, microphone and some 78 r.p.m. records.

Page Four

First take a record of a tune whose words you know. Place this on the gramophone and set the turntable speed to 33½ r.p.m., making sure that the stylus is set for playing 78 r.p.m. records. Then plug the gramophone and mike into the mixer.

Now set the tape recorder at the slow speed (in my case 3½ i.p.s.). Set the gramophone and recorder in motion and sing into the mike at the same speed as the record, which, of course, will be very slow. Try not to race the record. When you have finished, rewind the recording and switch your recorder to



Mr. F. C. Judd, A.M.Inst.E.

the fast speed (or double the first speed if you have a three-speed machine).

You should find when playing back that the music is playing at approximately its correct speed, while your voice has been speeded up, giving it the "Chipmunk" effect.

Some records will lend themselves better than others to this trick. A little experimenting will show you which are best.

First of all I sang by myself. Then I got some of my pals to join me in the experiment and it turned out even better.

Of course, you must level up your gram and mike accordingly as you will find when recording the record at slow speed that the magic-eye or whatever recording level system you have won't register very high. But a few trials will give the ideal settings for best results."

What's the betting that the next gimmick to hit the wax will be normal voices to chipmunked music. Or has this already been done?

SMALLEST TAPE RECORDER IN THE WORLD

That is the title claimed by the Kowa Koki Company of Nagoya, Japan, for their new transistor tape recorder. The weight, including battery, is quoted as 780 grammes, length 143mm., width 95mm., and thickness 33mm. Now, unless my slide rule warped in the recent dampness, this makes it approximately 1½lb. in weight and 5½in. x 3½in. x 1½in. This is smaller than the *Pocket Oxford Dictionary*, and yet it takes thirty minutes' continuous recording.

With one of these in both side pockets, each leading to a lapel mike, you could be the first person to tape "Walking Stereo"!

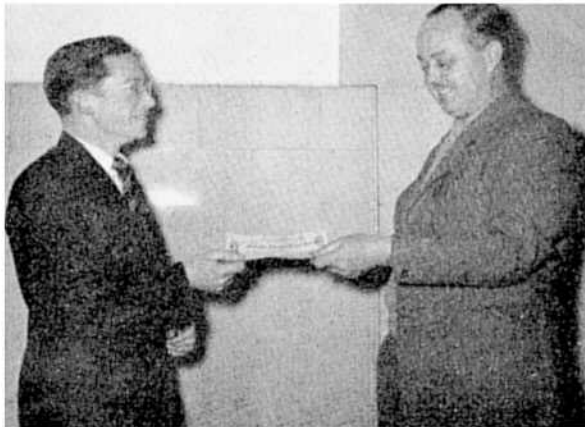
LONG-RANGE LEARNING

A blind girl in Stockholm, Sweden, is improving her English by means of tape recordings of English literature, which include novels, short stories, plays and poems, read for her by voluntary readers

through the Tape Reading Service for the Blind, which is a free service to all blind people who own or have access to a tape recorder.



Louis B. Seideta, a blind liquor salesman in Wisconsin, U.S.A., mentioned in a tape conversation with Charles Standen in London that one of his Italian ancestors was reputed to have been concerned in the building of the Royal State Coach, more familiarly known as the Coronation Coach. Charles contacted the Royal Mews for details of the history of the coach, and Louis' most prized possession is a letter from Buckingham Palace mentioning his ancestor's name in connection with the embellishments on the coach.



Ken Peters, Assistant Editor of A.T.R., hands Jimmy Hunter, Hospitals and Blind Tape Programme Producer a cheque covering cash donations received during December



LAND'S END — PENZANCE	— BRISTOL — KIDDERMINSTER — PRESTON —	INVERNESS — JOHN O'GROATS
<p>I ENCLOSE 2/6 POSTAL ORDER AS MY CONTRIBUTION TO THE</p> <h2 style="text-align: center; margin: 0;">TAPE BANK TARGET</h2> <p>NAME</p> <p>ADDRESS</p> <p>.....</p>		
<p><i>MAKE YOUR POSTAL ORDER PAYABLE TO THE A.T.R. TAPE BANK, AND ADDRESS IT TO THE BRITISH RECORDING CLUB, 145 FLEET STREET, LONDON, E.C.4</i></p>		
<p>REMEMBER THE TAPE TRAIL TABLE : THIRTY PENCE = HUNDRED FEET!!</p>		

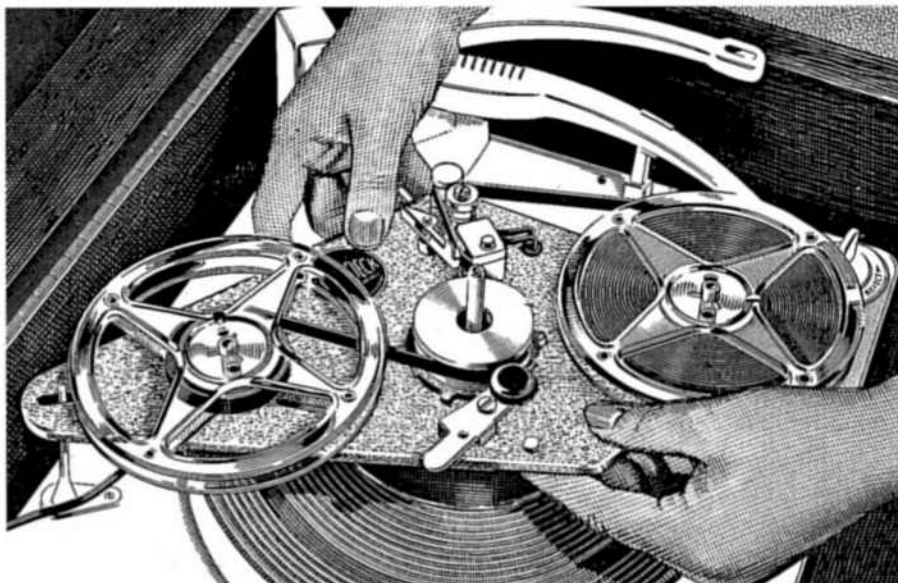
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Everyone is praising the Gramdeck. "The quality is at least equal to that obtained from a good micro-groove disc," says a leading professional journal.

"Ingenious—simple . . . why on earth did no one think of it before!"—THE TAPE RECORDER.

"A British challenge to continental tape recorder firms." — Daily Express.

"Quality of reproduction excellent . . . real hi-fi results . . . potential is tremendous . . . both designer and manufacturer should be congratulated."—BRITISH RADIO & T/V RETAILERS' REVIEW.

"Better than many so-called hi-fi recorders . . . robust . . . carefully designed . . . excellent value."—AMATEUR CINE WORLD.



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TAPING ON THE THAMES

By LORNA GULSTON

Water dominates the British as a race. It transports their merchandise, it bathes their babies, it brews their tea, it launders their "smalls". And when summer, rampant with its traditional lashing rainstorms and whistling gales, thunders in, the indomitable holidaymaker, crooning "Hearts of Oak" between chattering teeth, is lured to the bosom of the Thames and trundles down to Hampton Court in one of those airy monsters which ply from the landing stages at Richmond. Now in a "traditional" British summer that's all very well, particularly if you want to get to Hampton Court, but if it's August 1959 style, and if, like Stevenson, you adopt the philosophy that to travel hopefully is better than to arrive, and into the bargain you intend to take a tape-recorder with a view to picking up something more original than the gnashing of potato crisps and the slurping of iced-lollies, then you are presented with two courses of action. You may either recline on the river bank, à la Omar Khayyam, with a Loaf of Bread, a Flask of Wine, and Thou—but Thou might get a little bored waiting for recordings to potter by. The second, MUCH more diverting alternative is to go aquatic and brave the jungle of shipping—the snarling jackals of speed-boats, the sleek leopard-like launches flying exclusive Yacht Club flags, the blind little moles of self-drive hire craft bunting inexpertly hither and yon, unable to grasp the principle of veering Yon when YOU are heading Hither, and (most menacing of all) those elephantine pleasure cruisers which could scoop you up like driftwood and never even sneeze.

But then, Art for Art's sake takes no note of such morbid trivialities!

Accordingly (or should it be "recordingly"?) the latter end of August discovered Gil, Olive and myself at a boathouse at Richmond heaving an 11 foot sailing dinghy down the slipway. This was to carry us and our floating "mobile recording unit", which sounded splendid but was, in fact, simply two portable Fi-Cords with Reslo ribbon mikes. We launched neatly, secured the outboard motor, and spoiled the whole effect by dropping the starting cord overboard. It was retrieved, with great loss of dignity, by Gil, who hung, muttering, over the side with Olive gripping his ankles, while I "trimmed the boat" and clung to a mooring ring to keep us from drifting into Limbo. At last, rather ruffled, we went pattering off downstream with a flourishing wake.

We had decided to motor to the lower reaches past Teddington. The object of our expedition was to build up a comprehensive "sound-picture" of the Thames, not from the angle of commercial traffic in the Pool of London, but rather the "unspoiled" river, or at least the river as a medium of relaxation, partly for our own entertainment, but also as data

for the sound-track of a cine-film which a camera enthusiast friend was compiling. The tide was with us, so we made good speed and were soon nosing our way into Teddington Lock. This seemed interesting "copy", so we switched on the machines and taped the lock noises—the klaxon of a pleasure steamer signalling its approach to the lock-keeper, the creaking of the massive wooden gates, the clanking of the slimy chain against the even slimmer wall as we clutched it to keep ourselves orientated, and the lapping, gurgling, and finally swooshing of the water as it cascaded into our small channel. Played back, it sounded delightfully adventurous, as if we had been shooting the rapids at Niagara Falls.

From the technical aspect, we were pleased to find that the quality of the recording was very good, as far as could be judged from the somewhat tinny playback on the transistorised Fi-Cord, and the little machines had remained impervious to the rolling of the dinghy. The only drawback was that at $7\frac{1}{2}$ ips. the 3" spools gave scant recording time, and it was necessary to turn over to track two already, but we

BOGEN

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4 TRACK STEREO

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- **FREQUENCY RESPONSE**: 30-16,000 c/s at $3\frac{1}{2}$ i.p.s.; 30-10,000 c/s at $1\frac{1}{2}$ i.p.s. using high quality tapes and amplifiers.
- **MAGNETS**: Finished to micro-precision standards of accuracy.
- **GAP**: 3.5 microns (0.0001375") ground and lapped (twice as good as normally accepted standards).
- **SCREENING**: All heads mu-metal shielded.
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Set of 4-Track Heads for
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KÖRTING Mk 128
stereo/mono
recorder
68 gns.

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86 gns.

ELEKTRON 9S/4K

4-track, single-speed recorder (3½ i.p.s.) in small compact "air line" styled case. 2-15 ohm outlets; built-in speaker. Pause, superimpose, monitor, etc. Response 30-16,000 c/s ±3dB. Papst squirrel cage motor.

77 gns.

KÖRTING MK.128

4-track, single-speed recorder (3½ i.p.s.). Telefunken heads, built in speaker for monitoring. Response 30-16,000 c/s ±3dB. 5 watts total output. Superimpose, etc., etc. Heavy-duty motor. 7 inch reels.

68 gns.

FORMONO USE - The remarkable Timbra Professional Recorder 89 gns. (See this Journal, January, page 63)

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had long since proved that the slower speed of 1½ with a span of over 30 minutes produced a much inferior result, and was not really satisfactory except for direct speech.

On the other side of the weir the fish were jumping, quite unawed by passing craft. Patient dangling of the microphones near to the surface of the water caught the "plop" of a startled silver creature who almost hooked himself in the flex, and seconds later two swans throttled back and came in to land beside us, skidding along the ripples with a "whoosh" and braking gradually, like planes on a runway.

Nature was, in fact, hysterically active. Miscellaneous birds milled around among the trees, and a covey of wild ducks swept overhead with the curious crying sound of wingbeats, which we also managed to record, in the hope that our photographer friend would have the perseverance to keep his 16 millimetre trained on the sky till an obliging gang of duck "extras" played out their scene.

It was time to fit fresh tapes, and as we were in the process of attempting this two pleasure steamers lumbered past in opposite directions so that we were caught in a wicked cross-wash. Off balance, I slid along the thwart, landed my elbow a smart crack against the rowlock, and felt a sudden emptiness in my fingers as the reel of tape performed a parabola in the air, hovered for a tantalising moment, the plastic glinting in the sunshine, then disappeared to join the anonymous paraphernalia on the bed of the Thames.

"Oh, BOTHER!" I said. (Well, perhaps not quite that, but one must be euphemistic in print).

"Dear child!" murmured Gil, smiling like a razor, "How clever of you to choose the Long Player, too!"

I didn't dare to point out that it was all right for him, it wasn't his elbow, and my poor Humerus hadn't seen the joke.

So far we had confined ourselves to the legitimate denizens of the river, and we felt it was time now to speak to a few of the human element who were enjoying the amenities of boating that glorious morning, so we watched the bank until we spied bodies reposing beside a red 12-footer pulled up on to the shingle, then we headed in, dragged our dinghy ashore, and approached the sunbathers with the timid, ingratiating smiles of inexperienced interviewers who suspect that they are likely to be pitched into the water.

We found a bronzed young couple lounging in swimsuits beside a portable radio, and explained, above the strains of "Music While You Work," that we wanted to chat on tape with some of the folk who spent their leisure on the Thames.

The girl's eyes sparkled.

"Oooh, are you the B.B.C.?" she cried, writhing herself into a more voluptuous pose, and peering round for Alan Whicker and the TV cameras. We said well no, not exactly, but . . .

Anti-climax fell like a brick. We had lost all our magic, and acquired disappointed, monosyllabic replies to our awkward prompting. However, we were not discouraged, and made our way towards echoes of tinkling childish laughter, the source of which proved to be four small boys playing round the bole of a fallen tree. We lurked in the undergrowth out of sight to capture this atmosphere of innocent youthful fun, but alas, at that moment one of the infants was pushed off the tree-trunk by his cronies,

and took severe umbrage. Standing up very straight—all three-feet-odd of him—he outlined the ancestry of his assailants with a flow of practised invective which set the Magic Eyes fluttering like a couple of affronted matrons finding a snail in the salad.

It was plain that the river bank was a nest of disillusion, so we fled to the boat and continued our trip, this time hoisting sail and idling along at our leisure, recording the gentle creak of the tackle, the slap of the water against the bow, the flapping of the sails (when they *did* condescend to flap and not hang like wet pyjamas on a rainy washday), interspersed with the occasional rhythmic “THWACK” of the boom against Gil’s skull when he left it a fraction too late to duck.

We did quite well until lunchtime, picking up a potpourri of assorted sounds then we lowered sail, coaxed the outboard to life, and nosed out a spot to picnic, secluded from the seething haunts of day-trippers in motor cars.

A tree root made an ideal mooring buoy, so we tied up with a long rope to let the dinghy ride, and Gil leapt lightly on to the bank, followed equally lightly by Olive, carrying one of the Fi-Cords. Then it was my turn.

Now I am not at the best of times a paragon of delicacy—there’s a great deal too much of me for sprite-like skippings—but I swear I could have made it without mishap if it hadn’t been for—yes, my *bête noire* again!—a pleasure boat. I was poised on the forrard thwart clutching the Fi-Cord to my stomach with one hand and steadying myself on the tree root with the other, when the usual gargantuan wash hit the dinghy, which bobbed madly and swung right out from the bank on her long rope, so that I was stretched horizontally between boat and tree root like an over-taut hawser.

“Help!” I croaked, trying to tug myself back by pulling on the tree root, but another wave rolled under the dinghy’s keel, she curtseyed from beneath my feet, and I plunged into the Thames in a fountain of spray, to the accompaniment of a derisive cheer from the thrilled pleasure passengers who hadn’t counted on this for their money.

So I told them, very comprehensively, where they could go apart from Hampton Court, and what they could do with their sadistic brute of a craft, and a few other pleasantries for good measure, spitting out oil and flotsam between phrases.

It was then, in my hour of need, that the true spirit of the tape-recordist was revealed. His face a mask of anxiety, Gil ran to the edge of the precipitous bank, knelt down, and extended his hand. Gratefully I placed my dripping palm in his, and he pushed it from him with an impatient snort.

“Not YOU, the *Fi-Cord*” he snapped, “YOU’RE all right, but if IT gets wet there’s sixty quid’s worth jiggered up!”

Silently I handed him the small machine and he hurried off to a safe place to examine the damage, while I clawed my way ashore as best I could, slipping and skidding on the mud, wondering why Olive at least hadn’t come to my rescue.

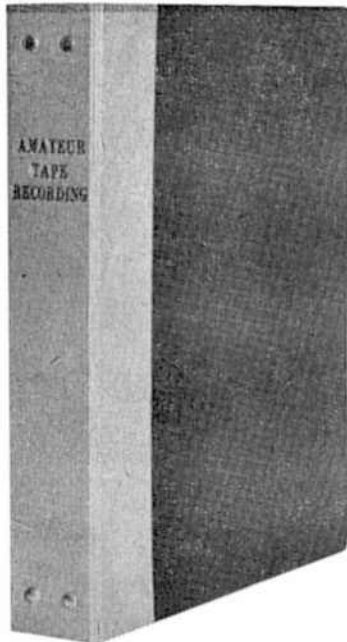
But when at last I stood beside her like The Thing from 20,000 Fathoms, cascading water and slime in all directions, the explanation was clear.

“Sorry,” she said, with a grin which was pure Dracula, “I *would* have given you a heave up, but the fact is, as soon as I saw the pleasure cruiser I knew what would happen, so I plugged in the mike on my machine and I’ve got a WONDERFUL recording of the *whole thing!*”

And you know, the awful part of it was—she HAD!

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A HIGH GRADE RIBBON MICROPHONE FOR LESS THAN 2 gns.

By BILL RAWLE

Tape recorder manufacturers have gone to a great deal of trouble to keep my long nose out of their secret developments.

Barbed wire, electrified fences, mad dogs roaming the grounds, searchlights, sirens, the lot.

Only one firm managed to scare me off completely.

They employed a man to run around the yard with a loud hailer, bawling "159 guineas plus extras . . . 159 guineas plus extras . . ."

My nerve cracked, and I fled.

But I have collated a vast amount of hitherto unpublished information concerning future developments, and I now pass on this information for exactly what it is worth.

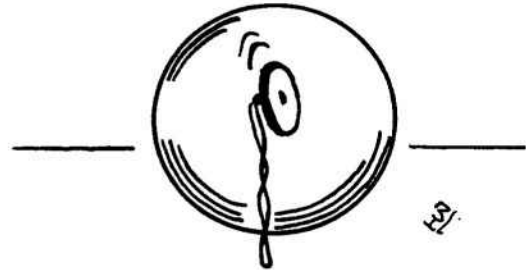
In the Spring of 1960 the SPHERE tape recorder will make its debut. This will be an all-round machine made by Messrs. Ball and Shane. As the name suggests, this recorder will be circular in shape. The reason for this is simple. It weighs 73lbs. Therefore

record for more than three weeks using a 7in. reel of double play tape.

A multi-track machine is on the drawing board . . . it was on the floor but people kept tripping over it.

Details of the multi-track are not available but it is understood that you will be able to hibernate through the winter with a 5in. reel of tape. Now back to the dual track Sphere.

Recording level will be by Magic Eye. The deluxe model will be fitted with a monocle.



After running for about an hour the deck will get very hot. The manufacturers have decided to turn this apparent disadvantage into a sales point. The theme of their advertisements will be "When you buy the SPHERE you get two things for the price of one—a Tape Recorder and a convector heater." The specification will include the heat output in B.T.U.s

it can be trundled along instead of carried. This will be a true portable without straining the meaning of the word or anything else.

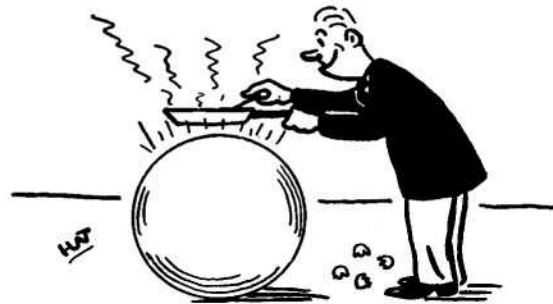
For those who require greater mobility a handcart will be available as an optional extra. There is not much I can say about the handcart except it will be of the push-pull variety. The Sphere will possess some quite revolutionary features, and when it is launched (Llynfi River, South Wales, April 1960) is sure to cause a big stir.

We are all aware of the trend towards slower tape travel without loss of quality, and the Sphere has obviously been designed with an eye towards economy of tape.

Three speeds are incorporated—1/64in. per second, 1/32in. per second and 1/16in. per second.

At the slowest speed it will be difficult to tell whether the tape transport mechanism is actually working, so the manufacturers have fitted a blue warning light. This will indicate that the spools are, in fact, revolving.

On the basis of a 44-hour week and using a speed of 1/64 of an inch per second, it will be possible to



per hour. It was suggested that an egg could be fried on this deck, but the makers are very modest and have decided not to make any claim about fried eggs, or bacon for that matter.

A number of unusual extras will be available with the Sphere. A pipe rack can be incorporated in the lid. This will accommodate all sizes of pipes except the very large briars. Other extras will be :

Cloth for dusting pipe rack.
Small bag to hold dusting cloth.

Brass hook on which to hang small bag containing a duster.
 Impregnated cloth for touching up brass hook.
 Small bag to hold impregnated cloth.
 Brass hook on which to hang small bag . . . etc. etc.



With all the facilities it has to offer the Sphere will, of course, of course, be in the upper price bracket. The exact price is not known but an indication is that it will be in the region of 123½gns.-19-6d. A small bell is built into the side of the machine. This rings loudly when the next instalment is due.

Further details of this revolutionary new machine will be given as and when I can get through the back window of the lab.

We hear a lot about hand microphones. I hope it will be a refreshing change for you to read about a new foot microphone available in March. This is a microphone attached to a gadget suspiciously resembling a bicycle clip. It has been designed for people

who wish to record footsteps. You simply clip the mic to your ankle and tramp around.

Microphone ... 25/6d.
 Clip 5½gns.

A friend of mine is very proud of his new tape recorder. He claims it has such a wide frequency response, it will even record sounds which are inaudible to the human ear.

He invited me around to hear a sample recording. We sat all through track one with just silence on the tape.

I was about to speak when he got up and changed over to track two. Another ¼-hour of silence (at 7½ i.p.s. for quality, of course).

I asked him if I could borrow the tape to dub off a part for a friend. He agreed. Unfortunately, I had some trouble with my second recorder and decided to snip a part off the tape.

When I returned the reel of inaudible sounds he was furious.

"I really don't mind you cutting the tape," he said, "but don't you realise you've absolutely ruined the stuff on track two?"

A new Mixer to appear soon will not only mix speech and music, it will also dice carrots, beat eggs, and strain vegetables. All these operations may be carried out simultaneously. I tested this device and while mixing speech and music was bombarded with bits of carrot, egg flip and cabbage water. Have our designers gone completely mad?

Eh? What's that? Ribbon microphone? Oh, yes. I'm in the market for a second-hand high-grade ribbon microphone. Not more than £2, please.

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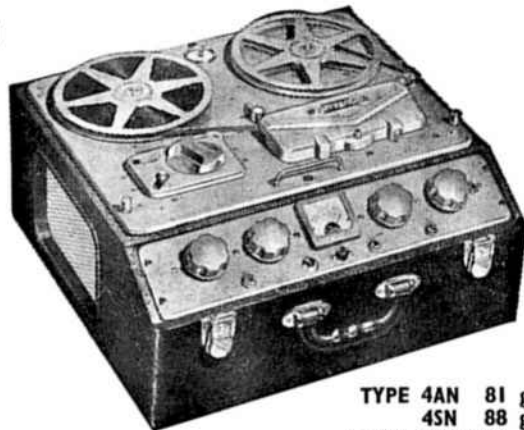
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Weight under 12 lb. AC mains 200-250 volts 50-60 CPS.
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 Price 26 gns. Smart carrying case 2 gns. extra.



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The supreme recording instrument with a luxury specification - but a moderate price. Matched 3 loudspeaker system, 4 watts output. Complete with Dynamic Microphone and Stethoset for only 65 gns.

THE WORLD OF TAPE



SEEN, READ and HEARD

THIRD NATIONAL TAPE RECORDING COURSE

The Rose Bruford Training College is holding its third National Tape Recording Course next Easter, from April 20th to 26th, 1960.

The course will include the theory and practice of the basic skills, programme exercises, and practical sessions in studio operations, editing and technical skills.

During the first three days members will be divided according to previous experience into three groups.

The programme exercises will give a day each on (a) production of studio drama or creating electronic effects; and (b) making outside recordings and shaping the results into magazine programmes.

The course will be limited to about fifty members. The fee for the course is £8 10s., including morning and afternoon refreshments. A limited amount of accommodation is available in students' lodgings.

Application forms are available from The Special Courses Organiser, The Rose Bruford Training College, Lamorbey Park, Sidcup, Kent. (FOOTscray 3024.)

PRINCESS DISAPPOINTED

The B.B.C. heard that Princess Margaret would like a recording of Dickie Valentine singing the theme from the Wednesday evening radio programme, "Roundabout." It was discovered, however, that the programme theme had been changed some weeks before to a non-vocal theme. No com-

mercial record of the theme could be traced, so the B.B.C. consulted their Tape Library, which stores the taped recordings of all broadcasts. The reply from the Library was that the last programme, including Dickie, was broadcast eight weeks and three days previously, and they regretted that all recordings not for re-use or of permanent interest are erased eight weeks after the last broadcast date. Roundabout three days too late, alas!

FIVE TIMES EIGHTY-EIGHT

Have you ever tried recording a piano? It is quite a test for both the recordist and his equipment to capture this instrument faithfully. In a recent edition, "Flying Standards," the All-Time Hit Parade programme on B.B.C. Television, featured five pianos in harmony. Now, there is a real recording challenge for anyone

WHERE THE RUM COMES FROM

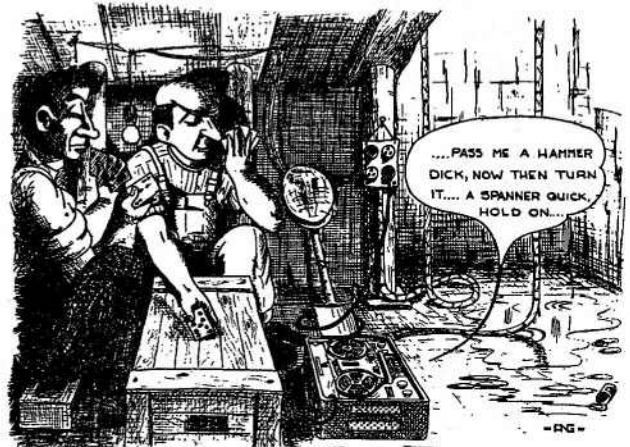
Quote from a lawsuit in Jamaica:

"Under cross-examination witness said that he had heard of the term 'dubbing,' which, he said, was to superimpose sound on a tape that had a previous recording. The result of such a process, he said, would be as if it were a different recording when, in fact, it would not be.

When re-examined, witness said it would take a very skilled worker on tape to tamper with recordings, and there were no such skilled workers in his department."

Has anyone seen my skilful splicing block?

DANGER—MEN AT WORK



GOO-GOO TO YOU, TOO

Dr. Aron Holzel, senior lecturer in child health at Manchester University, conducted an experiment to find out whether mothers could really recognise their own children's cries. He taped the pipings of a number of tearful cherubs, and asked their mothers to identify them on playback. They were all wrong. It's a wise mother. . . .

TWO THOUSAND TONGUES ON TAPE

Gospel Recordings, founded and directed by an American, Miss Joy Ridderhof, brings the Christian Gospel to some of the most primitive peoples in the world by using tape to jump the language barrier. Instead of learning the language, which may be one of hundreds in some countries, the missionary locates an interpreter and provides him with a script. The interpreter then coaches a native to recite the scripted lines to a tape recorder. The recorded tapes are sent back to the organisation's record factories in America to be turned into records for playing on simple hand-wound gramophones, and these records are then given away free in the areas where the particular language is spoken.

So far, Gospel Recordings have distributed over two million records in two thousand different languages.

WIRED FOR SOUND

Certain people in New York leaving behind miniature wire recorders when visiting factories and offices, are not victims of amnesia, as one might think, for they intend to return and collect them later. When they return, however, they do not draw attention to this recovery—from under a chair or bench or wherever else it had been concealed. In fact, they seem to take pains to conceal their actions. No, they are not F.B.I. agents breaking crime rings. They are investigators for new firms requiring inside information on their competitors.

DO-IT-YOURSELF ORCHESTRAL CONDUCTOR'S KIT

A recent record release by R.C.A. is just that—an orchestral conductor's kit (RB 16169 and SB 2050). It includes a conductor's baton, conducting chart and an admirable record containing the Sword Dance from *Gayane*, by Khachaturian (popularly known as the Sabre Dance), *Fantasia on Greensleeves*, part of Bizet's *Carmen*, and Richard Rodgers' *Allies on the March*.

Clear the mantelpiece, plonk on the platter and get weaving. You'll be a Beecham yet.

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The Lucky Winner, Mrs. Valerie Hollingsworth, of Yorkshire, with Quizmaster Michael Miles

A few weeks ago, a Veritone Console was one of the prizes on Michael Miles' TAKE YOUR PICK Television Show. The prize was so popular that the organisers asked Veritone to supply another of their models for the December 4th show. This time the lucky winner was Mrs. Valerie Hollingsworth, of Sowerby Bridge, Yorkshire, who was delighted to win one of the famous Veritone Portables, complete with the special recording of Cy Grant's *Venus Calypso*.



"I'm rather proud of this one! It's a tape of LUDWIG KOCH!"



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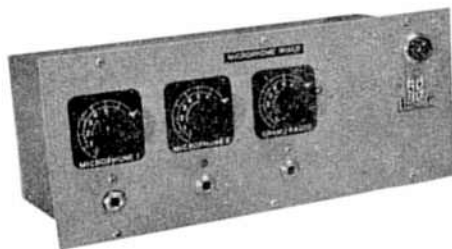
RM.3 For use from external supply—High

Impedance mic. inputs 18 gns.

RM.4 For use from external supply—Low

Impedance mic. inputs 19 gns.

These mixers may be interconnected to provide extra channels

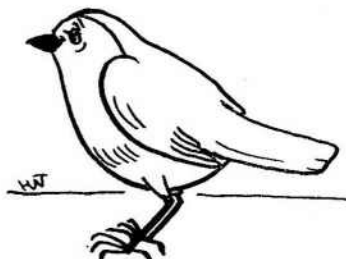


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'ROUND ROBINS'

By W. PATRICK COPINGER

Do you know what a Round Robin Tape is? Well, it's a tape on any sized reel which is circulated among a batch of tape recorder owners much on the lines of an ordinary tape-spondence, but instead of there being just the two of you there can be any number you think can cope with it.

A simple Round Robin would have three people partaking. "A" records a message on, say, a 3in. spool on Track I only, and sends it to "B." He listens to "A" and puts his comments on Track II, sending it to "C." "C" listens to both tracks and records on Track I, erasing "A's" message and sending it to "A." The process is then repeated, with "A" recording on "B's" message and erasing on Track II and sending it to "B." And so the tape goes round.

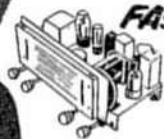
An enlargement to this is to use a 5in. reel (26 min.) with six participants, three on each track with eight minutes. The organiser of this Round Robin will have to include with the tape, on its way round, a list of names and addresses and who sends the tape on to whom.

In this case the tape should be marked at each eight-minute interval with a piece of white splicing tape or one of the tape place marking tabs now on the market. The same mark will do for both tracks. Here each person on the Round Robin has his own particular bit of tape and will always record on that portion of the tape only. Some very interesting discussions have taken place on such Round Robins and they greatly increase the use to which a tape recorder can be put. Ideas for discussion depend largely on the people available to take part, but various aspects of tape recording itself have been discussed including arguments for and against different types of tape recorder.

Another type of Round Robin in which I became involved was called a "Tall Story Tape." This was intended to be a story-telling tape between three people. One tells the tale and the other two guess whether the story was true or false, at the same time telling one of their own. After we three had been doing this for a year or so, we all ran out of stories, so we changed the tape to what became known as

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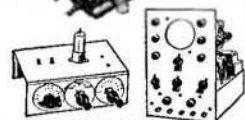
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a "Tripartite Tape." This was similar to the Tall Story Round Robin except that one person started to tell a story but ran out of tape so the next person had to continue. The third member then finished the yarn on half his part of the tape and started another story. This tape used to take about two months to travel between east, south and west London while continuation pieces were thought out!

A further idea for a Round Robin tape is an exchange between Tape Recording Clubs. At a meeting of the club the members should get together a programme on tape with each member contributing something original of about a couple of minutes' recording, the whole being linked together and sent to another club. If preferred, the short pieces from each member could be made at home and brought along to the meeting, where they should be put together as a complete tape, with an introductory chat by the Chairman or Secretary.

The use of two tape recorders, a mixer and a splicer at the meeting should be easy to arrange from members' equipment, and the operation of preparing the tape would be very useful to the less experienced members of the club. A 5in. reel of tape should be a good starting point and recording by the first club should be on one track only, the tape being sent to the next club for their effort on Track II.

Arrangements should be made beforehand by letter with two other clubs to do likewise and the tape should then circulate between the three clubs in the same way as a Round Robin tape. Naturally, as a considerable amount of joint effort by the members of the clubs concerned would be involved in preparing the tape, it would probably be four or five months before it got back to the originator again.

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 - Button interlock facility to prevent accidental erasure of recordings.
 - Magic Eye recording level indicator.
 - Built-in four-digit programme indicator.
- ... these are only some of its many, many advantages.



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TAPE ON TRIAL

By a Barrister

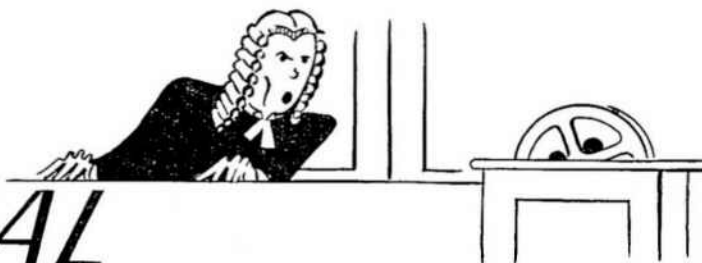
"Surely the use of tape recorders would be one way of stopping allegations that prisoners' written statements to the police are not always voluntary," John Smith looked at his solicitor friend, "or do lawyers ever move with the times—I sat in a magistrates' court a few weeks ago and watched a whole morning's evidence being written down in longhand."

The lawyer grinned.

"I think the first reported instance of a modern tape recording being used as evidence in an English court was in a case at Southwark County Court in London in 1954. It was a civil claim and the judge allowed a tape recording of a vital conversation between the parties to be admitted. The plaintiff denied, when cross-examined, that he had in any way tampered with the tape. When the case was resumed some days later the fun started. A recording engineer was called and said that he could tell that parts of the conversation had been erased and re-recorded. The background noises were different in different sections of the recordings and the microphone had been placed at varying distances from the recording machine. The plaintiff was called back and now confessed that he had altered the recording. He said that when he had played the original to his wife she was so appalled by his bad language that, when she had gone to bed, he had re-edited it to erase the swear words! He just escaped prison for perjury!"

"So that," said John, "is the first case where a tape recording was used in an English court?"

"The first reported case. I think the judge may have been influenced by the fact that, a little earlier that year, the Divorce Court had tacitly approved of tapes. A husband had appealed against a decree granted to his wife, saying that she had condoned his, admitted matrimonial offence. He said a tape recording contained the voices of his wife and her sister in a conversation which proved his point and the judges ordered the equipment to be examined by the Queen's Proctor. They expressed the hope that, in spite of some accidental damage by a small boy, engineers could decipher the voices."



This solicitor was probably right in his reference to the first tape recording case in the courts but as early as 1927 a Dictaphone record was allowed as an aid to memory. A witness had said that, immediately after a disputed conversation, he had dictated his recollection of what had taken place. The judge at once raised the question whether a Dictaphone record had ever been accepted in evidence by the courts and, upon counsel replying that he did not think so, said that he saw no reason why the record the witness had made should not be put forward as evidence.

More recently, in December, 1957, estate agents sued in a London court for commission they said they had earned by introducing a buyer to their client. They had made a simultaneous recording of a telephone conversation with the prospective customer. A transcript of



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the recording was referred to in the cross-examination of this witness, but was not actually put in evidence. Had it been desired to do so there seems, however, little doubt that the judge would have allowed it.

In criminal cases the position seems to be the same. In a case in 1956, Mr. Justice Hilbery, having heard legal argument, ruled that the court and jury should hear a recording of a disputed conversation in Salisbury police station. With legal conservatism, he doubted the necessity of a tape recording but had no doubts of its admissibility. "We have always got on very well without this device, but now it had been produced and it may be admitted," he said.

There have certainly been suggestions—even in the House of Commons—that tape recordings should be used for interviews in police stations, and the suggestions arose, of course, from the fact that accused persons so often allege that their statements have been fabricated or tampered with.

Two methods of recording seem to be involved: mechanical recordings, where sound

waves are translated into the vibrations of the cutting needle and a groove is cut on a wax-like substance (office Dictaphones and gramophones) and magnetic recordings, where the sound waves are turned into electrical impulses and transferred as magnetic changes which vary from point to point on the plastic tape. In assessing the worth of a recording as truthful testimony, the ease with which both these types of recordings can be altered is a vital point. It is a commonplace that "dubbing," or recording a recording, is a simple matter to a skilled operator. With skill, it is possible to eliminate a single word; thus a remark "I am not guilty" could be altered to "I am (slight pause) guilty," the pause only adding emphasis to the apparent confession.

But it is also possible to invent a text in the speaker's own voice, which, in fact, he did not speak. For example, the sentence "I am not guilty, but Jones says I am" can be rearranged to read "Jones says I am not guilty, but I am."

These sinister manipulations are technically easier when tape recordings are used. With a recorder running at $7\frac{1}{2}$ i.p.s., a single word occupies about two inches of tape. A snip of the scissors will effect elimination and the rejoin can be so well done that it cannot be heard. Again, the original order of words and phrases could be altered and if, finally, the rejoined tape is dubbed on to a fresh tape there would be no apparent loss of quality and, of course, no joined tape before the court.

Perhaps by imprinting on tapes used for evidence the complex wave patterns similar to the scroll designs used on bank notes the possibility of wilful damage to an original tape could be avoided. But any experienced lawyer knows that such complex safeguards always have the snag that they may not convince the average jury. The best safeguard which would be at once real and understandable would probably lie in physically guarding the tape as soon as a recording has been made from it.

Surely there is much to be said for tape recordings in our courts. A written statement can never contain exactly all that was said. A tape would have all the colour and shadowing of speech, the full emotional content of what was said, and is an aspect of truth which the written word cannot reproduce. Neglecting forgery, it would convey what a witness is optimistically sworn to give whenever he enters an English witness box—the truth, the whole truth, and nothing but the truth.



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Dear Sir,



ANSWERS TO TECHNICAL QUERIES

The Panel of technical advisers of A.T.R. have been overwhelmed with letters and we apologise for any delay which may occur in replying. We feel sure that readers will appreciate that in a large number of instances it is necessary for the panel to acquire particular equipment in order to answer queries accurately and this of course takes time. Finally we would mention that due to the volume of correspondence we must now restrict this service to members of the B.R. Club and affiliated clubs only.

L. GARLICK, of Heywood, Lancs, informs us: "I have a Philips AG 8108G recorder, which has a socket for extension speaker and playback via radio. I also have a radiogram with twin speakers. Could you please tell me if it is possible to playback from the recorder through the radiogram, and where would the connection have to be made to the radiogram?"

ANSWER.—The best method of coupling your tape recorder to your radiogram is to connect the monitor socket of the recorder to the points on the radiogram where the leads of the record player join the radio, namely, the input to the A.F. amplifier stages. Some radiograms bring these points out to a socket and it is usually labelled "pick-up." By using this method the radiogram volume and tone controls are operative and distortion is reduced to a minimum due to a better impedance matching between the recorder and the radiogram.

E. H. SNELL, of Branston, Lincoln, on joining the Club, tells us:

"I have had my Walter 303, a very simple machine, for about 15 months. First, I should like to know whether recorded tapes deteriorate in volume at all (I have been told they will keep indefinitely provided they are kept away from magnetic fields), as some of my early tapes need the volume control turning up much more to play than they did when first made. Have they faded, or could this be due to the machine not being so good as when brand new? Secondly, I am having some trouble with the tape tension; this is regulated by two pressure pads. Some tapes appear to be a little wavy or warped in places and unless I tighten the pressure pads to get the right tension on the tape, I get poor recording and playback. But this is inclined to slow the tape down too much and make it stick on any joints. I have to try to strike the happy medium, which isn't always successful. I might add that when it behaves itself properly it records and plays very well for a fairly cheap machine. It has a single knob control for record playback, etc., a sort of joystick-gear lever, and the sharper you slam this in position the better it often seems to work."

ANSWER.—Tape recordings, provided they are kept dry and away from magnetic fields, should keep indefinitely. The loss in output experienced

by this member is not the fault of tapes. Either he has a valve that has suffered a drop in emission or, more likely, his heads need defluxing or demagnetising. This is best done by a servicing engineer, who could look at the tape tension control at the same time.

J. BULL, of St. Albans, Hertfordshire, an obvious "do-it-yourself" enthusiast, writes to ask: "Could you please tell me where I can obtain the different parts needed to make a tape deck, the type of motor required, and where I can get the capstans, flywheel and heads to make my own to my own design?"

ANSWER.—We applaud your enthusiasm, but suggest that this is a rather expensive way of acquiring a tape deck. As far as we are aware, there is no manufacturer as yet who produces a "do-it-yourself" tape deck as a kit of parts. The only advice that we can offer is to buy the motors from a known tape deck manufacturer and get the mechanical parts made specially by a small light engineering firm willing to take on a "one off" order, or to seek out a model engineer. The heads, of course, may be bought as separate items from most tape deck manufacturers.

Mr. C. BRADDOCK, of the Tape Recorder Centre, Blackpool, writes:

"Mr. C. J. Cadzow remarks [in the November "A.T.R."] in great detail on what he himself looks for. I wish him well. He must remember that he is in a small minority. After reading his remarks I feel that a word in defence of manufacturers must be said. To incorporate all Mr. Cadzow's requirements into one good machine, which, I have no doubt, would be a wonderful affair, the price is sure to go up out of all proportion to the extra facilities. There again the main purchasers of tape equipment are the ordinary man and woman, let there be no mistake about that—it has been proved beyond all shadow of doubt. One of the main reasons in the past and, I regret to say, still, why tape equipment has been slow to catch on with the general public is the vast array of knobs, switches, push buttons, etc., on the cheapest of recorders; enough to undermine any layman's mind when it comes to buying.

Many manufacturers have seen the light and have produced excellent, simple to operate, reasonably priced machines of a quality simply unthought of a year or two ago, apart from the more expensive semi-professional machines of long standing. Amongst these I would name, without doubt to my mind, the Verdik S1, which, in my opinion, has opened up a new and fascinating field to many. This is a robust, simple machine of true workmanlike engineering. My hat off to the designer, giving two speeds, excellent re-wind with, I might add, good non-spill braking,

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of a good tape

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How true this is when it comes to obtaining first class performance from your recorder. No wonder those enthusiasts who really demand the best—who spend many happy hours experimenting with sound insist on using a Brenell Mk. 5 Deck. The deck which has proved to many a proud owner over and over again that this is indeed a machine designed and built for the service demanded of it.

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says MR. R. A. MARGOSCHIS
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three heads and two amplifiers of simple design, I admit but allowing tape monitoring a split second after recording. This deck has been fitted to the Veritone "Venus," which is a little more elaborate, but without the basic deck, the Verdik, it would be just another recorder.

If I might just add that any person wishing to purchase a machine would be more than foolhardy not to consider a three-head system such as I have just mentioned. They will be justly rewarded.

Regarding Mr. Baldry's remarks on push this, pull this, or turn that switch, how does Mr. Baldry presume to operate his machine? By remote control or telepathy?

EDITOR'S NOTE.—Mr. Braddock has spoken up in strong defence of the manufacturers. "A.T.R." wonders, however, if Mr. Cadzow agrees that he is "in a small minority." Perhaps Mr. Baldry or other readers CAN suggest a simple operating system? Next month's postbag should answer these questions.

Mr. G. N. SCRIVENS, of Kingswood Surrey, writes:

"I am writing to say thank you for a service you have just rendered me. Once upon a time (no, this is not a fairy story) I had a tape recorder. This machine recorded and reproduced perfectly—fulfilling the makers' specification, in fact—until one day it lost its voice.

"Not being an expert—although I do gaze in wonder at your diagrams—I returned it from whence it came for repair. Time passed. Two months, in fact, and still no sign of its return.

"Upon enquiry I was told that the part required was unobtainable. Now, as you are well aware, a tape addict without a recorder is akin to the drug addict deprived of his 'shots.'

"Unable to stand it any longer, I wrote direct to the manufacturer for help. I also mentioned, quite casually, of course, that I was a member of the B.R.C., to whose magazine I had access. (I was desperate, honest I was.)

"Presto! By return post came the 'unobtainable' part, which I, with suitable sarcasm, forwarded to the repair men.

"So, thank you, B.R.C., for the use of your magic title."

from E.A.P. (Tape Recorders) Limited.

Dear Sir,—Further to your letter of the 7th inst., regarding Mr. T. G. Smith of Woking, we are rather surprised that you published Mr. Smith's complaint in your magazine without first referring to ourselves for our own comments to be published at the same time; this is the normal procedure in such cases. However, as this procedure was deviated from, we feel sure you will have the courtesy to publish our reply in your correspondence column.

It would appear that Mr. T. G. Smith purchased the tape recorder in question second hand, therefore no guarantee was ever registered in his name. The customer's initial complaint was in December, 1958, when our service department examined the machine, and after thorough checking, no evidence of the fault complained of was found. After further correspondence, we offered, in July, to examine the machine again. However, Mr. Smith did not accept this offer, nor even had the courtesy to reply to our letter. Our offer is still open for Mr. Smith to bring the machine to our service department at any time so that we may test it in his presence, and if any fault be apparent we shall be only too pleased to correct it.—Yours faithfully,



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Sound 555	£68. 5. 0	£6.18. 0	£5.12. 6	£3.18. 5	£3. 1. 5
Veritone Venus (Console model)	£69. 6. 0	£7. 0. 0	£5.14. 3	£3.19. 8	£3. 2. 5
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Telefunken K 85	£78 15. 0	£7.18. 0	£6. 9.11	£4.10. 7	£3.10.11
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Please send without obligation on my part, details and Recorder Price Lists.

I am interested in purchasing.....outright.....easy terms.

NAME

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PLAYS ON TAPE

BIOGRAPHICAL NOTE

The author is 23, and an honours graduate in English Language and Literature of the University of Oxford. It was whilst an undergraduate at Oriel College that he developed his special interest in recording plays written specially for the microphone, and under the auspices of the Oxford University Experimental Theatre Club and other groups, he produced six tape-recorded plays, some of which he wrote himself, others which he adapted from short novels or stage plays. In addition, he has produced two recorded revues and several "documentary" and "feature" programmes. Some of these have been very highly commended by professional producers (including Mr. Archie Campbell and Mr. Trevor Hill, both of the B.B.C.), and his original tape of "The Thirteen Clocks" by James Thurber has been broadcast in America on a University network. His production of Act Three of "The

The tape recorder is surely the most fascinating application of modern electronic knowledge available for the personal use of the average man. Ten years ago it was very much an exceptionally privileged person who had a recorder of his own: now, it is rapidly becoming more and more exceptional *not* to own a machine, however simple. With new and cheaper recorders appearing on the market almost daily, the hobby of capturing and storing sounds is within the reach of most sections of the public; and the simple fact that this magazine—by no means the first of its kind in this field—is already enjoying widespread popularity and a large and growing readership—this fact alone is an indication that the numbers are steadily increasing of those destined to enjoy the pleasure gained from recording family sounds, tape messages to old or new friends many miles distant, and their favourite broadcasts or records.

But an excitement still untasted by many amateur enthusiasts is the keen and satisfying pleasure they could get by using their machine as a *creative* instrument: in the production of recorded plays and features of their own.

It has been proved by the overwhelming responses to the recent

Importance of Being Earnest" was awarded the £50 prize in the "Reynolds News" Drama-on-Tape Competition of 1957/1958. His most recent production was of his own dramatisation of "The Rocking-Horse Winner," by D. H. Lawrence. (The photograph shows a scene in rehearsal.)

He has written a number of articles and reviews on the subject of "microphone drama" for various publications and year books, and takes part frequently in B.B.C. drama productions, usually from the North Region (his home is in Manchester). His adaptation of "The Thirteen Clocks" was broadcast in a new production by the B.B.C. in 1956; at present he is working on a full-length play for B.B.C. Sound.

In this series of articles, he addresses himself specifically to the beginner in the field of amateur radio-drama production, and will give detailed guidance at every stage to enable readers to enjoy some of the pleasure

tape recording competitions such as the "Reynolds News" Drama-On-Tape Competitions of 1957 and 1958 (a new one is about to be launched), the British Amateur Tape Recording Contest, and other, international competitions, that there is abundant talent and enthusiasm among tape recording amateurs, only waiting for some such stimulus as a competition to spark it into action. Substantial money prizes are awarded to winning entries, and additional prizes of recording equipment, tape, and other accessories.

With these double incentives, then, of artistic achievement and financial reward, what is holding back the many amateurs who have still not adventured into this promising field of activity?

Undoubtedly the answer is twofold: inexperience and lack of "know-how." Knowing that the professional production of radio dramas and features is a highly skilled, specialised, and complex affair, the amateur with his single machine and microphone is daunted by thoughts of mixing, cueing, control-rooms, and all the other complications involved.

Now there is no doubt that this fear of rushing unprepared and uncharted into unknown country is a justified and healthy fear: too many amateur productions,

The first article in a series specially written for "Amateur Tape Recording" by
HAROLD ROTTESMAN

afforded by this worthwhile spare-time activity.



Out of doors for special acoustic effect. Home made boom stand.

whether on the stage or on film or tape, suffer from the twin evils of being over-ambitious and having no knowledge of basic techniques.

But with only a *little* guidance, and only a *few* rules and hints, any beginner can make a satisfactory play or feature on tape, provided he is prepared to take a little trouble and use a little time and patience.

In these articles, therefore, I should like to offer such guidance, with particular reference to drama based on my own experience and my own techniques, which have developed by a system of trial and error over the past six years. I feel sure that if you have the two essential and complementary qualities of enthusiasm and patience (neither is much good on its own!) you will gradually develop your skills and increase your knowledge of techniques to the stage where you can begin producing tapes good enough for competition entries; and your reward will be a considerable feeling of achievement, quite apart from any marks of recognition, financial or otherwise, which you may earn from others.

I will assume, then, that you are a keen recording amateur, with one simple machine and microphone, an interest in drama, some friends (it need only be two or

Continued on page 29

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Tape viewed
by
JAN PHILLIPS

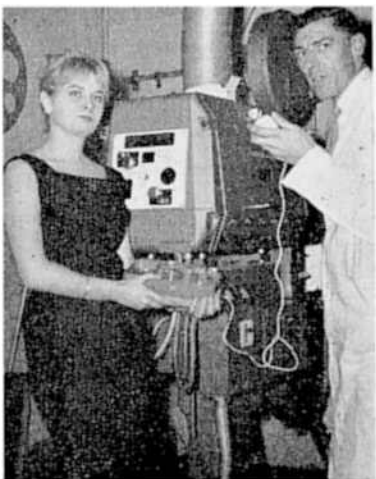


BEHIND THE SCENES AT THE NATIONAL FILM THEATRE



(Left)—Lionel Rogosin talks of his future plans.

(Below)—Miss Shama Zaidi from New Delhi, India, informed Jan that she was in this country to study Theory Designing at Slade. She is interested in writing, films and the theatre. Her companion is an Assistant Sound Editor at Merton Park Studios.



(Left)—Jan ponders (founders?) as Mr. Alfred Francis, Co-Chief Projectionist, talks technical.

The National Film Theatre is the first and only national cinema theatre in the world. It is also the most versatile and adaptable, and technically the finest cinema in the world. Consequently when we approached this building, sunk into the huge southern arch of Waterloo Bridge and glowing through its transparent doors over the Thames, I formed a mental picture of an elderly grey-haired Manager welcoming us to such a notable place. But Mr. Michael Wessen, our charming host for the evening, isn't a bit like that as you can see. The second surprise was to discover that there are two cinemas in the building. The main one seats 504 people which, incidentally, is a hundred more than the Theatre's first home could seat. I expect many readers will remember that, when it was the Festival of Britain's Telekinema. The small, private cinema seats 25 to 30 people and is used for demonstrating, checking and editing films. The plushly carpeted foyer contains a wonderful spiral staircase leading up to the projection room which is cunningly placed between the two cinemas to serve either as required. To the right of the foyer is the Coffee Lounge which leads one round into the bar, presided over by Mr. Fred Young since the new Theatre opened three years ago. There is a quiet Club atmosphere here that provides a relaxing prelude to an evening's viewing.

The new Theatre was opened in October, 1956, by Princess Margaret. Many other famous people have also visited the Theatre including James Cagney, Joan Crawford, Sir Laurence Olivier, Richard Conte, John Ford, Gina Lollobrigida, Vittorio de Sica, Mary Pickford and Charles Chaplin.

"Come Back Africa," the film showing on the evening of our visit, was produced and directed by Lionel Rogosin, whom we had the pleasure of meeting in person. As in "On the Bowery" which he also directed, "Come Back Africa" uses non-actors. It focusses directly and without distortion on the colour problem in South Africa. Mr. Rogosin told me that the techniques required to tell a serious story such as this without using trained actors, are extremely demanding. Consequently, after two such films he was now looking for a lighter theme for his next picture. What a pity, because I am sure I could have been a really great tragic non-actress.

The "Season" is the Theatre's main activity. In this, films with a linking theme are shown. The Ballet and Japanese seasons probably aroused the greatest enthusiasm of all.

The themes of some of the seasons which have been presented in the past illustrate the varied and adventurous approach typical of the National Film Theatre :

- Great Comedians of the Silent Screen.
- He, She and It.
- From Stage to Screen.
- Ten Best Amateur Films of 1955/56/57.
- Captive Cinema.
- Brussels Exhibition Experimental Programme.
- Jean Cocteau and the Tenth Muse.

The Theatre was started with the help of the Film Industry and the L.C.C., and now draws its income from the Box Office. The permanent Box Office hits are the silent film classics such as "Battleship Potemkin" and "October." All the featured silent films have the traditional piano accompaniment, and I was delighted to meet Mr. Arthur Dulay, the Theatre's own pianist. It didn't seem possible that he accompanied some of the same films in the "Silent" days. But as someone pointed out, this "misty" past is really just a generation away. Some of the Silent Epics have their own musical scores, but with most of them he sees the film through a couple of times to get an idea of the emotional and dramatic content—and then improvises at the performance. This is difficult enough, but he also has to avoid playing more than a couple of bars of any recognisable melody because of copyright restrictions.

When the main feature is not a silent film and Mr. Dulay therefore not in attendance, excerpts from silent films used in the first half of the programme are given taped sound accompaniments on their two tape recorders. The tape recording facilities will be expanded shortly by the addition of Wearite Tape Decks. The Recorders are also used for taping discussions held on the tiny stage in the Theatre. This stage, although small, has been used for shows, and has even successfully supported a dance routine.

The Theatre, although specialising in films of yesterday, is fully equipped to cope with the most modern super-colossal epic in wide screen, glossy-vision and stereophonic sound. In fact, everything except the "Ramas" (Cine and Aroma).

The screen is a Harkness stereo, thirty-six and a half feet long by twelve and a half feet high. The frame is equipped with magnascopic side masking electrically controlled to give eight positions including 16 mm. normal and Cinemascope, 35 mm. ordinary ratio for silent and sound, all the normal wide screen ratios, Superscope and Cinemascope.

Projection equipment for the main theatre consists of Gaumont-Kalee "20" projectors, with President arcs. The sound system is Gaumont-Kalee "21" four-channel, capable of handling optical recording, four-track stereophonic and single track magnetic. They can run films at 16 and 20 frames per second for silent films, and 24 frames per second for sound films. Just as in tape recording, the faster speed gives the better quality. The optical assemblies of the projectors are suitable for screening all required ratios including "squeezed" prints, which are the ones those directors use who give girls private screen tests. Well, that's what I was told! The machines can be mechanically interlocked for projection of three-dimensional films. When the screen of the main cinema is not in use it is covered by an eye-catching decorative frame named "Monovistal." This consists of a suspended flexible shutter of over three hundred separate abstract shapes made from wood which has been plaster treated and gilded. When a performance is about to commence this shutter is mechanically transported from its normal position to the rear of the screen.

The National Film Theatre has many localised Film Societies associated with it and enjoying its facilities, in a similar way to the British Recording Club and its associated Tape Clubs.

Seeing a film surrounded by an enthusiastic audience is an enjoyable experience in itself, which explains one of the fundamental attractions of The National Film Theatre. This audience even applauds at the end of a good film! The greatness of the Film World's near and distant past is kept alive here, and if many more people realise what an entertaining and exciting past it is—I'll never get in!

(Right)—Mr. Michael Wessen shows Jan the small theatre's special open-type screen frame which incorporates a roll-up Harkness "Perlux" screen.



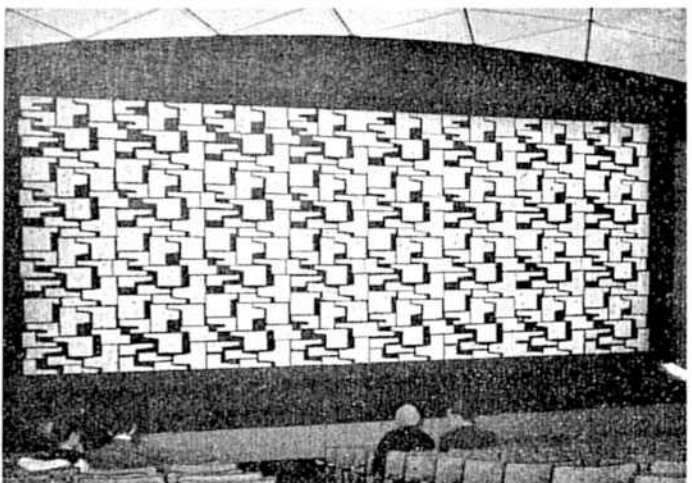
(Below)—Pianist Arthur Dulay reminisces about the days before films found their voice.



(Right)—In the Projection Room. Gerald Mellor, second projectionist, explains "squeezed prints."



(Below)—"MONOVISTAL."



TOP

FAVOURITES IN THE RECORDER FIELD

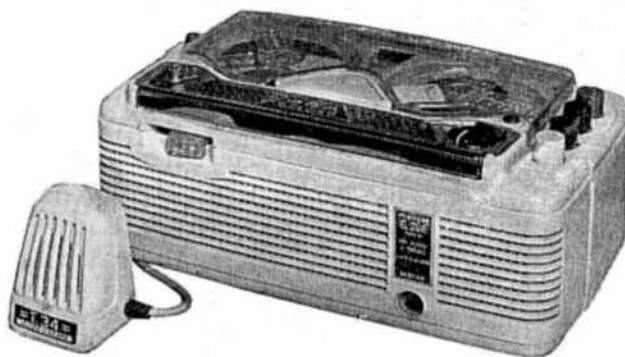
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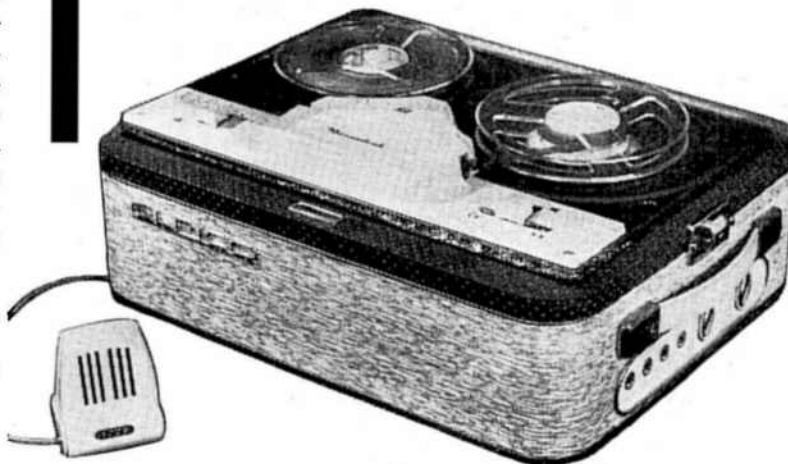
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three) to assist you, and a desire to learn how to produce a play on tape—yet without any experience in this field. In this series of articles, I will take you from the very first stages of recording dialogue right through to the final assembly of a dramatic production, with music and effects and dialogue combining in a polished, edited, smooth-sounding tape.

Let us begin, then, by finding out how to record a simple dialogue.

It sounds easy; but there is a right way and a wrong way to go about it, and there are certain rules which must be observed.

The first important fact you must know is that there are two instruments at least as important as your recorder: one is your microphone, the other is the room in which you record—to use the professional term, your studio. The room you choose should be of such size, proportions, and furnishings that its acoustical properties are those suited to your dramatic background. It is impossible to be too specific without becoming unnecessarily technical, so whilst I shall consider the problems of different acoustics later in the series, at present we shall say that any average living-room will do for our initial experiments. Better, of course, if it is somehow protected from outside noises (for example, traffic); but at this stage, even those are of relatively small importance.

What kind of microphone have you got? If you have a ribbon mic, you are fortunate indeed, for this is ideal for drama. First, it gives high quality recording; and, second, its directional properties are such that you can exploit them with great ease to give effects of different or varying perspectives. This, again, I will explain in detail later on. In any case, it is more likely that you will have a simple crystal or condenser microphone, of omnidirectional characteristics. (In other words, it is equally sensitive to sounds coming from all angles.) This, too, has its advantages: your actors will be able to stand round it at any angle without worrying about its directional field.

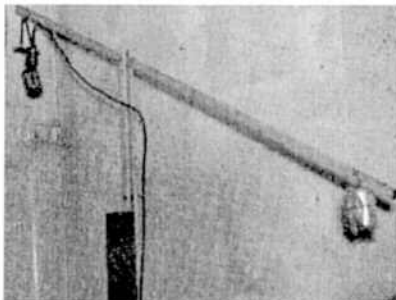
But whatever kind of mic you use, your first problem will be how to suspend it in some way so that your actors can stand round it, and move towards it and away without difficulty. The illustrations show: (1) an improvised way of suspending the Grundig condenser microphone (used when recording "I'm the Dragnet"); (2) a more satisfactory set-up with the Reslo



Illustrating improvised suspension of Grundig condenser mic



Illustrating RESLO Ribbon mic on floor stand



Illustrating home-made boom-stand



Illustrating professional boom suspension of Reslo Ribbon microphone

ribbon on a firm studio stand (used in "The Importance of Being Earnest"); (3) the ideal method of an adjustable boom-stand. This one was home-made and (though far from perfect) is very satisfactory, and enables rapid adjustments of height and angle to be made with ease. A professional boom-stand is shown in (4).

Whichever method you choose, be sure that the microphone is (1) at the right height for your actors, and (2) steady enough not to be disturbed by their movements, however close they may have to work.

Incidentally, it is possible that you will need an extension microphone-cable, but you may be able to manage without one. If you decide to get one (and it will always be extremely useful), make certain that it is of the correct type, and matched to your equipment.

Having set up your microphone and connected it to your machine, and made a brief test to see that everything is working correctly, you are now in a position to make a series of trial dialogue recordings, as follows.

Get two or three friends to read passages of dialogue, whilst you record them, at varying distances from the mic. It is most important that they should use a normal speaking level of voice, not a stagey "projected" delivery. This can scarcely be emphasised too strongly; and you will have to insist that your friends forget their training on the amateur stage and bring everything down to a realistic level. (It is much better, of course, to use people who are good readers and have some acting talent but no stage experience at all.)

Do a first recording, of three or four minutes, at a distance of about three feet from the microphone; then bring your actors closer and make a second recording of the same dialogue at about two feet; then another at eighteen inches, and finally one at about twelve inches away. (You can, of course, try further or nearer effects if you wish. There are too many variables to give hard and fast rules.)

Now play back the series of recordings, in continuous sequence, with the volume at a comfortable listening level, and sitting fairly close to the loudspeaker (which should be of as high a quality as possible).

It will be up to you to decide which is the optimum microphone-

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Page Thirty

OTHER PEOPLE'S CLUBS

TAPE CLUB NEWS



Edited and compiled by
TERENCE NURSE

ANNOUNCEMENT

Will Club Secretaries continue to send news to :—

TERRY NURSE,

161 Stuart's Road,
Birmingham 33,

not later than the 26th of the month. Send plenty of news in because **THIS IS YOUR JOURNAL**. Interesting photographs are also invited.

ALL SHOOK UP

The San Francisco Tape Club met at the G.V.A. Recording Company Studios on Thursday, November 19th.

Messrs. R. Devant and D. Hall gave an excellent 15-minute demonstration of studio-produced sound effects designed to give G.V.A. amplifiers "the works"!

Sounds included a 20-cycle tone amplified to 100 watts via special G.V.A. speakers; the resultant vibration was strong enough to literally shake the studio walls!

A discussion later dealt with taping outdoor sound effects.

The evening closed very successfully with a stereo music demonstration on the studio sound system.

Meetings are held monthly at present owing to studio work schedule.

The club is anxious to exchange sound effects with other club members in Britain on a footage basis.

Interested clubs should contact T. F. Slater, S.F. Tape Club Secretary, 54 Alvarado Street, San Francisco, California, U.S.A.

TAPE-SITTERS WANTED

The Rugby A.T.R.S. is pleased to announce the second birth to members of the club. Mrs. Rosemary Scott (who acts as Librarian to the Technical Section) gave birth to a second son on December 10th, Simon Nicholas. Her husband, Peter, is a committee member in charge of the Technical Section.

Mike Brown, the Secretary, reports that there is difficulty in getting married members along to the meetings together because of the apparent shortage of baby-sitters in Rugby. He wonders if other clubs find this affects meeting attendances.

There are to be no more regular meetings until the end of February, due to the Star Course of Tape Recording. Arrangements will be made for members not taking the course to meet at the Gatehouse if they wish, but such meetings will be completely informal.

The last meeting till then, and the last in 1959, was the Christmas Draw and Social Night held at the Red Lion, Sheep Street, on December 17th. The draw was made by the licensee, Mr. Haskins. Mike Storey, of Wakefield, won the Christmas cake. The other prizes—wall table lamp, electric fire, rug, electric tie press, hair dryer, bottle of sherry, bottle of port and 100 cigarettes—went to members. Mr. Bannister auctioned the cigarettes he won and this added a further £1 to the club funds.

WELCOME

A tape recording club has been formed for enthusiasts in Swindon. Mr. K. E. Trennery, of 9 Corby Avenue, Old Town, Swindon, the temporary Secretary, informs us that the Swindon Tape Recording Club held its inaugural meeting on December 1st, 1959. Nine prospective members were welcomed to Mr. Allens' house, where the meeting took place. Future meetings are to be held at the Drove Evening Centre.

TAPE BEATS RADIO AND T.V.

Crawley and Sussex Club held its A.G.M. on December 7th, and welcomed five new members as well as a good gathering of old hands. It looks as if the local publicity drive using Press and poster is having good effect.

The club Treasurer, Mr. A. A. Runki, is leaving for Germany in January, and has promised to send the club a tape occasionally. But for members it was a reluctant "Good-bye" at the meeting.

As part of the club's expansion plans, "sub-groups" are being formed for "recording" and "technical" enthusiasts in the New Year. Reciprocal agreements are being negotiated with the Brighton and Southall Clubs for the Tape Message Service project, and as Brighton club is a near neighbour, they hope to get together in the near future.

The club area now extends from Redhill in the north to Chichester in the south, and recordists 'twixt the two are invited to contact R. C. Watson, 32 Southgate Drive, Crawley, Sussex, for details. Mr. Watson informs us that "more recorders have been sold in the Crawley area during the last two months than either radios or televisions."

E.T.E.S.S.A. A.G.M.

This must be A.G.M. month, for the E.T.E.S.S./Tape Club, which operates as part of the External Communications Executive Sports and Social Association of the G.P.O., held its A.G.M. recently. The Chairman, in his report, said that the membership now neared the 100 mark, and the club was steadily consolidating its position in E.T.E.S.S.A.

The Secretary, Geoffrey P. Jones, reported that the year had run comparatively smoothly, the only upsets being the loss of a message spool and a book. During the year the club's Magnafon recorder had been overhauled and continued to give good service
"B" TRAC

Important constitutional changes and a change of name are announced by the Birmingham Tape Recording and Audio Club. The new title was chosen by the club's Chairman, Charles Cockshott, who also suggested the short-reference "B" TRAC.

The Hospital Service relayed a programme of community singing, carols, and personal messages over the Heath Lane Chest Clinic's internal radio system.

I attended two meetings last month. At the first, Mr. Fred Wilkinson and Mr. Monty Knee invited members to discover the cause of a number of faults on Mr. Wilkinson's tape recorder. Several of the faults were found to be the result of nothing more than an incorrectly wired jack plug.

An estimate is now being considered by the club committee for publishing the magazine "Tape Express" as a printed bulletin, with advertisements from local retailers.

The club's Secretary, Dennis W. Brown, of 133 Pool Lane, Oldbury, Birmingham, will be pleased to supply details to prospective members.

THE SKY'S THE LIMIT OR "HEADS" IN THE CLOUDS

One of Ulster Tape Recording Society's new members, Brian Gillespie, also belongs to a nearby gliding club—and it wasn't long before Secretary Bill Scott and Chairman John Douglas persuaded him to take them up for a spin. Bill and John went up one at a time with Brian, and whilst one was sailing in the clouds giving a running commentary on a Clarion transi-tape, the other recorded his impressions of how the flight looked from the ground, using a Vortexion.

Bill took the first flight and gave an interesting commentary. But when Brian suggested "a few aerobatics" Bill nearly jumped out of his skin (and the glider!). John's flight was much more daring, and the comments he made as he and his stomach looped the loop are something the club will treasure for many a year to come.

The material collected from both recorders was later edited to form a lively feature in the club's sound-magazine, "Tape Time." This must be the first recording ever made in a glider!

MUSIC FOR OLD IRELAND'S OLD IRISH

Further interesting news comes from Ulster this month. The club reports that its musical request programme, "Evergreens," taped every month for groups of elderly folk at home in Belfast, now has three editions—with another two to start shortly. Each has its own production team of three members, who go out and about gathering interesting material, and wherever possible recording the voices of those making the requests. This gives the programmes a really personal appeal.

A touching tribute was paid to the service just recently, when one of the groups of old folk turned

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the tables and requested the B.B.C. to play a record for the club over the radio. The record was "May You Always."

Back in the clubroom at 2 Donegall Pass, a panel game devised by one of their members was played at their last meeting. Mr. Melville, a local hi-fi dealer, visited them, and they later recorded a short play. Members' technical queries are dealt with every week at the club's "Tape Forum."

"TAPEORAMA"—A NEW MAGAZINE-ON-TAPE

Preliminary details have just reached us of a new sound magazine issued by Mr. M. E. Renshaw, of 6 Vincent's Close, Girton, Cambridge.

The new magazine, entitled "Tapeorama," is distributed by post to enthusiasts throughout the country. They may keep the tape up to one week, and after all individuals have heard the programme, the tapes are despatched to clubs for a period of 14 days. If the demand proves high enough the tapes may soon be available to overseas organisations too.

The tapes are circulated gratis, only postage being charged. Quite an interesting point is that these are the first tapes to accept "commercials" in the same way as radio and television. For instance, a 2½-minute "spot" in the programme costs 7s. 6d., and a series of four consecutive insertions can be booked for 17s. 6d.

The programmes are recorded on 3¼in. spools with a running time of 30 minutes. In addition, special editions of the programme will be issued from time to time, recorded on 5in. spools, and lasting one hour. All tapes are recorded at 3¼ i.p.s.

"Tapeorama" already claims to have 1,000 listeners, and says the number is increasing. We now await a review copy, on which we shall comment in a future edition.

WHO'S BEEN PLAYING WITH MY TAPE?

The Message Service of the Staffordshire Tape Recorder Society has made a lively start. One lady, who visited Joyce Tasker's home on a Sunday afternoon to make a tape, had been writing to a woman in Malta since 1919 and has never heard her voice. Soon she will, though, for after the tape she made has been played to her Maltese pen-friend, it will be returned with a strange new voice recorded on it: that of the woman who has told her—on paper—about life in Malta for the last 41 years.

The Chairman of the club, Mr. Pendleton, is also the Managing Director of Kays Business Services, and this comes in rather handy whenever a last-minute demonstration is needed to provide a night's entertainment. Mr. Pendleton and his staff have already demonstrated many recorders in the popular price bracket, as well as the complete range of Grundigs. The Stereo TK 60 attracted considerable attention.

So did another recorder, a rather unorthodox one belonging to a member, which was on view at the following meeting. It consists of a Reflectograph 500 chassis installed in an H.M.V. cabinet, with an additional speaker built in. Comments Secretary Joyce: "I should think the whole thing must weigh about 6cwt. It is definitely *not* portable!"

One bright boy is in a dilemma trying to choose his first recorder. The trouble seems to be that all the best ones use electricity, and he only has calor gas at home.

The Treasurer, Mr. Howe, recently presented two sound competitions made up of quite extraordinary queer noises. A study of more sophisticated noises *should* have been made at the last meeting, but instead members sat enraptured by "Nellie the



A few of The Jarrow Lads

Elephant" and "Me and My Teddy Bear." A box which should have contained Gilbert and Sullivan music was found to contain a tape intended for Susan, Mrs. Tasker's six-year-old daughter. It's a great pity you can't see the music on the tape; only hear it when it's too late!

The club has been visited by the local cine club's Secretary, who presented a film with synchronised sound accompaniment. This pictured the Stafford Pageant, with the brass bands playing.

SIXTY-ONE

A late change of venue and illness amongst members resulted in a small attendance at Rugby A.T.R.S. December meeting, when the main item was a talk by the Secretary of the Federation of British Tape Recording Clubs, Alan Stableford.

Mr. Stableford, in his address, said that there were now 61 tape clubs in Britain, and of those that he had visited he found Rugby to be one of the most active. He also produced a map to show the audience the exact locations of the clubs, of which his organisation represents about one-sixth.

During the earlier part of the evening, when the group-leaders gave reports on their activities, he had made several encouraging comments. Reports were given on the hospital message and hymn service, the youth survey (undertaken with the local branch of Toc H), the tape town project, technical group, play-reading section, and tape recording course.

Several interesting short debates ensued, and after the club's usual tape quiz, the evening was completed by Mr. Stableford's talk, entitled "The History and Development of the Tape Club Movement."

A pleasant surprise was in store for all by the visit of Alec Alexander, Secretary of the British Recording Club. He expressed his pleasure in attending a typical club meeting, with its pleasant atmosphere, and agreed to take part in the final session of the Star Course of Tape Recording, when an open debate will take place (February 11th).

Mr. Alexander and Mr. Stableford posed for pictures together, but unfortunately the Secretary's flash equipment failed to function. Everyone enjoyed the meeting.

THE CRAZY TAPEWORM

The pattern of Coventry Club's last ordinary meeting during 1959 closely resembled that of the previous meeting described last month. Members again turned up with boxfuls of tapes, Alan Marston brought along his Telefunken, and Ron Longmore brought his Spectone, which was used to play most of the tapes.

The first contribution was from Howard Freer, who played a tape by the late Gerard Hoffning. Afterwards Tom Bagley threaded a tape from one of his American tapespondents, who calls himself "The

Crazy Tapeworm." This tape included one of the winning entries of the International Amateur Tape Recording Contest. Roy Reynolds also played a tape from a Stateside tapesponder, and this demonstrated the "subtle art" of conversing on the telephone. To round off the evening more extracts were played from the winning tape of the International contest.

No entry has yet been received for the competition held by the club to produce interesting tapes, so it looks as if anybody entering at this late moment could well walk away with the prize just by being the only one competing. More cheerful news comes from the technical group, who have now completed the multiple strip. No longer will hair be wrenched when a two-pin plug is confronted with a three-hole socket. Out will come the multiple strip and bob's your uncle.

500 MILES TO MEET MEMBERS

New membership cards, the 1960 membership list, and a bumper-sized newsletter have been issued by the Australian Tape Recordists Association.

The Secretary, John Wallen, recently travelled some 500 road miles from A.T.R.A.'s headquarters in Adelaide to the capital city, Melbourne. Here he met eight members for a quite informal get-together with lunch. One of the other members, Reg Cummings, had travelled 260 miles to be present.

The club is on the look-out for a suitable design for their association badges to be issued shortly in response to repeated requests for them by members.

JINGLE JUGGLING

Grantham Tape Recording Club announces that it has acquired new clubrooms at the Grantham Technical College, Avenue Road. Two centrally-heated rooms are available to the club as often as required, and canteen facilities will be provided. A suggestion which may be taken up is that the club uses one room as a studio and meeting place, and the other as a recording room.

Full use of the new premises is to be made, and the club is one of the first to change over to weekly meetings. These will be held between 7 and 9 p.m., with the days of the week staggered in order to cater for as many members as possible, i.e., first week of the month—Wednesday; second week—Monday; third week—Thursday; fourth week—Friday.

The club has approached the Warwick and Leamington Club and "B" TRAC (Birmingham Tape Recording and Audio Club). Information is being sought which will be of help to the proposed Grantham Hospital Service.

Three new competitions have been announced, one being for *ladies only*. A recording of about three to five minutes' duration is to be made from commercials on I.T.V. or Radio Luxembourg. These are to be juggled about to give humorous results.

The other two competitions are open to all members. One will be a five-minute thriller in sound effects only, to be made using home-made effects or those gathered from the radio; and the other is a straightforward three-minute recording of music from disc, radio or T.V., to be judged on recording quality and technique alone.

The club has accepted an invitation from the local Blind People's Association to assist in the production of tape programmes. Programmes to be produced will consist mainly of story reading, music and stereo items.

IN AND OUT!

A new club may soon be formed in Portsmouth. Mr. John Frith is very anxious to see a club start in this area, and local enthusiasts should contact him

with a view to arranging a meeting. His address is 13 Winstanley Road, Northend, Portsmouth. We regret to learn that the Peterborough Tape Recording Club is now defunct through lack of support.

IT MUST BE MAGNETISM

Reading Cine and Tape Recording Society runs separate sections for tape and cine enthusiasts, but recently the two have drawn closer together, the reason being that discussions are in progress on the use of tape to provide sound track facilities for otherwise silent films. Members are already encouraged to attend both sections, which meet on alternate weeks.

Since the reorganisation of the club in October 1959 the energetic Secretary, D. M. Noyes, has been extremely busy arousing local interest in the Society and making new contacts in the tape world.

A visiting representative showed how his firm's products could link tape and film most effectively. Another visitor was Alan Stableford. The club says it was an honour to receive him.

PUB VIEW

Whilst Alan Stableford is treading in J. F. Parrington's footsteps on a grand tour of the clubs, our "old friend" is still going around and about himself. His latest visit has been to the North Lincs Sound Recording Society, with headquarters in Grimsby. The demonstration was well attended and several questions were posed by club members, none of which stumped the demonstrator.

Committee member Mr. Smith gave an interesting and instructive talk recently on "Maintaining and Cleaning a Tape Recorder."

The society extends a cordial invitation to all enthusiasts in and around Grimsby to attend one of their meetings. If you happen to be passing the Public Library in Grimsby take a glance at the Library's showcase and there you will find a list of the club's forthcoming meetings.

MORE MESSAGE SERVICES

Southall Sound Recording Club, the newly-formed tape recording club of the Southall Community Association, recently held its inaugural meeting, at which it planned its future projects. These include making three documentary tapes as well as entertaining old people and hospital patients.

A tape correspondence service for blind people and other deserving folk is also envisaged and the club has been in contact with Rugby A.T.R.S. to enlist their support on a mutual exchange basis for recording and playing back messages.

Brighton Tape Recording Club also has a message service and has approached all the other clubs in the country in an effort to establish regular interchanges of tapes and ideas. Co-operation would be mutual and the club has agreed to convey tape messages to hospital bedsides or to the homes of elderly or invalid people in the Brighton district, from friends or relatives in other parts of the country.

In such deserving cases they would be willing to give their services quite free, but they are also prepared to take upon themselves the commercial conveyance of taped messages for private individuals although they stress that this is by no means their main object. It would, however, yield a little extra revenue to the club's funds.

BASSETERRE TAPE PAIR

Rugby A.T.R.S. welcomed its first overseas members last month. They are Mr. John Brown and his wife Audrey, of Basseterre, St. Kitts, British West Indies. Mr. John Brown, M.A., is the resident tutor for the Leeward Islands at the University College of the West Indies, near Trinidad.

Mr. and Mrs. Brown, who last month sailed to take up this new appointment, were formerly of the Percival Guildhouse, Rugby, where John was Warden. (This is an adult education centre sponsored by Birmingham University.) John and his wife have worked on many schemes with R.A.T.R.S., but were not able to become members whilst in England, due to the limited time at their disposal for spare-time activities. Now the club has honoured them with life membership. One of Mr. Brown's earliest tasks is to purchase a tape recorder from his teaching allowance. He hopes to make up programmes about the island, and without doubt will supply R.A.T.R.S. with a regular interchange of tapes. His last two activities with the club before leaving Britain were on November 25th, when there was an Evereux night, to which townspeople were invited to see slides and films of Rugby's twin town in Normandy, and a recording session with the Percival Jazz Club, in their "cellarage." John has been given the recording made at the latter to take with him as a souvenir.



Mike Brown R.A.T.R.S. Secretary

DREAM DAYS

Coventry Tape Recording Club, one of the oldest and most respected of tape clubs in the country, held its 1959 Annual General Meeting on December 10th. It now seems far-off days since a few recorder owners first met at a school in Radford with little idea that the club would in two years have achieved such wide popularity.

Recalling some of the activities of the past 12 months, Chairman Peter Warden remembered as particular highlights the visit to Rugby A.T.R.S. and the B.B.C. studios in Birmingham, the visits to the club by Mr. Parrington, of Walter Instruments, Mr. Wheatley with his movies and sound effects, Mr. Hill, of the G.E.C., who gave two talks on amplifiers, and the visit by Mr. Friend, of the Meteorological Office.

Outstanding activities within the club were the formation of the playreading and technical groups (the first-named will soon be completing their first production, "The Permanent Way") and, of course, the hospital service, gallantly led by Mr. Phillips, which will go into full swing during the coming year.

After these reminiscences, Treasurer Bill Parmer detailed the club's very healthy financial position. Then followed the amending of the constitution and

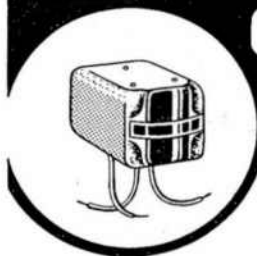
the election of the new committee. Mr. Dave Reynolds, librarian and "tape salesman" for 1959, did not seek re-election, and the club expressed its appreciation for a job well done, and for the incentive he gave the committee. Mr. Roy Penfold was elected Chairman, with Roy Reynolds and Bill Palmer remaining Secretary and Treasurer respectively.

TALE WITH A STING!

This month's footnote is from the "Grantham Sound Magazine."

One lunch-time a few weeks ago the chairman of the Grantham Tape Recording Club was copying one tape to another when in through the open window buzzed a wasp. Having in childhood had the experience of more than a dozen wasp stings simultaneously, he gave the critter a wide berth and left the two machines to carry on the good work, whilst viewing from afar. The wasp settled on one of the spools and, in exploring the tape, crawled over the edge, whereupon the next layer of tape pinioned it, with head viewing the deck, and tail and sting madly waving in the breeze. Upon examination it proved to be held by a light pressure only, and after rewinding, the wasp found itself free. On returning to the top of the tape it staggered drunkenly, with sting frantically popping in and out — then, having come to the conclusion that the Chairman had it "taped," it weaved swiftly out of the window, which was smartly closed after it. Last month mice were blamed for the squeaks in recorders. Now we know what to blame for the buzzing noises.

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HOME-VIEW OF THE MANNEQUIN



Last month I discussed the continental model I took home, and this month's visitor follows on perfectly—a British Mannequin.

The Mannequin at £27 6s. 0d. is one of the rapidly growing range of recorders costing under £30. A point to be borne in mind when making price comparisons is that the mike and an 850 foot reel of tape, together representing over £4, are included in this price. It is a gay little model with neatly rounded corners, gold clasps (in colour that is) a pleasing colour scheme and finish which extends to the inside of the lid as well as the exterior.

Mannequins are usually light-weights (except in the full figure fashion shows) and this young lady passed the dead-weight jerk test, and—more surprisingly—left me with the use of my arm after I had carried her upstairs from the bathroom test. No this is not a 24 hour steam torture to see if it is a drip-dry machine. Just a gravity test on the bathroom scales. These are marked "REALLY PORTABLE" from 0 to 30 lb., "PORTABLE" from there to 50 lb., "TRANSPORTABLE" to 100 lb., and above that "HOW DID I GET IT UP HERE?"

The Mannequin registered 18½ lb., which confirmed my first impression of lightness. I registered 126 lb., which confirms everyone else's impressions.

This recorder embodies the single speed and direction B.S.R. Monardeck, which although somewhat clanky in operation, is a very workmanlike job.

Reproduction is good medium fi with just a little emptiness in the basement, and the family were quite content with the way the Mannequin served up music. I thought there was a slight flavour of wow in slow passages, but this may have been my hundred guinea ears trying to earn their keep. Anyway, the music came through loud and clear, and the tone control allowed this to be varied from too muffled to too sharp. The latter is what my uninitiated friends say when I have got the sound just right. They then re-adjust it to the former, and say "Now, isn't that better?"

Recording sense is to the International Standard, and the speed of 3¼ i.p.s. is the current domestic favourite,

so this Recorder is O.K. for tapesponding, and the Acos mike provided permits tape serenading as well.

The mike stand is rather light but I understand that Cosmocord are changing this.

When not in use the microphone and mains lead are kept in a pocket in the side of the Recorder. This pocket contains the two input sockets, and the pair of sockets for an extension speaker. The speaker sockets take wander plugs which are favourites of mine as they don't require soldering to wire up. Digging out a couple of these from the Ouija Box, I plugged in an 8 in. Bronze Wharfdale speaker. The volume increased and the overall sound was very pleasing, showing that this model stores it even if the limitations of an internal speaker do not allow her to reveal it all. The maximum volume through the internal speaker is sufficient for all normal domestic requirements, but with the Wharfdale or similar speaker it could cope with a small hall. Incidentally, the internal speaker still operates when the extension speaker is attached, but drops slightly in volume.

A thought for the manufacturers. When the owner buys a second reel of tape where is the box for his first one?

Although these extremes would be rarely used, I found that a slight hum came in with the last fraction of turn on the volume control, and, similarly, a slight hiss appeared with the last fraction on the tone control.

Fast wind of the 5¼ in. 850 ft. Emitape provided, took 3 minutes 20 seconds, and was thus beaten by a clear 25 seconds by fast rewind which did the return journey in 2 minutes 55 seconds. If one forgets to turn down the volume when doing this, the head can be heard trying to repeat a 3¼ i.p.s. recording at approximately 50 i.p.s.

The Recorder is suitable for mains supplying 220-250 volts A.C., and on a 240 volts supply did not heat up to any noticeable extent over several hours of use. The input sockets are suitable for microphone, telephone adapter, radio (diode or loudspeaker), gramophone pick-up and another tape recorder. In addition it has three major features for the price: Instantaneous braking, a superimposing switch, and built-in mixing for two separate inputs.

This machine could be improved by making the sockets in the side pocket more accessible, by having the flap to this pocket opening forwards instead of down, and by popping a packet of plugs inside. But these points don't alter the fact that this is good value for money in function, style and facilities provided, at a price that most people nowadays can afford. It should prove instrumental in attracting many newcomers to our hobby, and as my old grannie always said "Big families are happy families."

Technical or other information on the Mannequin can be obtained from Recording Devices Ltd., 44 Southern Row, London, W.10.

K.W.P.

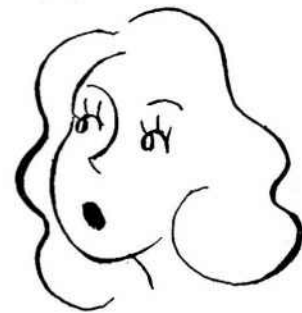
Manufacturer's Comment

Pre-emphasis and post-emphasis used to get maximum reproduction will produce a slight valve hiss when the volume and tone controls are at maximum, but this setting should not be required in normal use.

A modification to make the sockets more accessible is already under way.

What is...?

Compensating Circuits



A number of circuits used to obtain different results are grouped under the title of compensating or correction circuits. These circuits include record and playback equalization for tape, equalization for gramophone and tone, and loudness controls. We will start with a few definitions before we take each type of circuit in detail.

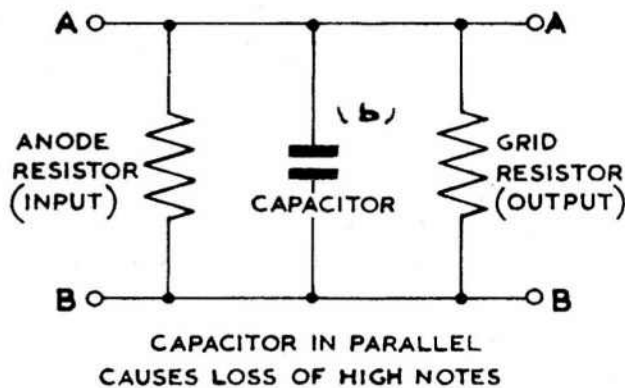
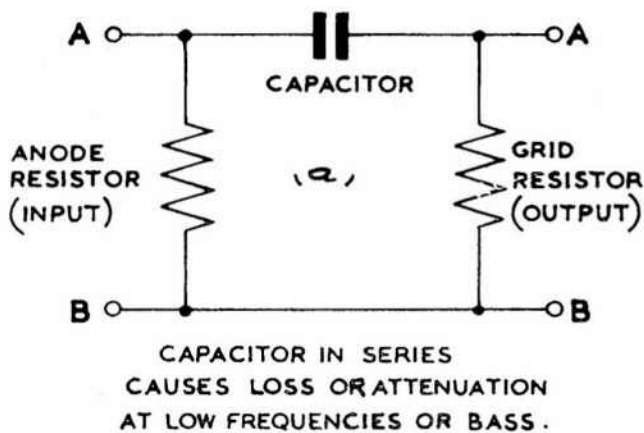
An equalizer is a device consisting of resistors, capacitors (condensers) or inductors or a combination of any connected into an electrical circuit which adjusts the frequency response of the circuit to suit the average ear. A name often given to an equalizer that reduces the high frequency response (high pitched notes) is a topcut, since reducing the response of high frequencies tends to cut the sound (viz., cut down the high pitched notes).

same capacitor connected in parallel (see Fig. 1b) has just the opposite effect. The high frequencies are attenuated and the larger the capacity the greater the attenuation.

Now, we connect an inductor in series and the high frequencies are attenuated. The larger the inductance the greater the attenuation. This has the same effect as the capacitor in parallel. Next the inductor in parallel will attenuate the low frequencies. The smaller the inductance the greater the attenuation, the effect being the same as a capacitor in series. A resistor in series or parallel normally has no effect on frequency response. When a resistor of the right value is used with a capacitor or an inductor of the right value then there is some effect on the frequency response.

The basic equalizer is what is known as a resistance

FIG. 1.



Pre-emphasis or pre-equalization is when equalization is used in recording.

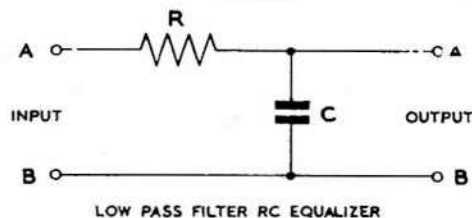
Post emphasis or post equalization is when equalization is used for playback.

Why do we use equalization? Pre-equalization is used in recording circuits to increase the strength of the high frequencies for recording and thus increase the signal to noise ratio during reproduction or playback. Noise as yet cannot be completely eliminated on tape or disc and at the present time equalization is the best means available to record the sound so that the noise is least noticeable.

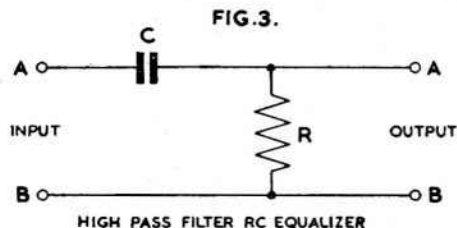
Let us now consider what effect resistors, capacitors and inductors have on the frequency response of a circuit. If a capacitor is connected in series with a circuit (see Fig. 1a) the low frequencies (bass or low notes) are attenuated (cut down) and reduced in size. The smaller the capacity the greater the attenuation. This

capacity or stated simply "an R.C. equalizer." The R for resistance and the C for capacitance. The basic low pass filter R.C. equalizer is shown in Figure 2 and it is called a low pass filter because it lets the low frequencies pass through and cuts down the high frequencies.

FIG. 2.



If we reverse the capacitance and resistance as shown in Figure 3 we have a high pass filter R.C. equalizer.



This equalizer lets the high frequencies pass and attenuates the low frequencies.

We should now ask ourselves: How do these simple circuits control the high or low frequencies that are connected to the input of the equalizer? In order to answer this we have to explain capacitive reactance before going farther. In the previous article on the pre-amplifier capacity was defined and it was pointed out that a capacitor would block D.C. and let A.C. current pass. When we consider the frequency of the alternating current we find that as frequency increases or decreases the A.C. current is affected differently. Before we go into more detail, let us look at one of the basic laws of electricity. Ohm's Law states that the current in amperes, in an electrical circuit or any part of a circuit, is equal to the voltage, in volts, divided by the resistance in ohms. When we substitute standard symbols and write Ohm's Law in symbol form it becomes

$$I = \frac{E}{R}$$

I is the symbol for current, E for voltage and R for resistance.

Ohm's Law can be stated simply: $E = IR$. Viz., the voltage is equal to the product of the current and resistance. It can also be given

$$R = \frac{E}{I}$$

The resistance is equal to the voltage divided by the current. Current I must always be in amperes, Voltage E in volts, and resistance R in ohms in order that Ohm's Law will give the correct answers.

A few examples on application of Ohm's Law before we continue.

Voltage is 220 volts and current is 2 amperes. What is the resistance?

$$R = \frac{E}{I} = \frac{220}{2} = 110 \text{ ohms}$$

Resistance is 500 ohms, voltage is 100 volts. What is the current through the resistance?

$$I = \frac{E}{R} = \frac{100}{500} = \frac{1}{5} \text{ or } 0.2 \text{ amperes}$$

The resistance is 1000 ohms, the current is 0.5 amperes. What is the voltage across the resistance?

$$E = IR = 0.5 \times 1000 = 500 \text{ volts}$$

The Ohm's Law we have stated has been for application to D.C. circuits. When Ohm's Law is applied to A.C. circuits we must make a change. We substitute Z for R. Z is the symbol for impedance. Impedance is the resistance to the flow of A.C. current by condensers, inductors and resistors. Ohm's Law then becomes

$$E = IZ, \quad I = \frac{E}{Z} \text{ and } Z = \frac{E}{I}$$

where L = Inductance.

We can apply this to any impedance device that we

insert into an electrical circuit. Impedance is measured in Ohms the same as resistance. If you desire to go more into detail on the application of Ohm's Law, any book on basic electrical fundamentals will give an adequate explanation.

Now let us return to the R.C. equalizer. Consider first the low pass filter R.C. equalizer in Figure 2. At low frequencies the impedance for the capacitor is large and the resistor and capacitor act as a voltage divider. Part of the input signal will appear across the resistor and the other part will appear across the capacitor. If the value of the resistor is equal to the value of the impedance for the capacitor, half of the signal voltage will appear across each. Since the output of the equalizer is across the capacitor only the signal voltage appearing across the capacitor is connected to the next amplifier stage. Now let us increase the frequency of the input signal. The impedance for the capacitor decreases and since the impedance is now smaller than the value of the resistor, our voltage divider will have more signal across the resistor and less across the capacitor. Therefore less signal is connected to the next amplifier stage. We can then say that as the frequency is increased the amount of signal connected to the next amplifier stage decreases or is attenuated.

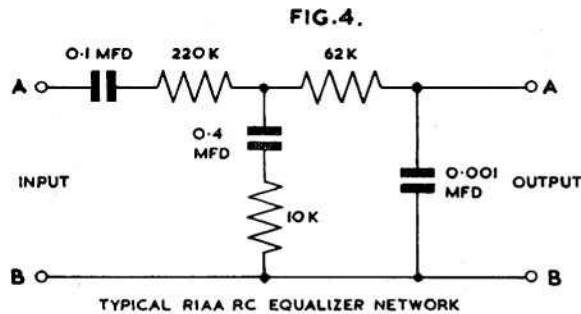
Now consider the high pass filter R.C. equalizer (see Fig. 3). The value of the resistor remains constant and the impedance of the capacitor decreases with frequency. The output is taken across the resistor. At a low frequency the output signal is half of the total input signal and as the frequency increases more signal appears across the resistor and less across the capacitor since the ratio of impedance of the two are changing. Therefore, as frequency increases the output signal increases, or looking at it the other way round, as the frequency decreases the output decreases, therefore the low frequencies are attenuated.

If we want to control both the high and low frequency response, we can connect one or more low pass filter R.C. equalizers and one or more high pass filter R.C. equalizers together and we have the necessary overall



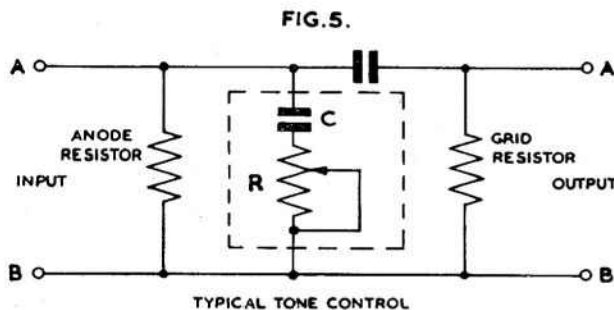
"Now look here Mate—how would you like everything you and your wife discussed being recorded."

response. Since disc recording firms world-wide use the R.I.A.A. response curve for recording, let us now consider this curve. The reasons for using this curve for disc recording will be explained in a later article on gramophones (9). For recording, the low frequencies are attenuated and the high frequencies are boosted. For playback we boost the low frequencies and attenuate the high frequencies. This is accomplished by use of both low pass filter and high pass filter R.C. equalizers. A typical circuit is shown in Fig 4.



K = X1000 mf = microfarads

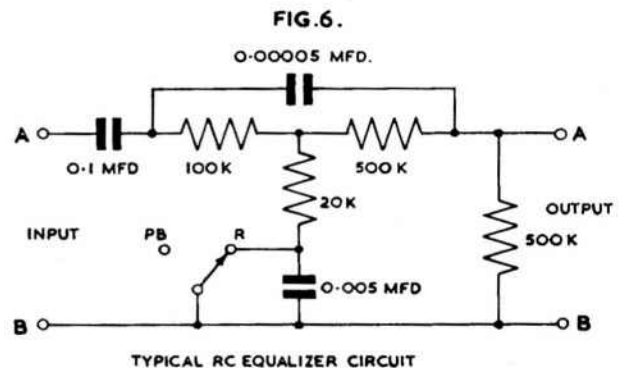
The 0.1mf and 0.04mf capacitors with the 220K and 10K resistors shape the low frequency part of the playback curve by attenuating the middle frequencies. The 62K resistor and 0.001 mf capacitor attenuates the high frequencies. The resulting curve appears to boost the low frequencies and attenuate the high frequencies. A tone control is no more than a high frequency attenuating circuit consisting of a capacitor and a variable resistor. If a capacitor is placed in parallel with the circuit as shown in Figure 1b as the frequency increases the X_c decreases and the capacitor tends to act as a short circuit to high frequencies and causes them to be attenuated. If we place the capacitor and variable resistor as shown in Figure 5 we can control the attenuation of the high frequencies by varying the resistance R.



By applying frequency versus impedance for capacitor C in Figure 5 you can see that the total resistance across which the signal voltage is developed is governed by the value of impedance of capacitor C, and the setting of the variable resistor R. Therefore, instead of increasing bass we reduce treble frequencies when we turn the tone control to get more bass from the amplifier.

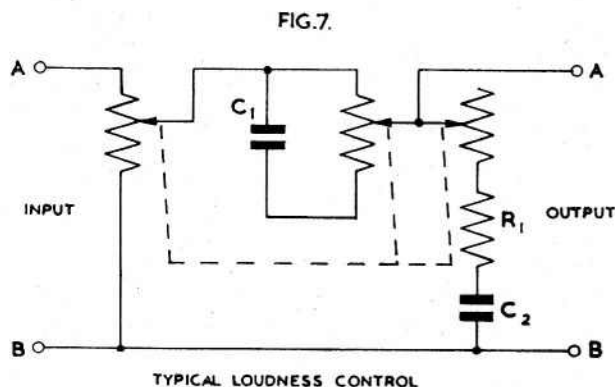
Now to tape equalization. As stated in the article on tape and tape heads, we require equalization to compensate for frequency response characteristics of the tape and the tape head. These record and playback curves are known as C.C.I.R. curves for Europe and N.A.R.T.B. curves for the U.S.A. Both curves are

very similar and only a person with exceptional hearing can tell the difference when both are played back on the same tape recorder with no change on the playback curve. The low frequencies and high frequencies are both boosted or as we are concerned, the middle frequencies are attenuated for recording. For playback we boost the low frequencies and attenuate the high frequencies. The low frequencies are boosted during recording because more signal is required at the low frequencies to record at the same level as the middle frequencies since more particles in the magnetic coating of the tape are affected by the low frequencies. The high frequencies are boosted to improve signal to noise level, as was done in the R.I.A.A. recording. The bass is boosted from playback again because the tape characteristics and the playback head require more signal to reproduce the low frequencies at the same level as the middle frequencies. The high frequencies are attenuated to bring them back to the normal level with the middle frequencies. Fig. 6 is a typical tape R.C. equalizer circuit.



The switch in the record position shorts across the 0.005 capacitor and the complete circuit acts to attenuate the middle frequencies, resulting in a boost of low and high frequencies as required. When the switch is in the playback position the 0.005 capacitor is added into the circuit. This results in the high frequencies being attenuated and the response for the middle and low frequencies remain approximately as for recording. Application of what happens with changing frequencies to the capacitive reactance (X_c) of the capacitors will reflect what output voltage will appear across the output terminals.

The loudness control has the same effect as the record R.C. equalizer circuit for tape. Volume controls control the output level for the amplifier. The human ear does not have a uniform frequency response for different levels of sound. When the volume is low the ear does not hear the low and high frequencies as easily as the middle frequencies. As the volume is increased the frequency response improves until the ear hears the normal range of frequencies all at the same level. The series of curves that show the frequency response of the human ear is known as the Fletcher-Munson equal loudness contours. Many of the newer Hi-Fi pre-amplifiers have a loudness control in addition to volume control. When the loudness control is used the volume control is then renamed the "level control." Operation is simple: you set the loudness control fully clockwise and then set the level control for normal playback volume. Then when you want to reduce the volume for background music, the loudness control will give the necessary equalisation or tone correction for the volume desired.



The three variable resistors are on a common shaft and all move together. The complete circuit operates to control the amount of attenuation of the middle frequencies. As the three variable resistors move down the capacitor C has the effect of being a high pass filter R.C. equalizer and capacitor C₂ as a low pass filter R.C. equalizer. Resistor R₁ is in the circuit to prevent complete loss of the signal with the loudness control in the fully counter clockwise position. The overall effect is the attenuation of the middle frequencies with only slight attenuation of the low and high frequencies. A look at the Fletcher-Munson curves will show the overall attenuation versus frequency with different settings of the loudness control.

You have probably wondered why inductors were not mentioned in the equalization circuits. Since only expensive equipment uses equalization circuits with inductors they have not been covered. The majority of domestic equipment uses R.C. equalization circuits.

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WHY NOT EDIT THOSE TAPES

by NIGEL REES

All you need is a splicer, splicing tape, leader tape and a few spare spools and you are off!!

Even if you have only been the proud owner of a tape-recorder for a few months, your tapes soon become composed of many varying pieces of material and when your collection of tapes grows you may want to sort the various items on to their relevant reels.

A few months ago I started what I thought was going to be a most arduous task, but one which turned out to be most enjoyable. If possible, allow yourself a few spare spools so that you can put on odds and ends and then begin by playing through all your tapes, making a note of what is on each reel together with a rough category heading and an approximate timing.

If you have two machines you have the advantage of not having to do any splicing; you can just play all the sections required on to another new tape. However, the average amateur has only one machine and when both tracks have been recorded on, things may seem difficult. By marking the section of tape required by wax pencil, with small pieces of *special* adhesive tape or by inserting pieces of paper between the layers of tape—turn over and play the second track. If you do not want what is on that track cut out the section and put it between pieces of white or coloured leader tape on the allotted spool. Enough leader for about two to three seconds is adequate, i.e. 8" at 3.75 i.p.s.; 15" at 7.5 i.p.s. Use different colours to denote different categories: red—classical music, green—baby's first words.

Often a recording on the other track prohibits editing the first track. If the other track has speech on it, insert a piece of leader tape at a convenient place, or in music at the end of a piece. This will enable you to locate quite accurately the positions of recordings on the tape so that your friends won't be kept waiting while you rush the tape backwards and forwards trying to locate that "very special recording I wanted you to hear!"

When you have all the right material on the right reels put it in a good order with music of the same artist or style together. Next, note down what is on each reel and time each "band," i.e. the tape between two leaders. Note especially any blanks that you can fill up later. Now when you want to play-back, note how many bands you have to pass before you come to the leader at the beginning of the required recording.

Here are one or two hints to help when you are editing :

If you have a number of pieces of tape waiting to

be put on reels the tendency is to put them on the floor in piles. This has many disadvantages : A draught may blow it all over the place, you may tread on it, you may lose the ends and lose many minutes through untangling the tape.

If you have a work bench which is free from draughts and people's feet, lay the strands of tape across it, hold them down with small books, and at the beginning of the recording put a piece of paper about one inch square and slip the tape through two parallel slots about half an inch apart and slightly over a quarter of an inch high and write on what the recording is. This will help considerably.

Paper or card 1" square
Mozart Symph.
Slots more
than ¼" high

¼" TAPE

Recording data
Beginning of recording

Another way is to clip a similar size of paper on to the tape with a paper clip, but this may scratch and twist the tape, which would result in "bumps" on the recording.

Alternatively put the tape in box lids and write on the outside what the recording is. The disadvantage of this method is that you do not know which end of the tape is the beginning. Put a wax arrow at the right end or with tapes like Emitape which have the trademark printed along the entire length, you can tell, by which way up the word is written, which track you are on, i.e.: Perhaps if the word is the correct way up as it passes from left to right it is Track 1; if it is upside down, then it is Track 2. (Note first which way up the lettering is for both tracks.)

Yet another method is to suspend the tapes, from the beginning of the section, by clothes pegs on to a line hanging over where you are working. (Be careful that the pegs do not harm the tape.)

Obeys all the rules of editing, but above all make sure they are good, soundless joints as there is nothing more infuriating than tape joints snapping, or, worse still, the adhesive coming into contact with the capstan roller in your machine. This will ruin tapes galore ! NEVER use ordinary sticky tape or leave sticky parts showing. The latter can be cured by removing the stickiness with the chalk as found in bicycle repair kits, but the former has no cure. The potential tape-recorder owner should have nightmares about doing this. The adhesive oozes out and sticks to the tape spooled around it, which can ruin recordings, tape and the heads of your machine.

When you have at last edited your library, as it now is, play through it all, time and then generally "tidy-up"—cut out pauses, re-do any poor splices. If you have a large library, you may like to card-index it. But however many you have, note down

where everything is, stack all your tapes upright on shelves in numerical or alphabetical order. Put all tapes into boxes and protect them from the enemies outlined below.

This, then, is your library, where you can look up any required tape within a few seconds—Tape B for Baby; Tape D for Dramatic Society; and so on, but to keep it in order obey all these rules, however fussy they may seem to be :

1. Protect the tapes in tins or boxes from extremes of temperature and humidity, otherwise the tapes may become brittle and snap.
2. Do not put them on radiators, in sunlight, with blotting paper or near the fire, as this will dry the base from the tape and make it curl and snap.
3. Do not leave tapes where dust can settle on them: put them in boxes. These are available from shops and are not too difficult to make for oneself.
4. Store upright to avoid "print-through."
5. When transporting tapes to outside recording venues or sending them through the post, pack them well so as not to break the spools or twist tape.
6. With new tape run it through the machine at fast wind to avoid stretching on the first recording.
7. Use the best tape you can buy; you will be rewarded amply.

If you are energetic enough you may like to keep a log book of all the recordings you make. I have done this since I first started recording; not only does it provide fascinating reading but it is also helpful when editing, indexing and finding recordings. I use the following headings :

DATE when recording was made.
RECORDING details—"film soundtrack."

FURTHER INFORMATION. Who took part, where made, equipment used. (Symbols can be used here : T—from TV soundtrack; R—from radio; G—from discs; OB—outside recording.)

TAPE No.
TAPE SIDE.

WHETHER ERASED (tick-off when recording is erased).

NUMBER given to special recordings liable to be kept for a long time and useful for editing and indexing : A47—church choir; 3A—tape to America.

If you follow these simple instructions, although the operation may take time, it will enable you to get greater enjoyment out of your hobby and also for those who listen and share it with you. You can help beat the saying that a tape-recordist spends half his time trying to find the right place on the tape !

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TETE-A-TAPE

a topical column of tape talk for amateurs like David Lazell who writes it

Bigger Bargains in 1960

The removal of restrictions on the import of American manufactured articles may well mean more bargains for tape recording enthusiasts in 1960. Some of these glossy adverts in the American magazines, having made our mouths water for many years, may now blossom into reality! For instance, there is one machine which assists those troubled students who, like myself, have difficulty in getting through "the recommended textbooks." This is a self-contained tape recorder which uses special endless tape cartridges, lasting up to two hours. The idea is that the eager student will read the difficult parts of his geometry into the mike, and then switch the machine to "playback" as he goes off to sleep.



Apparently, we are all in a more receptive frame of mind when asleep than we are when we are awake. This must account for the number of people who fall asleep whenever I start telling them my life story. There is also a special loudspeaker which, placed beneath the pillow, emits sound which can only be heard by the person asleep in the bed. Here, one can turn on the tape recorder and listen to some soft pre-recorded music, and be gently lulled to sleep. I wonder how long it will be before these gadgets will be on medical prescription; seems to be a better idea than sleeping pills! Another recorder I saw advertised claims that it has a 10-watt output, although a portable model. This, says the advertisement, is enough to fill an auditorium. So, folks, when these models hit Britain, ask to hear them in the Festival Hall, the Miners' Institute or in the Mersey Tunnel.

However, a wise friend of mine "in the trade" predicts that only the larger firms will be able to weather the keen competition in the tape recording field. Which means that any

newcomers will have to think of some really good gimmicks (like my suggestion of making tea automatically for thirsty tape recorder characters!).

Taking the Mike

I think it would be a good idea if all manufacturers of tape recorders specified some microphones suitable for their machines, especially when only a cheap microphone is given with the model. The happy—and unsuspecting amateur—can be well and truly baffled when he asks an enthusiast about this problem. Until quite recently, I always thought that a moving coil was a funny kind of caterpillar. A Leicester dealer, of wide repute, told me that an amateur purchased a very sensitive microphone, but returned it within a week or so, with the complaint that "it whistled." The dealer was rather puzzled by this and examined the microphone, which seemed perfect. Eventually he discovered that the noise was caused by the customer's false teeth, which whistled softly when breath was exhaled. The gentleman had previously owned a less sensitive mike. I wonder if he changed his dentures...!

One of my "tapespondents" in America must have a pretty sensitive microphone. His tapes always seem to get as much sound as possible on one track. First of all, he always



speaks with a musical background (last week his vocal chords battled with some fiery Mexican music) whilst the T.V. booms from the next room. In the long run, the quality of reproduction is subjective, i.e. it depends upon the state of awareness of the listener (hand over those tranquillisers).

Ah, Bright Image!

Recently, I attended a very interesting conference in London, the subject being that of "Television," and the contribution that it can make to informal education. Some people have suggested that T.V. programmes can be used

in discussion groups, and the meeting was taken up with discussing this suggestion as well as with T.V. generally. One speaker, an eminent gentleman in broadcasting, said that T.V. made people "passive," especially during the first two years of ownership. From the end of the second year on the influence begins to wear off, until by the time that the set has been on the sideboard for five years, the family has almost recovered. Young people do not share the enthusiasm for the "telly"; they prefer the "Palais" or the youth club. We were told that television does not influence our basic attitudes to life, although this statement was rather spoiled for me by the fact that I had just read in the paper of a grandmother in Wales who had attempted to "hold up" an elderly shop proprietor after seeing a programme about bandits. Anyway, the potential of the "telly" in giving people a wider view of life was gene-



rally accepted, although I would have thought that, by now, some national organisation would be looking at the tape recorder as a means of informal education. I expect that many readers share my own experience of "learning geography the interesting way" through tape exchanges. If every home has a tape recorder, as the manufacturers intend, these tape exchanges could become a very important part of our lives. At the moment, tape recording is very much in its infancy—and just think! no commercials half way through the talk or musical programme!

On Record

At long last the "Goon Show" has been put on record. E.M.I. recently released "The Best of the Goon Shows" on the Parlophone label (12in. L.P.), and I here and now nominate this record as one that should be included in our first rocket to any inhabited planets. It is certainly a record worth wide distribution . . .! It is interesting to reflect that there have been many radio programmes which might have been made available to the disc collector. Indeed, an American disc and tape library in

New York has a number of collectors' items that I would dearly like, including a memorable broadcast by George Bernard Shaw in 1934 (or 1935), in which that great man gave his views on a number of subjects. More recently, Oriole released an album of excerpts from the wartime "Tommy Handley Programme"—"It's That Man Again." As an ITMA fan, I have always regarded that programme as the rightful antecedent of the Goons. There were the same real but impossible characters—Sam Fairfechan, the Welshman; Mrs. Mopp, the cleaner; Senor So-So, who did wonders with the British language; Sam and Cecil, the shady characters; Funf, the spy; Miss Hotchkiss, the so-efficient secretary; Chief Bigga-Bonga and Naive, his daughter—and, of course, dear old Tommy himself! (Dear me, I have a better memory than I would have imagined.) The success of ITMA, like that of the "Goons," lay in the fact that the programme reflected the spirit of the time. Of course, Tommy managed to establish a place in the hearts of the British people that no one else—except Gracie Fields—seems to have done. The record of the Tommy Handley programmes is worth obtaining, either by loan from the Record Library, or by purchasing, and an interesting evening could be enjoyed by

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comparing the ITMA record with that of the Goons. These recordings provide an interesting contrast in portrayal of characters, and twentieth century aural humour (which leaves a lot to the imagination of the listener—as it should).

I hereby give my thanks to the releasing companies for the opportunity to have souvenirs of these popular radio programmes.

Imminent Arrival

I have been invited to address a tape recording society in the Midlands on "Humour and Tape Recording." When I told a friend the news, he retorted, "You ought to keep to your principles—send them a tape recording!" Well, it would save the journey, I suppose, and I could send a large photograph of yours truly along with the tape. My approach to tape recording is that of good-humoured inquisitiveness; a sense of wonder combined with a certain foreknowledge that something is bound to happen at the wrong time. I have the same trouble with record-players. I remember that a friend and I were giving a programme of recordings in a church hall in South Wales one evening. Mine was the task of fixing up the record-player and putting on the records, whilst

Alun introduced the discs. Alas, the fittings in the hall were rather old—and damp—and as soon as I turned on the current, I received a terrific shock which bounced me across the room. Alun beamed. "It's great to know that there's something 'live' in the church tonight!" he said.

On another occasion, at a friend's house, my record-player suddenly burst into flame—a bright pink flame. I turned off the current and only a smell of burning remained. I have never seen any prettier flame on November 5th. I suppose I am luckier than some folks—I once knew a fellow who owned a radiogram, complete with autochange mechanism. This being in those days of "78s" (remember them?), the autochange was in constant use, but to make the next record drop, the bottom of the radiogram had to be given a severe and sudden kick. After a time, this piece of equipment lurched whenever it was struck in this way; the records didn't seem to like it either. I waited patiently for that day when the final kick would be given and the whole chassis collapse in smoke. Alas, I was called up before that day arrived. I often wonder what happened. Things have improved since then!

ANOTHER COMPETITION FOR B.R.C. MEMBERS

You are invited to submit a tape recording of an eye-witness account of some famous historical event (of your own choice) or of an interview with a well-known historical character.

Tapes should be recorded at $3\frac{1}{2}$ i.p.s. and should be of at least five minutes, but not more than eight minutes duration.

Competitors can use their own interpretation of the event or interview—it can be either serious or humorous in approach—but must be a well-known event or personality in history, e.g., King Canute, King Alfred (and the cakes), Guy Fawkes, etc. Marks will be given as follows:

Originality	...	10 marks
Presentation	...	10 marks
Recording/Editing	...	10 marks
Total out of 30 marks maximum		

All tapes should be clearly labelled/boxed with name and address of the entrant and accompanied by return postage.

A 5in. spool of recording tape will be awarded to the entrants of each of the six best tapes.

Only one entry may be submitted per person. The Judge's decision will be final.

The Judges (or Editor) reserve the right to reproduce part or parts of tape recordings submitted for the use of members of the B.R.C.

All entries to be addressed to—

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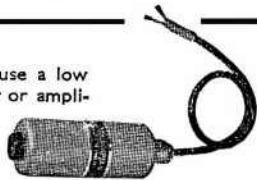
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(continued from page 27)

distance for your actors to work from. Although it is partly a matter of taste, you will probably find that the closer approaches are the most effective. Radio is an intimate medium, and working close to the microphone, the actor can convey all the subtleties of voice at a natural level which make microphone drama such an exciting

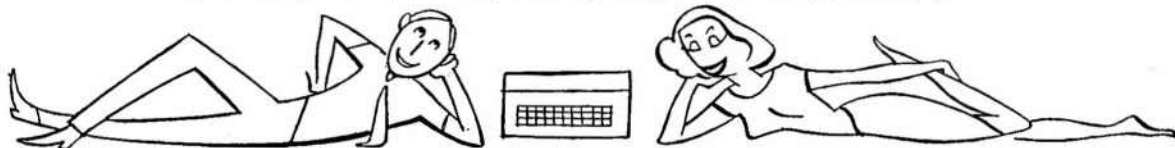
medium. Also, distant voices become extremely wearing to listen to after a very short time when there is no visual picture to support them and fill in details of action.

However, when once you have decided on your standard distance, see that the actors stick to it all the time, except for special effects,

which I shall discuss in my next article.

I shall also examine the choice of material for the trial recording of a short dialogue play, and give some information on useful formats for your script as well as more detailed basic microphone techniques and simple sound effects.

NEW RELEASES



POPULAR RECORD REVIEW

By STANLEY R. WHITE

In the mid-thirties a jazz group emerged from France which was destined to become world famous. Jazz enthusiasts will know that I speak of the Quintet of the Hot Club of France. Alas, the music of that famous group has long been confined to the gramophone records which they made. After all these years it has come as a pleasant surprise to find an English group enjoying success by playing in a very similar style to the original, and doing it well. I do not hesitate to choose as my recording of the month:

"THE DIZ DISLEY JAZZ GROUP"—(Music on Tape) CA 4467 (Monaural, 5in. reel, 7½ i.p.s.).

Titles: Monmartre; Angry; Nuages; Swing 39; September Song; Dark Eyes; Shine; Devil in the Deep Blue Sea; Honeysuckle Rose; Crying the Blues.

The line-up of the group for this tape is most probably: Diz Disley (guitar), Danny Pursford (guitar), Nigel Sinclair (guitar), Dick Powell (violin), Tim Mahn (bass).

Imagination is used to the plenty in the solos, and the group has tremendous drive. This is jazz with a difference player entirely on string instruments. The violin and guitar solos are first class, the group really swings with a style and selection of music which should have tremendous appeal. I am pleased to report that the reproduction quality is very good from the tape, which is also available at 3¼ i.p.s. (CA 433) and in Stereo (CAS 4127). This first-class recording is available from "Music On Tape Ltd.," 6 Laurence Pountney Hill, London, E.C.4, or through your dealer.

Music on Tape (CA 367, 7½ i.p.s., Monaural).

DORITA AND PEPE.

This tape features the well-known T.V. artistes singing in Spanish. The melodies are Spanish and South American.

Historia del Cha Cha; Nostalgia de Incaman; Ponte Bonita; Baslo Canto; Danza Negra; Quinto Patio; Luna Humahuana; La Galopea; Jaliscio; Carnavalito.

This tape will have only a limited appeal. I have found it of interest due to the excellent guitar work.

Unfortunately, I have little knowledge of the Spanish language, and because of this I have probably missed much enjoyment. I can only recommend this recording to those with a knowledge of this type of music.

Also available at 3¼ i.p.s. (CA 33), in Stereo (CAS 3127) Available from the address already mentioned.

"WALTZING AT THE TOWER" (Columbia Extended-Play, SEG 7963).

Side 1 (Modern Waltzes): Paradise; Mexicali Rose; Wonderful One; I Give My Heart; Kiss Me Again; Who's Taking You Home Tonight?

Side 2 (Old-time Waltzes): Eton Boating Song; Wyoming Lullaby; Whiffenpoof Song; Live, Laugh and Love; The Loveliest Night of the Year; Cuckoo Waltz.

This features Reginald Dixon at the Wurlitzer theatre organ of the Tower Ballroom, Blackpool. Listening to Reginald Dixon is always a pleasure. His charming interpretations of these melodies in waltz time will no doubt bring back happy memories to those of you who have listened and danced to his music whilst visiting Blackpool for the holidays. This is a very nice record by Reg, who is a regular visitor to the Columbia label. The reproduction is quite good.

For an L.P. which is different, interesting and well recorded, may I introduce you to:

"BWANA. A" (Vogue VA 160149), featuring the Arthur Lyman group.

Unless you have heard the earlier Vogue release by this group, then I can say that you have never heard music quite like this before. The music is played upon a number of lesser known instruments—even a couple of coconut shells are used. There are pianos, lots of percussive instruments, a rare Chinese Moon harp, actual sounds of the surf breaking over a South Seas shore, bird sounds—I could go on—but the record jacket provides all the answers to the sounds heard.

The music itself is in a variety of moods, with native Hawaiian melodies mingled with eerie novelty numbers and very very different treatments of melodies already known here. The group is a big attraction in Honolulu, especially to tourists and visitors in general. The recordings were actually made in Honolulu. The music has a strong rhythmic

beat at times, some of it is dreamy. I just love this record, which boasts a very high quality standard of reproduction which makes full use of good equipment. You need a tweeter for this.

Titles: Bwana a (not the old Ambrose tune); South Pacific Moonlight; Moon Over a Ruined Castle; Waikiki Serenade; La Paloma; Otome San; Canton Rose; Blue Sands; Malaguena; Vera Cruz; Pua Carnation; Colonel Bogey March.

Real hi-fi material.

GEORGE WRIGHT ENCORES (Vogue VA 160157).

Titles: Slaughter on Tenth Avenue; Tumbling Tumbleweeds; Brazilian Sleigh Bells; Silver Moon; Sentimental Journey; Anna; Chit Chat Polka; Quiet Village; Petite Waltz; Crazy Rondo; American Patrol.

George Wright records on a five-manual "Mighty" Wurlitzer pipe organ, playing with a genius that is unsurpassed. Usually his recordings are accomplished in no more than a couple of "takes."

There were only a few five-manual Wurlitzer pipe organs made. This particular instrument was originally installed in the 4,000-seat Paradise theatre in Chicago. The Paradise was an ornate cinema with "out of doors" motif, complete with twinkling star-studded sky, cypress shrubs, Roman columns and arches and elaborate statuary. Of its kind, it was the best, the biggest and the gaudiest.

The lush, sensual sounds of the mighty five-manual Wurlitzer were completely at home here.

The organ was recently removed and reinstalled in a Los Angeles, California, residence. Here it speaks out into a smaller area, comprising about 70ft. x 25ft. This new situation is, of course, better for recording purposes than the vast Paradise theatre, in that it allows more "presence," creating the illusion in a recording that the instrument is in the listener's own room. In this particular residence the pipes, traps, percussions, piano, relay mechanism, wind and electrical current generating mechanism occupy some six separate rooms.

Of necessity, the pipe chambers are air-conditioned and temperature-controlled to keep the instrument in exact tune during periods of prolonged playing, such as on a recording session. The console, originally ornate, elaborately carved and decorative, was restyled and refinished (as shown in the accompanying photograph).

Theatre pipe organs originated with the silent movies, as an accompaniment to them. The effectiveness of the particular film usually depended on the skill of the theatre organist, who played while the picture was being shown. For sound effects the organs included fire gongs, sirens, bells, horns, etc., besides all manner of percussive instruments such as drums, snare, castanets, tambourines, sleigh bells, xylophones, orchestral bells, etc. In the theatre organ the pipes are voiced to imitate orchestral instruments, as contrasted with the more sombre and dignified sounding pipes in church organs. A really clever organist could sound like a jazz band, a pop orchestra, a military band or, for that matter, a whole symphony orchestra.

George Wright didn't play the organ during the silent picture days. He's not that old. However, from the masters of theatre organ days—Eddie Dunstedter, Jesse Crawford, Gaylord Carter and others, George got the desire to equal these artistes, and has, in fact, exceeded them. With George it is as much a hobby as it is a profession.

Through the medium of modern high fidelity recordings, George Wright has single-handedly revived present-day interest in the theatre pipe organ in America. Following his early recording successes



GEORGE WRIGHT at the Rich, Vaughan Wurlitzer Organ. Ex Paradise Theatre, Chicago,

with his American company, other organs, organists and companies recording them, came quickly to life.

George Wright had no formal musical education, receiving piano and organ instruction from his mother. At the age of 11 years he won a radio contest playing "Dizzy Fingers" on an electronic organ. His youth, personal charm and great talent started him immediately on a successful career, which included night club appearances, radio and T.V. programmes, and a four-year engagement playing the huge organ of the Paramount theatre in New York.

The happy association of George Wright and his American record company (High Fidelity Recordings, Inc.) has sold literally millions of long-playing twelve-inch albums, making George eligible for not one but several gold records.

I hope my readers will excuse me for talking so long about George Wright, but now that these superb long-playing records are being issued by "Vogue" in this country, I thought information about the organ and organist would be welcome. The current record release is excellent, with lovely reproduction of the powerful theatre organ. The records cover pictures some of the organs pipes.

Bib RECORDING TAPE SPLICER FOR EASIER AND ECONOMICAL TAPE EDITING



Even you who uses a tape recorder will need this little tool. It is indispensable. P. Wilson, 'The Gramophone'. Send a stamped, addressed envelope for a helpful leaflet on tape editing.

The easy-to-lift clamps on the new Mark II Bib Recording Tape Splicer are both hinged on the same side of the splicer, making the jointed tapes easy to remove. Precise, rapid tape jointing is ensured, and because you can use all the odd lengths of tape, you soon save the cost of the splicer.

18/6d each (subject)

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INTER-TAPE NOTEBOOK

This month's additions to the Inter-Tape Directory maintain the Global variety of tapespondents published to date. Cyprus, Nigeria, Australia, U.S.A., Tasmania, Japan, Ceylon and Sweden are all represented. If you have not yet tried this hobby, you may wonder why it fascinates so many people throughout the world. The answer cannot be put in a nutshell. Music, humour, friendship and knowledge are some of the ingredients. Try it, and you will find others for yourself.

The Schools Division of the Directory is now getting under way. The latest addition to this is **The Green Lane Boys' School**, Green Lane Road, Leicester. They have over 250 pupils aged from 11 to 15. Their recorder is a Grundig TK 30, which takes up to 7in. spools at $3\frac{1}{2}$ and $7\frac{1}{2}$ i.p.s. They would like to contact any British Commonwealth countries.

Some tapespondents have over fifty contacts with whom they exchange tapes. We just don't know how they find the time. But if they don't either they may be interested in the following reducing exercises.

HOW TO LOSE FRIENDS IN TWELVE EASY PLOYS

By JOHN BARTER

Ploy 1: Discuss at length religion, politics, operations, nuptial experiences, or "jokes."

Ploy 2: Disregard all questions asked by your tape-pal.

Ploy 3: "I know you don't like rock 'n' roll, but I am sure you will love this taping of a 12in. L.P.

of Gavin McGoon and his frenzied friends."

Ploy 4: Over and under-modulate so that your tape-pal has to keep adjusting his end. The variations should be carefully timed so that the tape starts off at a reasonable level and gradually gets fainter and fainter, until, unable to strain his ears any more, he gets up from his armchair to raise the volume. As his hand reaches the knob, a sound wave blasts him back into his seat again. Repeat *ad lib*.

Ploy 5: Tell your friend you are the local Income Tax inspector.

Ploy 6: Be *different* with a non-standard speed, that makes your voice sound like Donald Duck to him, and his voice like Paul Robeson with a sore throat, which should, of course, be pointed out to him in your next reply.

Ploy 7: "My dog growls every time he hears your voice. Have you two met?"

Ploy 8: "I'll just get mother-in-law to have a chat with you for a few hours."

Ploy 9: "I am sure you will not mind teaching me 'Esperanto.'"

Ploy 10: "Now for an exciting and spontaneous recording of me playing my bongo drums."

Ploy 11: "I am wondering what I did wrong when you tell me that my last tape was quite blank."

Ploy 12: Failing all else, send a brief tape on the following lines: "I, er, um, ain't been nowhere, er, recently. Um. I don't—um—expect you have either—er—have you? I hate music—um—and too much jaw, don't you? Errr-ummm. Sorry I didn't—um—reply before. You see, um—I got no remission of sentence!"

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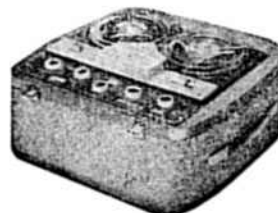
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The Club suggests that in all instances it is advisable to first contact a prospective tapespondent by letter on the following lines:—

Dear Mr. X,
I am a member of the B.T.R. Club and I would like to "Tape-pond" with you.

I own a X machine and use X" spools playing at X i.p.s.

My interests are as follows:—

Yours sincerely,

For ease of reading, particulars of Tapespondents are printed in the following order—name, occupation, address, interests, taste in music, type of machine and area of Tapesponding.

23530557 Pte. WATKINS, P., (20 years) H.M. Forces, "B" Coy., 2nd Bn. The Parachute Regiment, B.F.P.O. 53, Cyprus. Tennis, judo, jazz. Traditional jazz, Dixieland, swing, popular music. Philips AG 8108/6; 1,800ft. L.P. (speeds 7½, 3½, 1½). U.S.A., Canada, France, preferably with both male and female in U.S.A.

A. HUMPHREYS, Civil Servant (G.P.O. Telephones), 113A High Street, Yiewsley, West Drayton, Middlesex. Music, reading, films. Opera and pops. Wyndros "Viscount"; 7in. spool (speeds 3½, 7½, 15). Any country (English-speaking).

R. A. JONES, Plant Engineer, P.O. Box 94, Abeokuta, Nigeria, B.W.A. 8mm. cine and 35mm. stills, golf, tennis, music; just started learning Spanish. Opera; pop but not rock and roll. (a) Ferrograph; (b) Gramdeck. Spool—(a) 3in. to 8½in.; (b) 3in. to 5in. Speeds 1½, 3½, 7½. South America and Spain.

ALAN PENN, English Master in Secondary School, 33 Coppice Close, Sedgley, Nr. Dudley, Worcs. Education, literature. Classical, particularly chamber music. Ferrograph; up to 7in. spool (speeds 3½ and 7½). U.S.A., Canada, Australia, New Zealand, Scandinavia.

PATRICK L. LYDON, Professional Soldier, 15 Hyslop Parade, Chadstone, S.E.10, Melbourne, Victoria, Australia. Photography, philately, techniques of tape recording for entertainment. Classical, operatic, popular (not "teenage stuff"), martial. Grundig TK 55/U; 7in. spool (speeds 1½, 3½, 7½). Any—in English.

LESTER SLAMA, Ach. Production Mgr., 2351 Wilson Avenue, Chicago 25, U.S.A. Printing, adver-

tising, publishing. Popular, chamber. Webcor Hi-Fi; 3in. or 5in. spool (speeds 7½, 3½). Anywhere.

J. S. MORGAN, employed in Electrical Department of a Steel Company, 13 Edward Street, Port Talbot, Glam. Art, chess, dancing, photography, motor cycling, archery, horseriding. No particular class but not progressive jazz. Sound A 15, Collaro deck; 3in. to 7in. spool (speeds 3½, 7½ and 15 i.p.s.). Anywhere.

STANLEY B. THOMPSON, Clerk, Greno House, Grenoside, Sheffield, Rambling, music. Classical (Elgar preferred). Philips Junior; 5in. spool (speed 3½). Norway, Belgium, Holland.

ALASTAIR N. GOW, Electrical Design Draughtsman, 3 Myrtle Terrace, Newport-on-Tay, Fife, Scotland. Tape recording, cine photography*, rifle shooting and amateur dramatics. Not particular. Elizabethan "Essex"; 3in. to 7in. spool (speeds 3½, 7½, 15 i.p.s.). London area or Germany. *I would like to exchange tape and film (cine).

J. D. JENKING, Miller (engineering), 87 Cleveland Road, Midanbury, Southampton. Photography and cinematography. Popular and light classical. Regentone RT 50, 7in. spool; Elizabethan "Avon," 5½in. spool (speeds 7½, 3½, 1½). Home and abroad, English-speaking.

T. P. GOLDINGHAM, Punched Card Technical Adviser, Pinetrees, 15 Danford Lane, Solihull, Wks. Latin and Greek, general cultural, computers. Classical, "musicals," ballet. Philips; 5in. spool (speed 3½ i.p.s.). Anywhere outside U.K.

JOHN STANLEY KIPPING, Electrical Mechanic, JIG. S.M.Q., Crete Park, Whyalla, South Australia. Natural History. 35mm. slides and 8mm. cine. All. Two Technicordas, UG 4, 666; 7in. spools (speeds 3½ and 7½). All.

ALLEN L. GOODWIN, Farmer, Milford Mangalore, Tasmania. Tape recording, gardening, farming,

travel and colour slides. All but heavy classical and rock and roll. A.W.A. Magnetape and Collaro; 7in. spool (speeds 1½, 3½, 7½ i.p.s.). All countries and especially people interested in gardens and flowers.

CLIFF BROOKS, Radar Technician, 46 Aldershot Road, Fleet, Hants. Boating, travel, Opera, including G. & S. Collaro and Mullard Amp; up to 7in. spool (speed 3½). All over the world, particularly Netherlands and Sweden.

D. E. SPARROW, Teacher and Photographer, 2599½ N. High Street, Columbus 2, Ohio, U.S.A. Coin collecting, photography, dramatics. Classical, light classical, Dixieland. Dual-track, 7in. spool (speeds 3½ or 7½).

J. H. BRINCKMANN, Bank Official, c/o Nationale Handelsbank N.V., Higashi P.O. Box 116, Osaka, Japan. Orientology, especially Japanese literature and religions; non-fiction writing; modern residential architecture; travel. Folk, sacred, semi-classical, musicals, Oriental. Grundig TK 820 and Akai 900; 7in. spools, maximum (speeds 3½ and 7½). England, Scandinavia, Scotland, Ireland.

THOMAS BOYERS BAKER, JR., Shut-in (severe heart condition), P.O. Box 656, Gallatin, Tennessee, U.S.A. Grand Opera, classical. Crescent Manual; 5in. spool usually or others (speeds 7½ or 3½). Anywhere.

THOMAS A. BRADFORD, Postman, 427 Beach 69th Street, Arverne 92, New York, U.S.A. General. Popular, semi-classical, Dixieland. Revere T-1100; 3in., 5in. and 7in. spools (speeds 3½ and 7½). England, Ireland, South Africa, Australia and U.S.A.

B. CHANDLER, Local Government Officer, 90 Topsham Road, Tooting Bec, S.W.17. Youth clubs, football, tennis, traditional jazz. Light classics, traditional jazz, pop music. Elpico TR/350; 7in. spool (speeds 3½, 7½ or 15). America and England.

JOHN S. BROWNING, Plastics Technician (glass fibre), 66 Crouch End Hill, Hornsey, London, N.8. Do-it-yourself, plastics, general. Pops, show music, light classical, solo numbers, jazz. Elizabethan "Essex"; 7in. spool (speeds 3½, 7½ i.p.s.). America, Canada mainly; any replies answered.

Master Navigator LARRY LARKIN, Air Navigator, Sergeants' Mess, R.A.F. Tangmere, Sussex. Recording, colour photography. High and low. Grundig; 7in. spool and below (speeds 3½ and 7½). U.K., U.S.A., Germany.

DONALD L. LORAM, Civil Servant, 4 Island Villas, Upstreet, Canterbury, Kent. Cricket, baseball, etc., except soccer. Serious, light, modern, but extremes avoided. Philips AG 8108G; up to 7in. spool (speeds 1½, 3½, 7½). Australasia and North America (English only).

W. D. SIMPSON, Clerk, 434 W., Edwards Street, Springfield, Illinois, U.S.A. Woodworking, taping. Popular and musical comedy. Webcor 210; 7in. spool (speeds 3½ and 7½). Anywhere.

WILLIAM C. EATON, Land Surveyor and Electronics Technician, P.O. Box 1967, Las Vegas, Nevada, U.S.A. Audio, electronics, hi-fi, sound equipment. Classical, semi-classical and opera. Pentrons, dual track; 7in. spool (speeds 3.75 and 7.5 i.p.s.). In any part of the free world.

WILLIAM BURGIN, Optical Lens Surfer, 38 Falstaff Road, Sheffield 5, Yorks. Music, travel, T.V., international friendships, reading (mainly true stories). Traditional and modern jazz, big bands (i.e. Glenn Miller, Kenton, Herman), pop singers (like Sinatra, Crosby, etc. (no rock and roll or rock singers), but I like most kinds of vocal groups. Grundig TK 12 "Reporter"; up to 5½in spool (speeds 3½, 7½ i.p.s.). U.S.A., Europe, Far East, South America. Either sex (English-speaking only, please.)

ERIC H. TRONOWSKY, Photographer, 1224 San Luis Rey Drive, Glendale 8, California, U.S.A. Photography, art, music, current events and the world we live in. Exotic sound. Stereo, dual track; 7in. spool (speeds 3½ and 7½). Any part of the world.

JOHN S. GRIFFITHS, Driver, Hillcroft, 29 Sion Hill, Kidderminster, Worcs. Singing all kinds of songs. Light, classical and traditional, ballads. Selmer "Truevoice"; 7in. 5½in., 5in. spools (speeds 3½ and 7½ i.p.s.). British Isles and anyone else interested enough to play the tapes to patients in hospitals everywhere, to old folk in retirement, etc.

CHARLES MEAKIN, Optician, 7 Crofts Bank Road, Urmston, Manchester. Theatre, travel, 8mm cine. Theatre and cinema music and all but extremes. Telefunken; up to 7in. spool (speeds 3½ and 7½). Germany or other European countries or anyone.

DONALD S. WOLANIN, Policeman and Overhead Craneman, 595 Wentworth Avenue, Calumet City, Ill., U.S.A. Hi-fi, taping, photography. Popular, stereo. Bell Stereo; 7in. spool (speeds 3½, 7½). Anywhere except U.S.A.

MICHAEL ROBERT HOLMES (20 years), R.A.F., 53 Fornham Road, Bury St. Edmunds, Suffolk. Radio, T.V., light music (no rock 'n' roll). Theatre organ and electronic, and zither music. Collaro (self-built); 7in. spool (speeds 3½, 7½, 15). Anywhere.

JOSEPH E. BADGER, Soldier in U.S. Army (Europe), 175 SC Co. (svc), APO 216, U.S. Forces (if mailed in Europe), APO 216, N.Y., N.Y. (if mailed in America). Jazz (modern, progressive), dramatic classical, some popular. Grundig TK 20 (in Europe); up to 5in. spool (speeds 3½ i.p.s. only). All parts (except U.S.—I have several tapespondents there, I'd like to span). I have none yet in Greece, Turkey, France, Ireland or Oriental countries.

C. J. MAYO (20 years), National Service, "Arundale," Barrington Road, Letchworth, Herts. Traditional jazz, sound effects, Traditional jazz and progressive (i.e. Kenton and M.J.Q.). Mainly Collaro, 7in. spool, or Grundig TK 5, 5½in. spool (speeds 3½, 7½ and 15). U.S.A. mainly, but France, Germany, Austria as well. I speak French and a certain amount of German.

LESLIE PEARSON, Royal Air Force, 5 Hyde Road, Waterloo, Liverpool, 22, Lancs. Radio, T.V., films, tape recording. Popular. Grundig TK 5; 5½in. spool (speed 3½ i.p.s.). U.S.A., Canada, Australia, New Zealand.

JOHN F. MACKENZIE, Toolmaker, 4 Penrhyn Avenue, Thingwall, Wirral, Cheshire. Motoring, decorating, gardening. Light music. Elizabethan "Essex"; 3in., 5in. and 7in. spools (speeds 7½ and 3½). Any part of the world. No need for letter. All tapes answered.

KEITH WILLIAMS (13 years), 2 Maes-y-Goran, Denbigh, Denbighshire, North Wales. Photography, natural history. Light classical. Philips; 3in. or 5in spool (speed 3½). British Isles, U.S.A., Australia.

WILLIAM CHARLES THOMAS REEVE, Waste Paper Baler/Sorter, 17 Gladstone Road, Ipswich, Suffolk. Railways, machinery, planes, music. Johann Strauss, waltzes, marches, folk songs. Grundig TK 5; 5½in. spool (speed 3½ i.p.s.). Germany, Austria, any country).

MARGARET E. NORTHWOOD, Cosmetic Saleswoman and Buyer, "Y Wern," Pinfold Lane, Penkridge, Staffordshire. Music, films, dancing, youth work; in fact, everything. All types. Winston "Thorobred"; 6in. spool (speeds 3½, 7½, 15). Any part.

COLIN T. P. SILVER, Laundry Manager, 8 Canon Street, Edinburgh, 3, Scotland. Tape record-

(continued on page 54)



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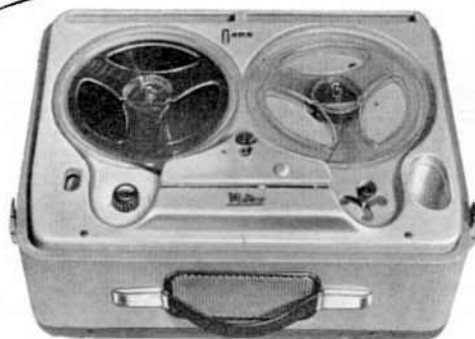
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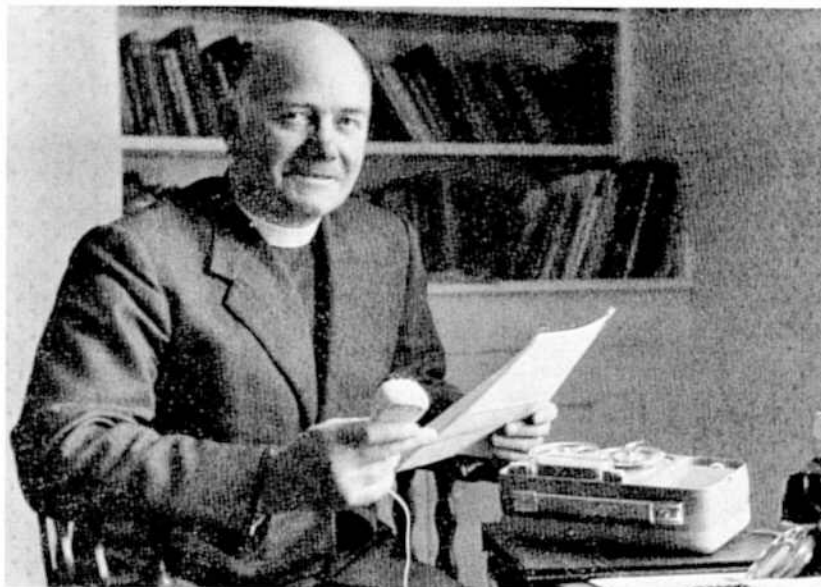
CLUBMAN PROFILE

Meet the Men & Women behind the "MIKE"

After having had to wait patiently for some years, an unexpected legacy enabled me to purchase a recorder and to offer it up for Christian service. It has been most wonderfully used and blessed ever since. Ideas and opportunities come along naturally and have been grasped. After two years, a library of tapes has been formed. This contains a wide range of subjects, for a parson has the privilege of hearing many first class speakers, and recordings have been made of talks by experts on the work of the Church, for example, in Burma, Japan and the Congo.

The Lambeth Conference of 1958 was a challenge to everyone and it was vitally necessary to follow up the lead given and to make the Church overseas continually real to those who had never been abroad and who had never met Christian visitors from other lands. It is now possible to combine the film strip projector with a tape recorder and to make what might have been merely vague and theoretical—extremely alive and vivid.

This can be done by obtaining a film strip on the history of the Church and of the Anglican part of it in coloured stamps! Contacts may be made with parishes abroad and the tapes sent back. The result is that when a picture of a Canadian stamp appears on the screen, a rich Canadian voice is heard describing the work of the Sunday school by post in the far-flung dioceses of that Church. In a similar way, Indian music gives background and atmosphere to Indian stamps. With the willing co-operation of overseas students in this country, it was possible to have excerpts from Australia, Korea, Ceylon, Nigeria and the West Indies. Contacts were made with the Church in Japan and a copy of a broadcast



service was sent from Tokyo and the sermon was translated by a Japanese-speaking Anglican Bishop. The hymn tunes were the same as in this country.

Another tape gave a description of the service of Evening Prayer in New Zealand with Maori children singing. This also included a most realistic War Dance afterwards!

A recent recording which came was of an almost unique character. A doctor in Iran gave an experimental commentary of a trip across the desert to a small village, where he performed his duties and saw many patients. One could hear the sounds and voices of the Persian villagers—and even a chicken! The blind Armenian Bible reader—in Braille—also read to those who wished to listen, and many obviously did. For some twenty-five minutes—so vivid was the description, one felt almost there—nearly 3,000 miles away and in a very different world.

Another recording from Persia was made at a Christmas party of the local Youth Group and one heard songs and games and much laughter. An enthusiastic Persian youth even sent an excellent imitation of a donkey braying across the world!

One of the Bishops to the Lambeth Conference was an African from Tanganyika. His sermon was most powerful and so challenging that it was worth recording and can now be played back to scores of people with the mes-

sage from the Church in that part of the world.

It only takes a little imagination to see how helpful these tapes can be in Confirmation classes and in meetings of a missionary character. Sunday schools may be assisted by means of special recordings. A recent one was made by an Arab vicar of Nazareth itself, and whose wife gave a very good description of an imaginary walk around the town today on one side of the tape, while on the other side her husband played back oriental Church music and the singing of the choir. Bells rang in the background.

The radio has often proved the value of shared experiences in illness and suffering. The tape recorder comes in here too. Christian witnesses may give their firsthand experiences of the power of Christ to heal and to uphold. Messages can be taken from hospital bedsides to those at home. Lonely folk in small bed-sitting-rooms—housebound and frustrated—can be linked up with the living Church and hear and send messages as well as listen to services in their own parish church.

In conclusion, a warning must be given. Modern inventions are only aids and they must be used with discretion and wisdom. Harm can be caused by too much enthusiasm. Given the right approach, prayer and faith, the tape recorder is a God-given instrument in the service of the Kingdom of Heaven.

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SOEB S. GALELY, Chemist, 26 14th Lane, Colpey, Colombo, 3, Ceylon. Instrumental music, Spanish, Latin America, Continental and light classical. Walter 505; 7in. spool (speeds 3½ and 7½). Countries connected with the above-mentioned music.

LENNART FLACH, Eskadervägen 30, Näsby-park, Sweden. Hi-fi, music, photography, tape recordings, etc. Old church music to jazz. Tandberg; up to 7in. spool (speeds 1½, 3½, 7½ i.p.s.). English and Swedish to any part of the globe.

COLIN L. SUTTON, Design Draughtsman, 13 High House Avenue, Bolton, Bradford, 2, Yorkshire. Amateur dramatics, 16mm. cinematography, motoring and, of course, tape recording, radio and television from both the technical and the layman's angle. Almost everything, except the extreme highbrow and rock 'n' roll. Continental Grundig; up to and including 5½in. spools (speed 3½ i.p.s.). United Kingdom and anywhere in the English-speaking world, particularly the U.S.A. and Canada.

ROBERT H. WILSON, 2 Broom Avenue, South Reddish, Stockport, Cheshire. General—wives and children included. I have a boy of 10 and a girl of 12. Anywhere.

WALTER RONALD CAREY, Ordnance Survey, 74 Kennedy Road, Maybush, Southampton. 8mm. movies and travel. Medium (mood music for films). Grundig 700 L. BS; 7in. spool (speeds 3½ and 7½). English-speaking only.

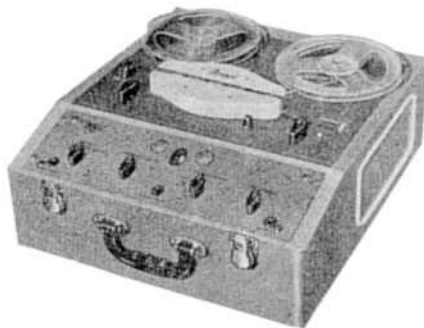
W. A. (Tony) BUTLER, Political Agent, Room 504, 8 Savile Park Terrace, Halifax, Yorks. Humour in an unusual vein, writing, the countryside. Bing Crosby, traditional jazz, piano (jazz and classics). Saja Export Mk. 5; 5½in. spool (speeds 3½ and 7½ i.p.s.). Any part.

JOHN BRIERLEY, Clerk at B.B.C., 15 Riverfleet, Birkenhead Street, London, W.C.1. Music, films, travelling, talking. Popular, light classical. Philips 5in. spool (speed 3½ i.p.s.). U.S.A.

WILLIAM HAYWARD, Stockkeeper in Warehouse, 73 Randolph Street, Carlton Road, Nottingham. Theatre, colour photography. Light classical to modern pop music. Sound 444 (speeds 7½ or 3½). France, Belgium, Germany, English-speaking.

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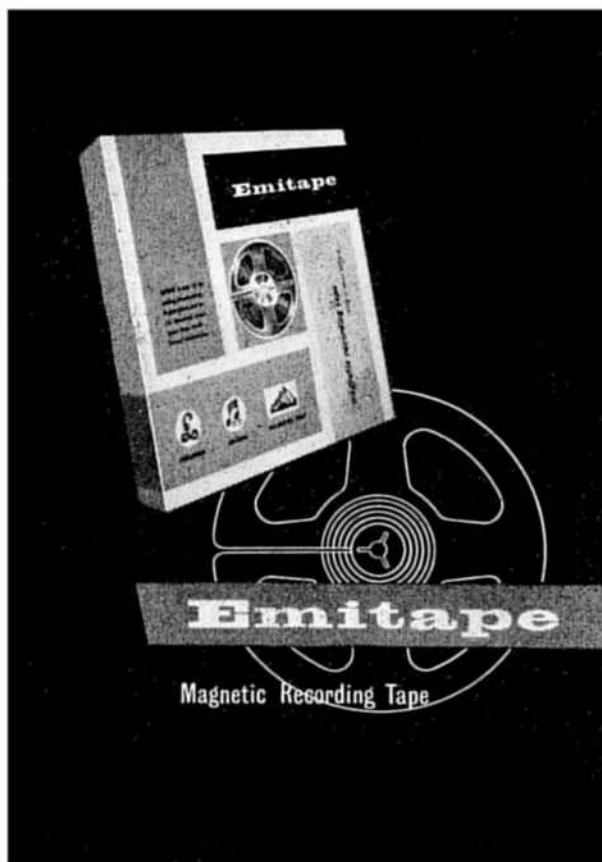
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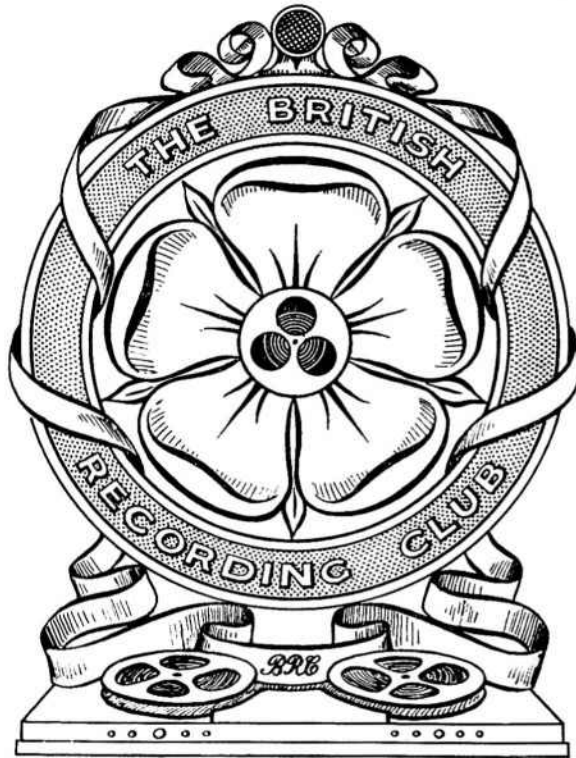
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The winning entry was submitted by:
Mr. K. E. JESSUP,
"Rushworth," Nutburn Lane,
N. Baddesley, Hants.
who is seen here receiving the Grundig Cub Tape
Recorder.



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153 Auchinraith Rd
High Blantyre
Lanarkshire

Mr. A. Shell
25 Commercial Sq.
Brandon,
Co. Durham



Mr. J. Johnson
147 Baker Street
Alvaston, Derby

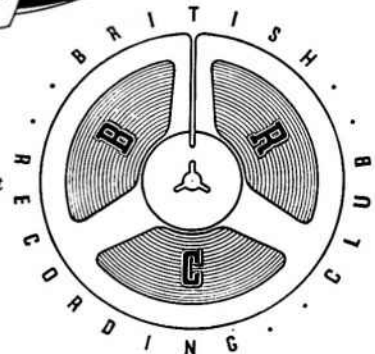


Mr. A. Urwin
6 Poplar Lea
Brandon,
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Mr. K. J. Lane
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St. Albans, Herts.

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CHARACTERS

INSPECTOR TEC NICHOLL, C.I.D.
SERGEANT TAPE, C.I.D.
LYDIA SPOOLCASE
JACK PLUG
PETAL SYCLE, a nightclub singer
Various Commercial Announcers

ANNOUNCER: In keeping with the season of goodwill, we present entertainment for all ages entitled "The Mystery of the Bloodstained Paper Knife," an episode in the series "Dial 3³/₄, 3³/₄, 3³/₄," starring Inspector Tec Nicholl and his assistant, Sergeant Tape.

INSP.: Right, Sergeant. The door was locked on the inside. The window has been forced. Pool of blood near the hearthrug. Body obviously dragged across the carpet and dumped under the sideboard. Three dagger wounds between the shoulder blades. Death instantaneous. What do you make of it?

SERG.: Foul play somewhere, could be.

INSP.: I've got a hunch—just a hunch, mind you—that it's murder.

SERG.: How d'you get at that, Sir?

INSP.: Logic, m'lud. There's a single strand of blond hair trapped in the nib of the deceased's fountain pen.

Perm your hair with DREGS. DREGS gives your hair that fashionable look—bedraggled. No mess. No water. Prevents corrosion in your curlers. Remember: your hair needs DREGS.

SERG.: You mean, it's the girl? The one we locked in the —

INSP.: It's just a hunch, I said. Have her in.

(Sound of unlocking and opening door.)

SERG.: Come in, Miss.

INSP.: Ar. May I have your name? And I warn you that anything you call yourself will very likely be taken down and evidently used against you.

LYDIA: How dare you invade my privacy. No lady would put up with such treatment. I don't see why I should.

INSP.: But we haven't approached you yet, madam.

LYDIA: Exactly. I've a good mind to ring the Chief Constable.

SERG.: Gosh, is he a friend of yours?

LYDIA: He will be if I rfig him.

INSP.: Name, please, Ma'am.

LYDIA: Lydia Spoolcase.

INSP.: Now. Do you know the deceased?

LYDIA: I did when he was alive.

INSP.: Who killed him?

LYDIA: Whoever stabbed him, I suppose.

SERG.: Ah, how d'you know he was stabbed? The Inspector never mentioned that.

LYDIA: Well, what's that sticking out of his back, a laundry label?

INSP.: Sergeant, we're on to something.

LYDIA: And, Inspector, I can tell you whose paper knife that is.

INSP.: Whose?

LYDIA: A third party, shall we say?

Why not insure yourself against all risks. The

China Shop and General will look after you. Pay them while you live, get it all back when you kick the bucket. Remember: there's no bull about the China Shop and General Assurance.

LYDIA: He had it coming. I hated him. He treated me like a wife—as if we were married for life or something.

INSP.: Got this down, Sergeant?

SERG.: Yes, sir. On my portable recorder.

LYDIA: Recorder?

SERG.: It's disguised as a wrist watch, ma'am. This signet ring is the microphone.

INSP.: No trade secrets, Sergeant. Where were we? You were telling me how your murdered your husband tonight.

LYDIA: That's right, Inspector, with three exceptions.

INSP.: Yes?

LYDIA: One: It wasn't tonight, it was last night. Two: He isn't my husband, we were just good friends. And three: I didn't murder him, someone else did.

INSP.: Ah, that confirms my suspicions. I knew I'd get it out of you. Switch your recorder off, Sergeant. Erase that last bit. Come on.

SERG.: Where now, sir?

INSP.: The Golden Sewer Nightclub.

LYDIA: But how did you know?

INSP.: Don't you watch the telly. The trail always leads to that sort of joint.

SERG.: Why the Golder Sewer, Inspector?

INSP.: Observation and logic, Sergeant Tape. Didn't you notice the name on the ashtray beside the body. By the way, we must get some petrol on the way. The Squad car's nearly dry.

(Fade up. Background of dance music and chatter.)

INSP.: Well, the murderer is in this room.

SERG.: So all we have to do is to interview three or four hundred people.

LYDIA: Do you dance, Inspector?

INSP.: Thank you, ma'am. Only off duty. Ah, who have we here?

JACK: 'Allo, Lydia. 'Ow are we? Whose your hangers-on?

LYDIA: Hello, Jack. This is, er . . . Mike Cable. Mr. Jack Plug.

INSP.: Hi. Call me Twisted. Everybody does and this is, er . . . Dick Tate.

SERG.: That's me, Sugar.

INSP.: All right, Jack, pull up a chair. There doesn't seem to be a ladder handy.

LYDIA: You should have seen my stockings after the fight.

JACK: Been wrestling dear?

INSP.: Just a little hoo-hah. Do you know Killer Sycle.

JACK: Who, me? Killer? Never heard of him, mate. Here, what is this? You cops?

INSP.: You could put it like that. Stay where you are, Mr. Plug. My men surround the place—booking cars for parking offences. They've probably towed yours away already. Simple, eh?

JACK: You can't pin a thing on me. I know nothing.

Improve your mind. Buy the Encyclopedia Utopia. Why be an ignorant clot, when you can just as easily be a knowledgeable clot. The Encyclopedia Utopia is in ninety-one handy volumes and will fit snugly along any ten walls of your home in the King-size bookshelf, which is an optional fifty-guinea extra.

INSP.: Mr. Plug, your ignorance is beside the point. You'll have a fair trial unless I have anything

to do with it. Take him away, Sergeant.

JACK: Get your hands off me, copper. What's the charge?

INSP.: Now you're being reasonable. Answer a few questions and you won't get hurt. Unless they're the wrong answers, of course.

JACK: O.K.

INSP.: Where were you at ten o'clock last night?

JACK: In bed.

SERG.: Can you produce a witness?

INSP.: Sergeant, please.

JACK: Course I can. I was watching the telly. Ask that bloke what doesn't get indigestion. He was chunnering about something at the time. He'll tell you I was watching in bed.

INSP.: T.V. in the bedroom, eh. Psychologically interesting.

JACK: Eh, don't you make any interferences at me. I'm a respectable citizen. Tax paid and all that. If you want the real low down on Killer, you ask his wife. Not her. I mean 'is married wife.

SERG.: Pity he wasn't a Lord.

INSP.: I don't get you.

SERG.: Just a joke, sir.

INSP.: Joke?

SERG.: Well, if he'd been elevated to the peerage she would have been *Lady Killer*.

Now here is a message from Lord Bunk.—My cats always eat SCRAPZ dog food. They love it. And what's good enough for my cats is good enough for you. Try some tomorrow. You'll love SCRAPZ, the food of the dogs.

INSP.: Is she here, Lady Kill—I mean, Mrs. Wife, I mean—

JACK: That's her with the seven-inch-spool earrings. I'll send her over.

INSP.: Don't forget to come back yourself.

JACK: As if I would.

LYDIA: D'you need me, Inspector. I don't like meeting too many friends in public.

INSP.: Sorry, ma'am. I'm only doing a job, ma'am. Ah, here she is. Mrs. Killer, I presume—I mean Mrs. Sycle. Sit down, please. You, too, Jack.

JACK: You needn't call her Missus. She's the singer here and everyone calls her Petal.

INSP.: Take a note of that, Sergeant. Petal Sycle.

SERG.: I'll write it down, sir. Sounds funny on tape.

INSP.: Now, ma'am. I understand you knew Killer Sycle.

PETAL: We were on nodding terms. What makes you ask?

INSP.: Were you married?

PETAL: Several times.

INSP.: I mean to Killer.

PETAL: Amongst others. What's so special about Killer?

INSP.: He died Friday night.

Do you feel down? Really deep-down down? Then take FIZZIC, the atomic pick-you-up. No matter what you suffer from, FIZZIC will aggravate it. Take FIZZIC and live dangerously.

PETAL: Friday was always his lucky day.

INSP.: Why do you say that.

PETAL: Because he had it coming to him.

INSP.: So you stabbed him.

PETAL: Wish I had. By the way, I've lost my paper knife. Have you seen it anywhere?

INSP.: Is this it? Careful, it's got my fingerprints on it.

PETAL: Yes. Where d'you find it?

INSP.: When did you last see it?

LYDIA: In Killer's back.

PETAL: It's a plant. Someone getting at me.

INSP.: So we're no nearer. Come on, Sergeant.

These things always end in a chase. The villain is about to make a run for it. Get the car started.

SERG.: Oh, sir. We forgot to get the petrol.

INSP.: So the murderer will get away, even if we know who dun it. Ah, well, live and let live, eh? Down tools, Sergeant. Let's have a party. Where's Jack? Is he all right still?

SERG.: No, sir. He's left.

INSP.: Splendid. A table for four, Sergeant, and see that a good time is had by all. [Fade in music.] Try the cha-cha with Petal. My dear Mrs. Spoolcase, shall we show them how? Do you come here often . . .

(Fade up music.)

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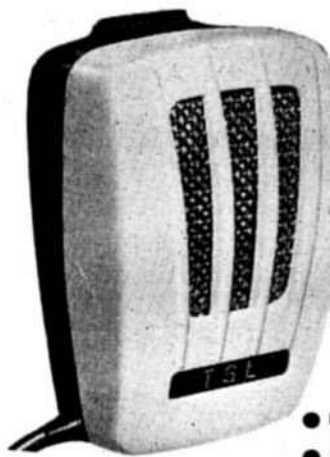
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WHO'S WHO

AND WHAT IS MANUFACTURED

An A-Z of manufacturers and their equipment

A VISIT TO COLLARO

A VISIT to Collaro works, the home of record players and tape decks, immediately creates the impression in one's mind of an organisation geared up for concentrated quality production, coupled with a flexible integration of production techniques and varied end products.

The factory itself carries a staff of some 2,000 employees effectively, pursuing their occupations, being adequately supported in their efforts by modern techniques and equipment. The entire layout of the factory ensures an extremely efficient flow of component piece parts along production lines carefully designed to accommodate the complete Collaro range.

On leaving the Engineer's Department, which incidentally houses the Drawing Office, Production Control Department and Test Department, to enter the main works, one gets a feeling of animation and movement everywhere. Endless chain systems or rollers are seen carrying components for manufacturing operations, assembly, testing, checking and the thousand and one ancillary aspects that go into the build-up of a Collaro product.

Obviously, advanced technique and new skills are constantly used to make the fine machines Collaro's are noted for. The classic indication of this is the first-class toolroom filled with precision equipment and skilled personnel. It would be impossible to mention all the machines employed in the manufacture of the necessary tools, moulds and fixtures, but some mention must be made of the Sparkatron machine used to form complicated cavities for mould tools. Basically, a brass master male former is machined to the required dimensions and then set up in the Sparkatron. Electrical contact is made between the master and the block of steel in which the form is required to be reproduced. Within a matter of hours, depending on depth, this has been effected quite automatically and accurately by spark erosion.

There are some fifty personnel employed in the toolroom, excluding the ten apprentices, each undergoing training, and receiving technical education one day per week. I was fortunate to see a six-stage rotor and stator press tool being manufactured. This particular tool will ultimately press out the very vital basic parts of an electrical motor, but more of this later.

A simple illustration of machine shop technique is to be found in the production of the rotor spindle.

The rotor spindle, a very simple component in appearance, is first produced on automatic lathes to the required diameter and length. It is then despatched to the hardening shop, where the outer surface is case-hardened to a depth of 0.030in., thereby creating a skin of glass hardness whilst retaining, by comparison, an inner core of softness to absorb any unnecessary shock or strain. Back then to the machine shop, where it is fed into a centreless grinding machine for a "roughing out" surface finish. At this stage it is checked for size and concentricity. This operation is repeated for final grinding to a close tolerance of plus or minus 0.0002in., checked again for concentricity and the quality of the grinding finish. This latter check is gauged by comparison with a predetermined standard of finish left by grinding, and is measured in units called micro-inches. Fundamentally this is related to the depth of the abrasions or ridges made by a grinding wheel on the surfaces of the ground materials. These ridges are not visibly detectable either by normal touch or unaided vision, so special equipment has to be used to make this test.

Finally this component is honed to an even finer degree of finish and once again thoroughly checked. Such care demonstrates the high standard maintained by Collaro.

Other complex equipment, all engaged upon the manufacture of component parts, includes capstans, millers and automatic six-spindle lathes capable of producing individual piece parts at the rate of 40 to 2,400 per hour.

Some of these turned parts are so small that they can only be effectively recovered when the cutting oil used on the machines is placed into centrifugal oil reclaiming units which automatically separate the oil and waste metal swarf.

There is a constant floor check on all piece parts, and viewers and inspectors were evident carrying out these checks with quiet efficiency.

Record changer top plates were being pressed out during the tour of the press shop, and the press production sequences from the first operation of turning up the outer beading to piercing holes, and raising dimples were carried out amidst the clatter and noise of the thirty-five presses ranging in press capacity from six tons to two hundred tons.

After these primary operations have been completed the top plates are scurfed to remove any press burrs, degreased in tricoethylene and surface inspected. Continuing the round of operations the part-finished top plates are transferred to the light hand-press section for rivetting and the mounting of stop pegs, etc. Once again the top plates are inspected and then loaded on to a chain conveyer carrying them to the paint department, where they are mounted on painting racks scientifically designed to give the right spread of paint. Before reaching the automatic spray plant they pass between air jets which ensure that they are dust-free, and then on into the booth where the rotating units on either side of them atomise the paint, and thus attract it on to the top plates. The voltage between these two units is 90,000 volts! This impressive and completely automatic

method of applying paint is the Ransburg electrostatic spraying process.

Having thus got their first undercoat, they then pass through an infra-red tunnel for instantaneous drying and on to a further paint booth where the second coat is applied, to be similarly dried. It is impossible to obtain by hand the finish achieved with this process. The resulting surface is virtually scratch-proof.

This apparatus was destroyed by fire eighteen months ago, and completely rebuilt by the staff in a fortnight. It operates on a twenty-minute cycle, and deals with approximately 50,000 parts per week. The parts are all inspected before and after painting.

The common factor linking all Collaro products is, of course, the motor, and as suggested earlier, the basic parts of an electrical motor are the rotor and stator, which go together like bacon and eggs. Moreover, they start life together with the rotor being pressed out of the centre of the stator from a special strip metal sheet noted for its magnetisable qualities. This strip has been pre-treated on one side with a kaolin preparation for future insulating purposes.

When the rotor pieces have been pressed from the strip, they are weighed in batches of an average of thirty-four pieces and stacked to bring an insulated surface between each piece, ready for assembly. Copper end pieces are then placed on the top and bottom of the rotor pack with copper connecting bars placed into the holes already pierced near the outside edge. These packs are then placed under a ten-ton hydraulic press for squeezing the pieces tightly together, swaging the ends of the connecting bars and twisting the alignment of a small slot now visible on the outside of the rotor. This twisting process is extremely important as it helps to give maximum torque to the rotor when finally finished, mounted and running.

Continuing the manufacture of the rotor, these assemblies are placed on to a dual chain drive for the hot tinning processing. Firstly they travel through a non-corrosive flux preparation and then into a preheated soldering bath. On emerging from this bath they are released from the chain drive and roll down a long ramp designed to throw off any adhering surplus solder. They are then ready for subsequent operations.

Collaro's are justly proud of this hot tin process of their own design as it is unique in rotor manufacture.

The stators are stacked and assembled in a completely automatic machine which ensures the correct assembly of these components at an exceedingly high rate of production.

Dynamic balancing of the rotor is performed with a Dawe Instrument machine embodying a stroboscopic lamp used in conjunction with a voltmeter. The voltage reading on the latter triggers off the strobe. The higher the voltage the higher the trigger effect on the neon lamp. This instrument enables these items to be balanced out to ten per cent. of one gramme.

The final destinations of the rotors and stators are the motors to be found in the heart of all Collaro products, including their tape decks. The latest model, the Studio Deck, embodies three of these four-pole induction motors.

Before the motors are fitted into the deck they have been subjected to various electrical tests, including a 1,500-volt flash test from windings to frame, and a two-hour running-in session on the test racks.

One of the most interesting machines used in the manufacture of the Mark IV deck was housed in the Injection Moulding Shop. This was an R. H. Windsor machine capable of extruding thermo-plastic material of up to thirty-two ounces. The tool mounted on this machine producing complete cover plates for the Mark IV is a classic example of modern moulding processes employing polystyrene. The machine is fully automatic and takes only a few seconds to mould each cover plate. After the plates were ejected from the mould they were manually immersed in an anti-static solution to prevent dust particles in the atmosphere adhering to them.

Polystyrene was not the only plastic used in the moulding shop. Diakon, another material in the thermo-plastic range, was successfully being used for component parts where considerations of strength and resonance were of importance.

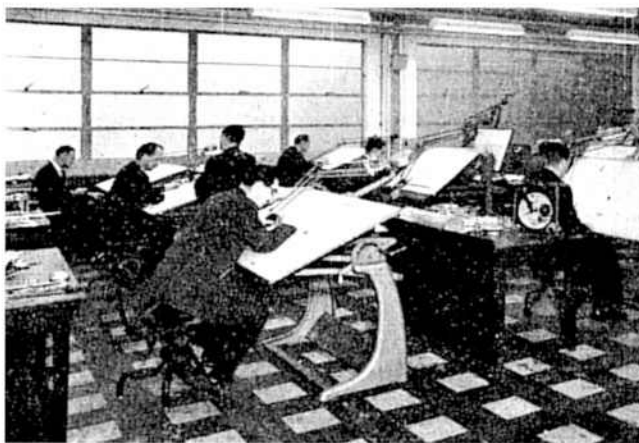
Die-casting plays an important part in the manufacture of



Front View of the Collaro Works



Brown and Sharp Automatic Machines in Action



Drawing Office

The Warehouse



components both large and small. The Die-Casting Shop is equipped with a wide variety of machines up to a capacity of an 8lb. shot. Mazak is the material used here. An excellent example of the varied components made in this department is the Mark IV chassis, designed to unify the various assemblies that go to make a complete deck.

The Assembly Shop line is broken down into a series of sub-assembly sectors. Special multiple air-operated fixtures are employed throughout these for the rapid assembly of mechanical parts. As each of the sub-assemblies are finished, they are transferred by a conveyor belt system to the next series of assembly operations. The heads, the counter and the pinch wheel constitute one typical assembly. The counter is incidentally one of the very few items obtained from outside the factory. Samples of this and everything else bought out go through the goods inwards inspection. Ultimately the complete electro-mechanical aspects of the deck are finalised, having been protected along their journey by a temporary frame.

The completed decks are then ready for final inspection. All the decks are given azimuth tests for maximum output, and then wow and flutter tests on Gaumont-Kalee test machines (there are over thirty of these machines in the factory). Then they are all tested for record, playback and erase in the testing booths. V.H.F. transmissions and pre-recorded tapes are used for these tests, which are made at the different deck speeds.

Having passed all the tests and inspections for the components and the completed decks, they are then ready for packing. But even when they are packed they still have to pass the spot check made on each batch. This involves tearing open all the careful packing and giving the machine selected at random another complete test.

In the Despatching Section, the unfamiliar names to be seen everywhere on the cardboard-covered columns demonstrated the world-wide appeal of Collaro products.

Collaro tape decks are embodied in many recorders currently on sale, and their latest model, the Studio Deck, is sure to feature in many new recorders yet to appear, in addition to those in which it is already incorporated. The deck is 14lb. in weight. It has three speeds, and a space is provided for fitting a monitor head or stereo playback head. The record head gap is .00025in. The motors on the Studio Deck can be moved to permit either a maximum 5½in. spool or a maximum 7in. spool. Rewind time is quoted as 65 seconds for a 7in. spool of 1,200ft., and 45 seconds for a 5½in. spool of 850ft. Wow and flutter not greater than .15% at 7½ i.p.s. It has light piano key type controls, a digital counter, plus a very clean appearance and is undoubtedly the best yet from the Collaro stable.

TUTOR-TAPE COMPANY

The Tutor-Tape Company who recently moved to 10 Lyons Place, London, N.W.8, are marketing a three-speed tape recorder embodying a Collaro Mark IV Tape Deck with digital counter. The speeds available are 7½, 3½ and 1½ i.p.s. There is a built-in mixer unit and super-imposing facilities. Output: 5.7 watts. Price 59 guineas complete with microphone and tape. They are also supplying a complete amplifier and power pack separately for people who wish to incorporate this in their own tape recording equipment.

Listen and Learn a Language

Tutor-Tape were the first Company in Europe to market language courses on tape. Educational authorities, universities and schools are making wide use of these courses which are equally suitable for individual as well as group teaching. They have the advantage that the student can pinpoint each word he is learning and have it repeated as many times as he wants without deterioration of the quality, and also he can speak in unison with the recording in order to perfect his pronunciation.

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Lustraphone "Lustrette" M/C	3	7	6
Lustraphone VR/64 Ribbon	7	17	6
Lustraphone LFV/59 Dynamic	8	18	6
Simon "Cadenza" Dynamic	10	10	0
Grundig GCM 3	6	6	0
Reslo Ribbon	8	15	0
TSL 3-Channel Mixer	2	2	0
Grundig Mixer	16	16	0

Also by Ronette, Acos, etc. We will gladly advise on the type best suited to your requirements.

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Jason FM	22	15	8	Garrard 301	22	7	3
Jason FM	25	18	10	Jason J-2.10/MK3	37	10	0
Pye JTV	20	0	7	Leak Stereo 20	30	9	0
Trix FM	26	5	0	Loudspeakers by—			
Garrard 4HF	18	17	8	Expert, C.Q., W.B., Pye,			
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RESULTS AND WINNERS OF THE NOVEMBER HIT PARADE COMPETITION

Results

1	0
2	91
3	1
4	0
5	0
6	39
7	84
8	65
9	63
10	61
11	66
12	0
13	0
14	0
15	99
16	77
17	2
18	96
19	73
20	0

FIRST PRIZES

Nine winning entries were received. Each will receive a cheque for £11 1s. 9d.
H. Jackson, Clarence Road, York.
M. Heywood, Blakeridge Lane, Batley.
L. Scriven, Caledon Road, East Ham.
T. Walker, Elliott Street, Tyldesley.
L. Winrow, Bolton Road, Bury.
P. Fox, Corporation Street, Manchester.
T. Walton, Camberwell New Road, London.
F. Blooming, Wolverhampton Street, Dudley.
N. Spicer, Lincoln Road, Peterborough.

SECOND PRIZES

Fourteen entries contained one mistake, and each will receive a cheque for £4 8s. 6d.

N. Judd, Scarborough; W. Hicks, Brentford; Mrs. M. Warner, Dover; P. Dudley, Southend; T. Rogers, Tottenham; D. Kirby, Glasgow; I. Trevor, Maidenhead; S. Williams, Ilford; F. Yates, Exeter; T. Williamson, Gloucester; I. McKenzie, Edinburgh; D. Buckley, Blackpool; F. Line, Bury; P. Graham, Matlock.

THIRD PRIZES

Nineteen entries contained two mistakes and each will receive a cheque for £1 7s. 7d.

R. Thomas, Swansea; Sgt. Collins, Berlin; G. Walker, Clacton; D. Dickinson, Oxford; N. Rogers, Sheffield; E. Williams, Dulwich; Mrs. J. Spence, Luton; S. Tyler, Enfield; C. Pyatt, Torquay; F. Roberts, Cambridge; L. Tracey, Hampstead; C. Buckthorn, St. Albans; R. Spencer, Paignton; D. Reynolds, Southport; J. Lane, Salisbury; N. Peterson, Manchester; P. Cleaver, Ripon; E. Priestley, Warwick; B. Robertson, Edinburgh.

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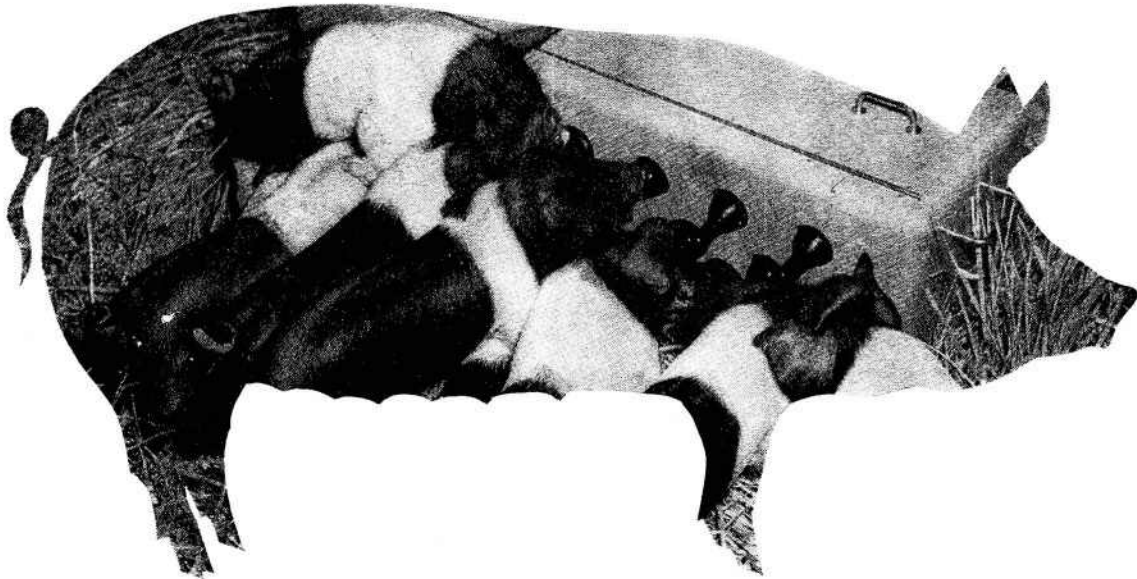
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Insist on
the tape with
the Luvitherm base



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