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VOL. 2 No. 1

AUGUST 1960

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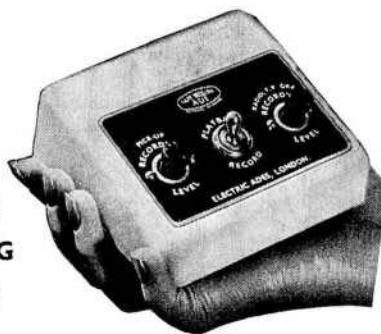
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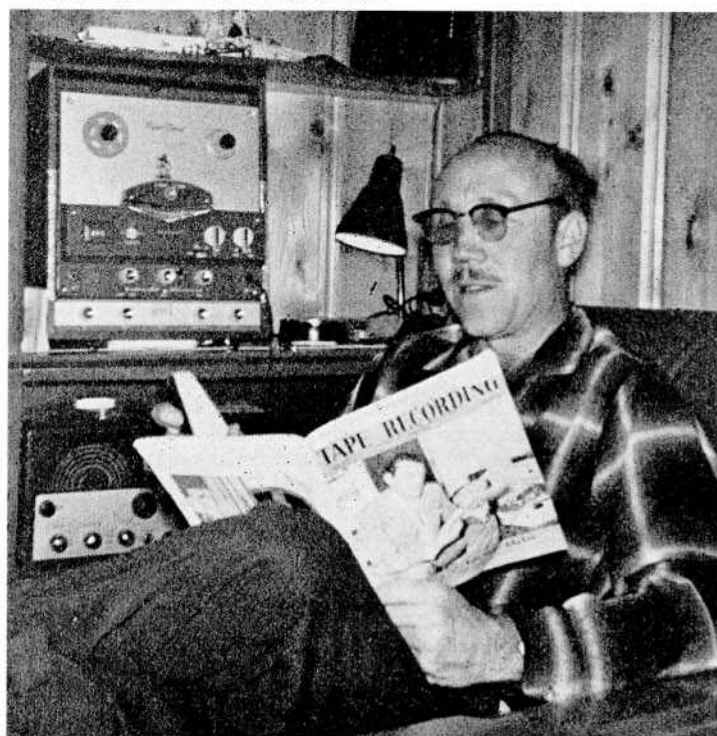
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August, 1960

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<p>To: THE SECRETARY, THE BRITISH RECORDING CLUB, 145 FLEET STREET, LONDON, E.C.4.</p> <p>Dear Sir, I wish to become a member of The British Recording Club. I enclose my membership fee of one guinea (21/-), which includes my annual subscription to the "Amateur Tape Recording" magazine.</p> <p>Name</p> <p>Address</p> <p>.....</p> <p>Date.....</p> <p>Type of Recorder used.....</p>	<p>To: THE SECRETARY, THE BRITISH RECORDING CLUB, 145 FLEET STREET, LONDON, E.C.4.</p> <p>Dear Sir, I wish to become an associate member of The British Recording Club. I enclose my annual subscription fee of five shillings (5/-).</p> <p>Name</p> <p>Address</p> <p>.....</p> <p>Date.....</p> <p>Type of Recorder used.....</p> <p><small>Associate Members DO NOT receive "Amateur Tape Recording" magazine, but are entitled to participate in the Club's Tapesponding activities and any other services which become available.</small></p>

MEMBERS WISHING TO "TAPESPOND"

ARE REQUESTED TO COMPLETE THE FORM BELOW

I would like to Tapespond 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 Used..... Size of Spool.....

Tape speed(s)..... Occupation.....

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

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 member's 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.

AMATEUR TAPE RECORDING

amateur TAPE RECORDING

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

for the tape enthusiast

VOL. 2 No. 1 AUGUST, 1960

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CO-OPERATION

Tape Recorders are all things to all men. For some they are novelties, used for a time to capture fleeting sounds, and then put on one side. But for the vast majority the Tape Recorder is a medium of expression, the means to expand creative ability, a storehouse of memories, the open door to friendship.

Tape Recorders do more than serve their possessors, they also have the power to bring happiness and comfort to many others. From the outset the British Recording Club recognised this potential, and as the Club grew, it developed services for the purposeful use of amateur recording—in hospitals, for the blind, for those who feel remote from family and friends, in schools, and in the service of religion.

Inspired by the expressed desire of delegates at a recent tape recording clubs' convention, to develop similar services locally, we wrote to over 90 clubs in Great Britain offering our help for this humanitarian work. We expected to receive a few replies, with more to follow as each club considered our suggestions and decided on its own line of action, for after all tape recording is a hobby first and foremost.

What we did not expect was the immediate and widespread response which greeted our letters. Many clubs are already most active in the hospital broadcasting field, in fact some even featuring in regional radio and television programmes so excellent is the standard of their work. The others mentioned an impressive output of recordings for the blind, on all subjects from current affairs to classical literature. It is clear that for many enthusiasts tape recording is a hobby with a purpose—the service of others.

Is this then the secret of the universal appeal of tape recording and an explanation of the phenomenal boom in tape recorder sales which has spread from Britain to the Far East? Partly, we think, but primarily because tape recordings are not merely the echo of our personalities—they present the opportunities for us to develop our latent talents and widen immeasurably our circle of friendship.

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WORLD TAPE NEWS

SON ET LUMIERE

Norwich Cathedral is the latest historic building to have the Son et Lumière technique of dramatization by lighting and sound effects applied to it. But this presentation will be different from all previous ones elsewhere in that it will be completely controlled by automation. All switches will be operated by that old friend "George", an automatic device responding to cues recorded on the tape carrying the voices and sound effects retelling the 800 years' history of the Cathedral. The recorded voices of some fifty different characters will be heard through loudspeakers giving a stereophonic effect. The part of the narrator will be spoken by the well-known actor, Leo McKenna. All other parts will be spoken by members of the Maddermarket.

STEREO-TRAINS

African railway passengers travelling fourth class now have music while they move in Southern Rhodesia, for Rhodesia Railways have fitted a play-back unit, with four speakers to give a stereophonic effect, in trains running between Salisbury and Bulawayo. The unit uses 90-minute tape recordings of hit tunes. One wonders what first class passengers get! Stereo silence perhaps.

HIDDEN PERSUADERS

The Advertisement Pillars common in France and Germany are now appearing in Hamburg in modern form. Revolving film advertisements are projected against the plastic wall of the pillars from inside, accompanied by a tape-recorded commentary. They must have been very disturbing for late-night revellers when they first appeared.

TALKING NEWSPAPER FOR BLIND

Mr. Walter Gillings, a former newspaper editor, produces a weekly "newspaper" on tape for Ilford (Essex) local Blind Clubs. The tapes contain news commentaries on local affairs on a feature "What Goes on Here?" Presents sound pictures of the activities of the Ilford Blind Welfare Association. Ilford's Mayor, Councillor Harold Root was one of the first of the town's prominent citizens to record a goodwill message for the scheme.

AUDIOGRAPH COLLECTORS

Collecting autographs in sound from celebrities, using one of the increasing number of battery portable recorders now coming on to the market, is becoming the latest teenage craze. We suspect that it is not confined to teenagers and wonder who the champion audiograph collector is. Have you a large collection? If you have, we would be interested to hear about it.

TAPING DORSET DIALECTS

This is one of the self-imposed tasks of the Dorset Natural History and Archaeological Society which has a membership of over a thousand people. They are endeavouring to record all the different phrases and dialects that have been in common use in Dorset, and already tape recordings have been made at Abbotsbury, Bridport, Kimmeridge, East Chaldon, Puddletown and Sturminster Newton. But there are many gaps still to be filled, which no doubt will surprise people used to thinking of the Dorset dialect in the singular. However, the localised dialects are fast disappearing and so it is a race against time to capture their individuality for future generations.

Apart from the society's collection, these recordings also go to Leeds University and the B.B.C.

"TAMMY" SPEAKING

"Tammy" is the latest phone-answering recorder to go into commercial use. It is installed in Vauxhall's Motors Parts Department at Dunstable and allows dealers to place orders by phone outside normal working hours.



Al Koran recorded the name of the winner on his Cub in the Charlie Chester Show on the Monday before Derby Day. The tape was carefully locked away and ceremoniously produced on Derby night in Al's own show. Thousands of viewers heard the playback—he'd not only forecast the winner, but the second and third as well.

FUTURE HISTORIC

If you were to dig beneath the bronze plaque in the new City Hall in Hamilton, Bermuda, you would unearth a mysterious stainless steel object. But you would be anticipating your great, great grandson—or daughter, for this is a £350 "time capsule" due to be unearthed officially in the year 2019 so that the tape recordings and microfilm inside it can give the people at that date an idea of what life was like back in 1960. Just in case tape recorders no longer exist then, full constructional details have been included in the capsule.

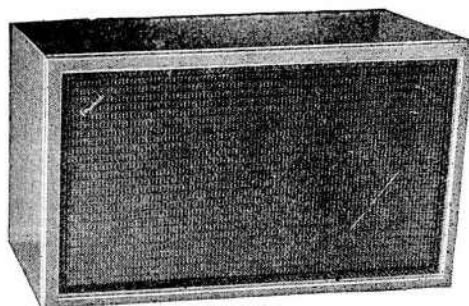
CRY BABY

Jeff Langley, secretary of the Ilford and District Tape Recording Society, intends to make a sound picture of the life of his son. There is nothing like beginning at the beginning so the ambulance that rushed Mrs. Estelle Langley to the local hospital for the happy event, also had a portable tape recorder aboard, in charge of an expectant father who rallied shortly after his son's arrival in time to tape his first unaccompanied male voice solo.

SUB-STANDARD

The U.S.S. Skipjack is reckoned to be the world's most secret and most modern submarine. She can cross the Atlantic underwater without surfacing at any time en route, travel at fantastic speeds, dive to vast depths. Skipjack has four decks, and dreamy living accommodation. Individual curtained bunk with reading light and ventilation blower for each sailor; two-berth cabins for the officers. The mess decks are equipped with a T.V. set, a 50-record jukebox, a hi-fi player in the wardroom, a library of 600 books, a big stock of films for the daily cinema show, and tape recorders (yes, plural!) with a big supply of classical music. It all sounds too wonderful for words, but there is a terrible flaw in this multi-million dollar man-made whale. The T.V. set only works on the surface!

Wharfedale W2 TWO SPEAKER SYSTEM



Price £29.10.0

Modern tape recorders are capable of astonishingly faithful reproduction when connected to a separate wide range loudspeaker such as the W2.

This compact speaker system will operate with any tape recorder of 8-16 ohms impedance. Other impedances can be matched using the WMT1 transformer at 13/6d.

The W2 is available with a choice of walnut, oak or mahogany veneers or slightly cheaper in whitewood at £27.10.0d.

Descriptive literature sent free on request

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Pre-recorded Tape reborn in U.S.A.

by Herbert L. Brown
(Vice President Ampex Corporation)

THE MUSIC-ON-TAPE market was reborn in 1959 with new strength and abundant vitality.

Supporting it was an industry-wide effort, stimulated by both recorder manufacturers and music producers, aimed at re-awakening the truly sound-conscious music lover to the inherent advantages of tape.

The secret behind the revival is the $7\frac{1}{2}$ i.p.s., four-track stereo tape, which offers the public maximum economy—with two tracks of stereo in each direction—while maintaining the hitherto superior sound-reproduction of two-track.

How and why did this large-scale "rejuvenation" come about?

In 1958, the introduction of the stereo record combined with the debut of the R.C.A. tape magazine had all but killed the $7\frac{1}{2}$ two-track market.

After extensive research and development, we felt that the $3\frac{1}{2}$ cartridge would not meet the needs of the market we were serving because of economic and functional drawbacks. At Ampex a policy decision was made to retain the $7\frac{1}{2}$ i.p.s. speed, which had been the accepted standard of quality for almost ten years, and to employ the newly-perfected 4-track system. It was introduced to the market in May of 1958. Pentron, Telectro, Viking and other manufacturers followed suit by employing the $7\frac{1}{2}$ four-track head in their recorders also. This meant that there were three standards in the market at the time— $7\frac{1}{2}$ two-track, $7\frac{1}{2}$ four-track, and $3\frac{1}{2}$ four-track magazine. It was clear that a "market stabilizer" was needed immediately for the benefit of the \$140 million-plus industry engaged in the manufacture of reel-to-reel recorders.

In February, 1959 the Magnetic Recording Industry Association was approached with a proposal to standardize on $7\frac{1}{2}$ i.p.s., four-track and to attempt to secure agreement from producers of recorded music to market tapes at the new proposed standard.

Approximately sixty industry representatives heard the proposal: some favoured staying with the $7\frac{1}{2}$, two-track; others backed the magazines; and still others expressed a willingness to support the new $7\frac{1}{2}$ four-track standard. Although the new standard was not adopted at this meeting, there was general agreement that the $7\frac{1}{2}$ two-track music market was dying. Tape cost for live music at the time was at least double if not three times as much as a record. For example, a $7\frac{1}{2}$ two-track

(Above) Raw tape pancake contains some 3,750 feet of tape from which more than three hours of music can be recorded on 4-track, $7\frac{1}{2}$ i.p.s. stereo tape.

(Below) A master duplicator (lower right), whirling at 120 inches-per-second feeds a bank of slave units turning at half that speed. All four tracks (forward and reverse) are recorded simultaneously.



tape of "South Pacific" was selling for \$14.95 while the record retailed for \$4.95—300% less! Those behind the 7½ four-track movement said that it would be possible to market the same music selling for \$14.95 for \$7.95 on 7½ i.p.s., four-track stereo tape. While still somewhat higher than the record, the price would be competitive when combined with the tape features of permanency and quality.

Following the M.R.I.A. meeting in February, it was apparent that the industry was confronted with the age-old "chicken and the egg" problem. Recorder manufacturers were reluctant to install the four-track head, which at the time was more expensive (although today it sells for the same price as the two-track head). In addition, they did not want to make the change without assurances that there would be sufficient quantities of music on the market. Similarly, music producers stuck to the theory that with the two-track market rapidly fading into oblivion, there were not enough machines in the hands of the public to warrant their re-entering the market.

Because of its own stake in the tape market, Ampex then contacted music companies that had previously been on tape and asked them to enter the market with ten of their best selections on 7½ four-track in time for the National Association of Music Merchants show in June, 1959. These companies were Mercury, Concertapes, Westminster, Hifitapes, Omegatapes, Verve, S.M.S., R.C.A., Capitol and Columbia. This move resulted in a brief flurry of production—enough to develop definite interest by the press, and some degree of enthusiasm among tape recorder manufacturers, several of whom began converting to 7½ four-track.

Still, at this stage, the industry had no guarantee of sufficient music libraries to develop and sustain the 7½ four-track market.

It was at this point that the plan for the establishment of United Stereo Tapes, as a division of Ampex Audio Company was presented to the Board of Directors of Ampex Corporation. U.S.T. would act as a national distributor for companies already producing tape and as a producer for libraries previously not available on tape.

U.S.T. was also to market for the companies already in the magnetic tape business, and to add the libraries of

recording companies that had already evidenced interest. These included K.A.P.P., M.G.M. and Warner Bros. At the outset, it appeared that U.S.T. would have about 14 libraries of music on 7½, four-track for national distribution.

The operations of U.S.T. were based on the concept of non-exclusive distribution which allowed both the company producing the music and U.S.T. to distribute the product. With U.S.T. covering virtually all types of outlets, including camera stores and those reached by equipment manufacturers, this meant that the dual-distribution system could blanket the market.

Three major depots—in New York, the mid-West, and the West Coast—were planned to act as producing and distributing centres for U.S.T. An album would be mastered to a 7½, four-track tape in three copies, one to be on the West Coast, one in the mid-West, and another in the East. Each centre would produce adequate copies to support the market in its area; then when the supply would be sold, the master would be placed in a duplicator and an additional lot run. The system was designed to provide maximum flexibility in delivery as well as constant availability with minimum inventory.

The general plan for the formation of United Stereo Tapes was approved



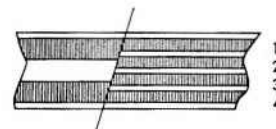
An engineer monitors a re-recording of master tape to a 4-track ½-inch duplicator master. Careful quality control is necessary at this point to ensure proper channel balance, correct levels, fidelity of response. The wider tape is used to achieve the highest fidelity in addition to greater strength and longer life.

and the new division was established in May, 1959. U.S.T. planned to issue 150 selections on 7½ four-track by July, and between 300 and 500 by the end of the year. By July, 21 manufacturers of tape recorders had standardized on 7½ four-track. U.S.T.'s first releases—150 selections representing 15 libraries—were competitively priced; \$7.95 for approximately 35 minutes playing time, \$6.95 for selections with shorter playing times. Two-record albums, such as Roger Williams' "Fabulous 30's" and "Porgy and Bess" featured an \$11.95 price tag which was equal to the record price in some cases and not over a dollar more per selection.

U.S.T. currently manufactures and/or

The new FOUR-TRACK Stereo Tape ... and how it works

The two-track system becomes four-track:



Only the required two stereo tracks are heard (1 and 3) — the other two tracks are silent



The tape is turned over — and the other two stereo tracks (4 and 2) are played. Tracks 1 and 3 are now silent

distributes for more than two dozen companies on 7½ four-track stereo tape. A recent milestone in the company's brief history was the signing of a five-year contract with London Records, whose world-famous library had never before been on tape. The contract was particularly significant in that it included a provision which would allow U.S.T. to place all of London's present and future recordings on any form of magnetic tape over the next five years. The London pact was followed very shortly by the signing of Decca Records, Inc., marking this company's debut in the stereo tape field.

The end of the year 1959 saw the tape industry knitted together in a unified programme of sales and merchandising, which will continue with added aggressiveness in 1960. Ampex, as one member of this industry, will also continue its campaign to make tape as common in the home as the gramophone record by providing the sound-conscious music lover with an ever-increasing variety of outstanding musical selections at low cost.



SPOT THE STARS

Londoners and others who travel along Oxford Street cannot fail to see this array of stage, screen and television stars, all keen tape recordists, in the showroom window of one of our foremost tape recorder manufacturers. They'll recognise some of A.T.R.'s front cover pictures perhaps! How many stars can you spot?

(Left to right/top to bottom): Michael Holliday, Tony Hancock, Richard Greene, Eric Robinson, Pete Murray, Anne Heywood, Gilbert Harding.

NOW THAT four tracks are available, will manufacturers introduce four channel stereo pre-recorded tapes? If four channel stereo recordings were made, four separate playback amplifiers and loudspeakers would be required. At present the available recorders cater only for direct stereo playback over two channels, since only two complete playback end amplifiers and loudspeakers can be provided, in self-contained machines. Nearly all the four track machines on the market are of Continental manufacture and Britain seems to be holding back somewhat, although our manufacturers are doing some serious thinking.

The nearest to British made are the Philips four track machines, which are manufactured in Holland. The EL. 3536 at 92 guineas offers some attractive features. Four track stereo recording at three different speeds with a twin amplifier system for direct stereo (two tracks) playback. Philips also do a cheaper four track recorder at 59 guineas. Three speeds and most other facilities are provided but for stereo (two track) replay an additional end amplifier and speaker are required. Something cheaper? Then the Philips Family recorder with four tracks (monaural) at 34 guineas may be of interest. This little machine provides a total playing time of 8 hours from a 7in. spool of double play tape for its single speed of 3½ i.p.s.

4 TRACK RECORDERS IN BRITAIN



The new Grundig TK24 four track recorder.

Frequency response 50—14,000 c.p.s. plus the usual facilities of programme indicator, recording level indicator, crystal microphone and so on.

Chitnis are well ahead with their KM. 33 four track machine at 62 guineas and the 9/S4K also at 62 guineas. The excellent frequency response from the small gap Bogen heads ensures a high fidelity performance and other features include track selection, superimpose, stereo record and play-back, stereo balance control and an excellent dynamic microphone.

Then there is the Uher also of German origin. The Uher is a 4 track stereo recorder with three speeds, wide frequency response, track selection facilities that allow trick recordings to be made, monitor-

ing and other features that make it an attractive buy.

The Harting and Korting machines are distributed by Technical Suppliers Limited. The Harting HM.8 at 86 guineas incorporates a separate amplifier for full stereo playback, whilst the Korting at 68 guineas also permits full stereo recording and playback and includes controls for mixing monitoring and tone. Both machines are of German manufacture.

Last but not least there is the Grundig TK24, just released. It is a single speed machine (3½ i.p.s.) with provision for track selection for monaural off either track or stereo reproduction from pre-recorded tapes at 3½ i.p.s. Price 62 guineas, including microphone, tape and extra leads.

6 big features make the WINSTON 'Thoroughbred' a 'must' for you!

The most advanced technical features combined with tip-top performance makes the Winston "Thoroughbred" the finest value in tape recorders today! Look at these features.

- ★ Three speeds: 15, 7½, 3½ inches/sec—gives 3 hrs. 12 mins. playing time on one 7" tape.
- ★ Twin track recording.
- ★ Three loudspeakers ensure live, natural tone for speech or music.
- ★ 1,800 ft. spool of long-playing tape supplied—plus high sensitivity microphone.
- ★ Built-in mixer unit enables you to record your voice with standard disc recordings radio, or live music.
- ★ Built-in Public address system.

**SEE AND HEAR
THE WINSTON
'THOROUGHbred'
AT YOUR LOCAL
DEALERS!**

All this and only

59gns *no extras*

or £6 deposit and 12 monthly payments of £5 1s. 0d.
WINSTON ELECTRONICS LTD., Govett Ave., Shepperton, Middx.
Tel.: Walton-on-Thames 26321 Cables: "Winston", Shepperton.



FREE

BOOKLET.
Contains useful
information on
recording techniques
and suggests various
uses for tape recorder.
Write for your copy
to address on left.





Only with **FI-CORD** can you have it both ways—really HI-FI and really portable

Don't be misled by the compact size. The **FI-CORD** is a high fidelity instrument of advanced scientific design—assuring true-to-life recordings.

Frequency 50-12,000 c.p.s. \pm 3db. Tape speeds $7\frac{1}{2}$ i.p.s. and $1\frac{1}{2}$ i.p.s. Twin track record/playback, using standard $3\frac{1}{4}$ " spools.

Wherever you go, you can take your **FI-CORD** with you, it is ideal for adding

the realism of sound to movie films.

The **FI-CORD** weighs only $4\frac{1}{2}$ lbs., measures $9\frac{3}{8}$ " x 5" x $2\frac{1}{4}$ ", operates in any position (lid open or shut) and requires no power point. It runs on 4 batteries, rechargeable from the automatic charger supplied.

Built-in speaker. Full playback volume. Extension speaker socket. Dynamic microphone with stop/start switch.

**CATCH IT—
AND KEEP IT—WITH**

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Write for name and address of your nearest stockist to:—

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Tel: HYDE PARK 3448

Complete with
Microphone, Tape,
Batteries and Charger **59** GNS
or with Grampian DP4/M
Microphone **66** GNS



DROPPING IN ON SHERLOCK HOLMES

by JAN PHILLIPS

London, 20th June, 1897

No, there's no mistake about the date line—that's the day I dropped in on Sherlock Holmes, Britain's most famous detective, in his rooms at 221A Baker Street.

He wasn't in, but if you too would like to see his sitting room just as he left it, all you have to do is to call at the 'Sherlock Holmes' inn in Northumberland Street just off the Strand at Charing Cross where the jovial north country landlord will take you upstairs—and there is the room. Holmes was never one who liked change, nor was he very tidy, so you'll overlook the dust and the decorations which are much as they were when he first occupied the room sometime during the 1880's. His bits and pieces are still there—the dressing gown behind the door, tobacco in the Persian slipper (he always preferred it to the tobacco jar), his unanswered letters

(Above) I just had to examine that envelope addressed "Sir Henry Baskerville, Northumberland Hotel", post marked "Charing Cross"—it looks genuine, even through Sherlock Holmes' magnifying glass! Dr. Watson's topper and stethoscope and the great detective's Inverness cape and Deerstalker hat are on their pegs behind me.

(Right) The Hound of the Baskervilles.

Tape-View





transfixed to the mantelpiece by a jack-knife, the violin, the harpoon, the poker bent by Dr. Grimesby Roylott, the pipes in the rack, the diagrams—they are all there.

Even Dr. Watson's frockcoat, top hat and stethoscope are on their hook, so the famous pair can't be far away. Perhaps they are across the road in the Turkish Baths; after all they liked to relax in the drying-room on the upper floor of the Northumberland Avenue Baths. It is unimportant that the Baths closed for ever years ago; the building is still there and the front door is immediately outside the inn. There is something about the inn itself too—it occupies part of the building that was the Northumberland Hotel where Sir Henry Baskerville stayed, and who has not heard of The Hound of the Baskervilles, one of Holmes' greatest triumphs of detection?

In case it might be suspected that the excitements of the Tape Views have had a strange effect on me, let me assure you that all this is perfectly true. It happened after I left the open-air art exhibition on the Embankment—it was a warm evening and we felt in need of refreshment, and the Sherlock Holmes Inn is half way up Northumberland Avenue on the right.

Downstairs it is a perfectly ordinary London pub, except perhaps that if I had been drinking anything stronger than bitter lemon, the Hound of the Baskervilles over the mantelpiece would be a little too lifelike for my peace of mind! Then one notices that there are a pair of handcuffs lying about, and a police lantern of ancient pattern; and when one discovers the revolver which Holmes used to practice with indoors (you can see the V.R. picked out with bullet holes on the wall of his room), you realise that perhaps the pub is not so ordinary after all.

Truth or Fiction?

Some people say that Sherlock Holmes and his friend Doctor Watson were just two characters created by Sir Arthur Conan Doyle who featured them in some of the best detective stories ever written. They first appeared in 1887 and continued for forty years—and even now are read by thousands of people all over the world, heard on the radio, seen on television and quoted from in our every-day conversation—who has never said 'Elementary, my dear Watson'?

There are many other people, and after my visit to Holmes' room you can count me among them, who are not too sure about the pair being so fictitious! There's the Sherlock Holmes Society, for instance, whose chairman, Lord Donegal, joined in unveiling a plaque commemorating the great detective with Mr. Edgar Smith president of the United States branch of the Baker Street Irregulars. For over twenty-five years these two societies have written papers, essays, monographs, carried out research—all to keep Holmes' memory alive.

It came to a head at the Festival of Britain in 1951 when the citizens of Marylebone decided to gather together all the relics of Sherlock Holmes and present them to the public together with

a reconstruction of his room at 221a Baker Street, as described by Conan Doyle during the forty years he was writing the stories. First of all it was difficult to find exactly where 221a was, but eventually Abbey House, the headquarters of the Abbey National Building Society, was chosen as the most likely place, and the room and exhibition were assembled there and seen by a vast public during the run of the Festival. Then in 1952 the exhibition was transported to U.S.A. and displayed in New York. So great was the enthusiasm aroused that it was obvious that a permanent home would have to be found. The House of Whitbread, as leaders in creating inns which illustrate the history and associations of their neighbourhoods, were approached and readily made available a pub called 'The Northumberland Arms,' as being most suitable—after all it was a part of the old Northumberland Hotel which closed in 1883, opposite to the Turkish Baths also mentioned in the stories, and quite near to Old Scotland Yard. The inn was re-christened the Sherlock Holmes, the room built within it and the exhibition of relics displayed for everyone to see.

And you will see everybody there, television, stage and film stars from the B.B.C. television theatre down the road, devotees of the Victorian music hall from the Players Theatre in Villiers Street, brass hats from the War Office across the road and people from every country in the world—after all the stories have been published in many languages.

Before you drop in on Sherlock Holmes, however, why not 'gen up' on him? According to a popularity poll in the *Observer* the following are the best of his detective stories—*The Speckled Band*, *The Hound of the Baskervilles*, *The Sign of Four*, *A Study in Scarlet*, *The Red-Headed League* and *A Scandal in Bohemia*, they are all published by Messrs. John Murray—and the author is Sir Arthur Conan Doyle.

And, if it seems a good idea to recreate Sherlock Holmes and Dr. Watson on tape, please don't forget that the publishers still hold the copyright, though I'm sure they'd give permission for tapes to be played. I am trying to persuade the Editor to run a Sherlock Holmes tape competition—why not write and ask him too, if you are also Holmesians?

As far as I know Sherlock Holmes has not joined the Tapesponders yet, but if any readers would like to try his or her hand at the sort of tape Holmes would send to Dr. Watson describing the solution to one of his published cases we will present a reel of tape each to the three most lifelike! Closing date 31st August, 1960. Ed.

(Above) Sitting in Holmes' chair with the Pall Mall Gazette of Sixty-years ago.

(Right) Overlooked by the wax decoy bust Sherlock Holmes had made, bearing the mark on the forehead of the bullet intended for him by Col. Sebastian Moran. The violin is still in tune and behind it is the Persian Slipper where Holmes kept his tobacco. There's even a cup of tea waiting for him!



LISTEN BEFORE YOU LEAP

THOSE of us who know little about decibels and flat frequency responses might not raise our eyebrows at the facts and figures describing the much-talked-about new WyndSOR "Victor" portable. Those who are genned up to translating the specification into words and music are not surprised that the "Victor" sounds better than some tape recorders nearly twice the price. But make no mistake if you are about to plunge: the WyndSOR "Victor" is a quality-all-the-way portable, so beautifully designed and executed as to bring professional-sounding recordings within the reach of the most non-technically-minded amongst us.

Mark these following features and ask yourself how does WyndSOR do it at the price.

★ frequency responses:—

7½ i.p.s.—50 to 15,000 c.p.s. better than ± 3 dB.

3½ i.p.s.—50 to 9,000 c.p.s. better than ± 3 dB.

1½ i.p.s.—50 to 5,000 c.p.s.

★ full frequency equalisation at *all speeds*.

★ 10" × 6" elliptical speaker in detachable lid.

★ up to 8 hours playing time on one D.P. tape.

★ monitoring through its own speaker with independent control.

★ finger-tip controls closely grouped.

★ mixing facilities for mic and gram/radio inputs.

★ additional output with automatic speaker cut-out.

★ facility for use as an amplifier.

★ three independent 4-pole motors.

★ unique styling in two-tone grey with gilt fittings.

★ twin tracks ★ pause control ★ tone control.

★ guarantee: 12 months (valves 90 days) and the name of WyndSOR.

And how *do* they do it? By the experience that ten years' manufacture of quality tape-recording equipment only can bring. By design-creation only after intensive market research and nation-wide trade inquiries, so that WyndSOR tape-recorders virtually sell themselves, without sales-force, without large advertising campaigns, without exhibiting at you-know-where, and with minimum servicing requirements after sales. All these overheads are conspicuous in the price by their absence.

If history is anything to go by, widely publicising the "Victor" would overwhelm the WyndSOR factory. WyndSOR policy is never to sacrifice quality for quantity and the fact is that there were never enough of the "Victor's" predecessor, the "Viscount", to satisfy the demand. So now is the time for all good enthusiasts to inquire at WyndSOR dealers or to send postcards (clean variety still preferred) to the modestly proud makers for the names of nearest stockists. There is nothing more annoying than hearing a WyndSOR just after buying an ordinary tape recorder.



The new WYNDSOR "VICTOR" complete with crystal microphone, 1,200 feet of tape, and spare jackplug, is only 45 guineas.

WYNDSOR RECORDING CO. LTD.,

(Contractors to H.M. Government)

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TETE-A-TAPE

Further deliberations on frustrations imposed, and opportunities offered, by tape recording,

by David Lazell.

The Most Popular Man in the Programme.

RECENTLY I attended a conference held at one of Bonnie Scotland's pleasure resorts. When I first set foot on Scottish soil (i.e. Glasgow St. Enoch's railway station), I was greeted by a booming apology from the loudspeaker—the train was almost two hours late. Perhaps it was as well that I did not record my own comments at the time. However, I eventually arrived at the aforesaid conference centre, and donned my usual intellectual air (which is assisted by my untidy appearance, which I like to think artistic). The conference was attended by almost six hundred delegates, and the subject was "Education". The hall was well equipped (a tea room and coffee bar being conveniently near—*too* near, perhaps, since quite a few delegates hurried away from their seats in the conference hall as soon as they heard the tea-cups rattling!). The real fly in the ointment was that of the erring reproduction system, since the three microphones appeared to take turns in refusing to work. It was really quite distressing for those learned folk who went to the platform to address the meeting. With their horn rimmed spectacles balanced on the end of their nasal organs, and their notes at the ready, these intrepid delegates spoke into the microphone, but no sound came out of the loudspeakers. This was quite all right for those slumbering visitors in the balcony, but the delegates themselves chorussed "MIKE!!" as soon as they realised that no speech was forthcoming. The engineer was a lean gentleman lost in a large and battered boiler suit. Whenever he ventured on to the platform, I thought that he was about to give forth with a humorous monologue of his own. You could tell that he was an expert by the way he hauled those microphones about. He certainly made them work, but, as soon as he had returned to some other task, the system went awry once more. One broad gentleman from the West Country—obviously experienced on the barrack square as a drill instructor in earlier life—refused even to approach the uncertain microphones, and used his own natural talents. "CAN YOU ALL HEAR ME?" he cried. One poor unsuspecting fellow, sitting near me in the back row, dropped his newspaper in astonishment. Timidly, one or two fraternal delegates replied that they could indeed hear the strident tones of the speaker.

It was all very interesting, and I reflected that it will be a bad day for England (Scotland and Wales, too, for that

matter) when we permit our own voice-power to decline, through over dependence on the mighty inventions of the hi-fi manufacturers. At the end of the conference, as the proceedings closed, I found the engineer outside the tea-room. I told him that the microphones had just failed once more.

"Aye," he said. "They're new ones!" I tried to understand the true meaning of this cryptic remark, but a further cry of "MIKE!!" from the conference hall interrupted my thoughts. After all was over, and we were all saying what an excellent conference it had been, someone asked me who "that fellow Mike" was, since he had been the most popular man in the proceedings.

After all, hadn't all the delegates shouted for him as soon as anyone went near that microphone?

Since I am very satisfied with the microphones that I possess, I have decided to take my own equipment with me if ever I am called upon to speak at a conference. Or maybe I will take speech training lessons from that broad gentleman from the West Country.



Conversation with a Barber.

On those infrequent occasions upon which I visit the hair-dresser, I invariably attempt to listen to the conversations around the electric clippers. In fact, you will discover that many barbers have a variety of opening phrases which they fling in your direction, as the scissors snap about your ears. There is, alas, very little that is original in these attempts at opening a discussion. The weather is the most popular subject, followed by the merits of the local football club. Sometimes, however, the fellow having his usual short back and sides, starts a line of his own. The misadventures of the wife's brother who keeps his motorcycle in the parlour; the bitter and unending struggle with unthinking neighbours who actually *encourage* their cats and dogs into the carefully cultivated garden; the lamentable condition of human nature as demonstrated by the poor attendance at the meetings of the Pigeon Racing Club—all these and many other subjects hasten away those hours in the barber's shop. I can remember

Continued on page 30



ANNOUNCEMENT

Will Club Secretaries continue to send news to:—

TERRY NURSE,

161 Stuart's Road,
Birmingham 33,

not later than the 20th of the month. Send plenty of news in because **THIS IS YOUR JOURNAL**. Interesting photographs are also invited.

BRITAIN'S FIRST TAPE CONVENTION

THE FEDERATION of Tape Recording Clubs held its first Congress, in London, last month.

Over a dozen Clubs were represented, delegates travelling from as far afield as the West Country and Scotland; although they could not be said to be a complete cross section of Britain's 90 Clubs, they made up for lack of numbers with their enthusiasm and constructive discussion on the future of Tape Club organisation, and the service that Clubs expect of manufacturers, the Tape Recording Press, and the B.B.C.

As one delegate said afterwards—"the day was well worth while and he hoped that the Congress was but the first of many."

A valuable function of the Congress was to divide delegates into four discussion groups to prepare questions for a panel of "experts" drawn from manufacturers (Grundig), the B.B.C. and the Tape Recording Press. A.T.R. was represented by the Editor, Robinson P. Rigg.

The Federation is to be congratulated on an excellent first achievement.

TAPE/SLIDING IN WALES



Now THAT Summer is here most people are thinking about holidays!

At the last meeting of the **Warwick and Leamington Amateur Tape Recording Society** the members went off, with *Chris Barnacle* on a Tape/slide show trip into the heart of Wales. The views they saw, in full colour, emphasised the

fact that the scenery of Britain certainly takes some beating.

After the tape/slide show trip *Barnacle* demonstrated his Harting stereophonic tape recorder, and *Trevor Gilbert* (The Society's Vice-Chairman) told of how his home constructed stereophonic tape recorder had recently been awarded a prize, in the British Sound Recording Association's National Competition held in London recently.

The Society is pleased to announce that following its offer to play tapes of local interest to crippled, bed ridden or handicapped people, through the British Red Cross, they will be starting a programme on October 5th, 1960, at Castel Froma in Leamington Spa.

If any other organisation or individuals would like to take advantage of this service they are requested to contact *Miss E. Jones*, 26, Hampton Street, Leamington Spa.

SOUND HUNTING

It's REALLY quite surprising the extent to which people hunt for sound. At the Coventry Tape Recording Club, Secretary *Roy Reynolds* has been experimenting with snippets of tape on which the sound-track of various television commercials have been recorded. The members found the composite tape of great amusement. Mr. Reynolds also provided the quiz-tape for the evening, and on it both indoor and outdoor "mystery" sound effects had been recorded. *Tom Bagley*, the winner, was able to identify eight out of the ten sounds heard.

Mr. Bagley hunted down an effect himself during the evening, the elusive one of a "real English barmaid" which the San Francisco Club had requested for its own very comprehensive collection. The barmaid serves drinks to members on every club night, at their meeting room in "Rotherhams." She was duly "taped" for the American export market, opening bottles of good old English beer.



BRING A TAPE OR ELSE ... !

AT THE Friern Barnet & District Tape Recording Club, sound effects were also featured when they were required for a "bring-a-tape-along-or-else" game. Although there was a penalty of 1/-d for anyone who failed to bring a weird noise to the meeting, no one in fact had to pay up, as everyone had managed to fulfil the requirements. Although the club funds did not increase, this was compensated by the enjoyment everyone found in "diagnosing" the odd sounds. The Club has been working very actively on a tape it is to send to the Northallerton Club (Not Northampton as previously reported), and each member has contributed an item to it. The Club's production manager *Jim Fulton*, had the pleasant task of editing these together and it is hoped the finished product will be enjoyed by the Northallerton members.

Two of the 14 Club members are mobile, and one of them, *Joe Neil*, has been to Hyde Park's internationally famous "Speakers Corner." He has also been to the Zoo; and is interested in providing social-welfare services (see Goodwill section). Another member has made a tape of a Wedding which is a complete sound picture even including the aircraft at the end when the happy couple take-off for their honeymoon.

Over at Brighton Tape Recording Club a competition for original tapes held between members was won by "Journey into Space," which Secretary *Ralph Vivian* has recorded. Some weird effects were called for and most of these were produced from electronic equipment. Mr. Vivian was awarded a spool of tape as his prize.

The same Club has recorded a live stage performance at the request of the cast.

Bournemouth Club members are making a tape for the 1960 Amateur Tape Recording Contest and a great deal of effort is going into it. Members are gaining experience whilst especially in editing and superimposing. Their hopes for success working on this are running high at the moment.

Charles Hooker of Friern Barnet, is also entering for the competition, and he hopes to spur interest in the creative side of club work by producing a play on tape.

Bournemouth's members hope to collect some sounds when they



visit the I.T.V. Southampton studios to see a programme being video-taped for later showing. They have already visited the B.B.C.'s Southampton studios and were themselves televised on closed-circuit.

GOODWILL SERVICES



HAVING READ in the May Amateur Tape Recording Magazine that Swansea Tape Recording Club were refused permission to provide a tape message service for hospital patients, *Brian Herne*, B.R.C. Clubman of Tynemouth is anxious to let it be known generally, how much help and practical assistance

he has had from the Committees of both Tynemouth Hospital and the Infirmary. Whilst it is but ten weeks since he decided to start a hospital service in the area, the authorities have already provided him with a studio in the hospital basement, and this is to be wired out free of charge by the G.P.O. The Hospital League of Friends Chairman, too, has offered all the help he can. As we have said before, this is the sort of response that is generally given to suggestions for hospital services, and if you think there is need for one in your area, and would like to help, do not hesitate to contact the *Hospital Broadcasting Service* of the B.R.C. who will tell you the best way to go about it.

Jim Fulton of the Friern Barnet Club is very keen to help the needy, and he regularly visits old people's homes and hospitals to provide entertainment. Two such evenings at an old people's home included a series of tapes which were very much enjoyed, especially the recordings made at the piano of "old time favourites." *Mr. Tucker* has been asked to call again and produce the third of these programmes. At one of the visits it was learned that one patient had been taken to hospital very seriously ill. Joe recorded a "get well" message from everyone at the home, and took it over to the hospital for playback to the patient. Later the patient was able to record a message in return. Joe finds this extremely interesting and rewarding work. The Club generally hope to develop the service and has therefore arranged for A.T.R. Deputy Editor, *Ken Peters*, to address the club on the subject, and on the other activities, of the B.R.C.

At the Federation's convention one of the questions asked was "What part should Social Welfare play in Clubs." The Editor of Amateur Tape Recording, *Peter Rigg*, instanced the work of the British Recording Club and said that if clubs could persuade their members to offer such facilities, this was to be highly recommended. *Alan Stableford*, the Federation's Chairman, thought that such activities might become "top heavy," but *Mrs. Cutforth*, Producer of the B.B.C. "Sound" programme said that in her experience such activities always resulted advantageously to the club. She thought local councils for social service might help to put a club in touch with some of the most needy cases.

TAPE & CINE

THE Reading Cine & Tape Recording Society aims to form a library of cine and tape recording literature for the use of members, and an annual competition is to be held for the Tape Section with an award similar to the annual Bournes Cup competition reported in our last edition.

Two members of the Society have won *Amateur Cine World Awards*—a 2-star for *Frank Bullock's* film "Our Village" which pictures South Stoke, and has a sound-stripe magnetic recording track; and a 3-star award for *Mr. D. Purslow's* "Flight of the Bumble Bee"—not to mention a Gold Star for his "Runaway Train."

The Society enjoyed a visit from *Mr. G. Ambrose* of the Slough Cine and Tape Society who showed several films and they have also recently been visited by representatives of Grundig, Minivox and Dominus, the last-named having demonstrated their new 8mm. projector-cum-tape recorder model.

The Eagle Film Unit's new Clubroom is now in its final stages of completion, and it is next to the Club's cinema which has been equipped with a high-fidelity system consisting of two woofers, a tweeter, an Amplion hi-fi amplifier, pre-amp, a Goodsells F.M. Tuner, and an electric kettle! All mod. cons. for the reproduction



of VHF, tape, disc, and mic. are therefore on tap—but is the water for the kettle?

At present in production is a 600ft. 16 mm. film called "The Undecided." It is to have a sound track synched with it, and this is to be made at 15 ips for best results. The music has been specially composed for organ and string-trio, by *Garth Peters*, an up-and-coming young composer. The club is experiencing great demand for its tape to tape transcription service.

The Stafford Tape Recording Society was recently visited by the Stafford Amateur Cine Society, who presented a programme of films all with background music on tape, except one—made by the 15 year old son of the Cine Club's Chairman—which had been sound-stripped. Afterwards the tape club played recordings for their visitors made at the local brine-baths, and the highest compliment a cine society could possibly pay to a Tape Society was made when the members of the cine group said the tape was so realistic they could in fact picture the brine bath scene—without visuals!

TALKS AND DEMONSTRATIONS



AT THE last meeting of the Warwick and Leamington Amateur Tape Recording Society a comprehensive demonstration of the portable "Fi-Cord" tape recorder was given by one of their lady members, *Miss Eileen Jones*.

The recorder is used by Miss Jones extensively, both in this country and abroad, and her recordings range from general sounds of trains, etc., to the more uncommon recording of a tour through the caves at Cheddar Gorge, Somerset.

One of the most outstanding recordings that members heard was one made last year at "Lourdes, France" and it contained an on the spot commentary by Miss Jones together with recordings of the pilgrims procession to the holy shrine.

Fi-Cord recorders were at the fore too in Swindon where a representative from their manufacturers demonstrated this versatile little instrument. Members were impressed by the railway station recordings. These tapes were also played back on a Ferrograph. Later in the evening a film, with sound track recorded on the Fi-Cord was presented.

At another meeting, Chairman *A. T. England*, gave an interesting talk about "Recording through the ages," which included a taped visit behind the scenes at a film studio.

At Coventry two stereophonic recorders owned by members were demonstrated. *Mr. Hopkins* showed Grundig TK.60 using pre-recorded musical tapes. The other machine was *Mr. Spink's* 3-speed Philips, and the club opinion was that Philips undoubtedly had another winner with this machine.

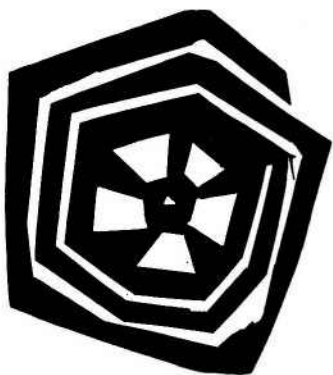
Bournemouth club members had a demonstration of the new Philips 4-Track recorder, an EMI L2/TA transistorised model, and a new recorder called the "Trav-ler." These recorders were put through their paces by *Tape Recorders of Westbourne*, a local dealer.

Brighton club welcomed *J. F. Parrington* for a demonstration of the Walter range.

Fourteen of Coventry's members visited the Warwick & Leamington Amateur Tape Recording Society for a demonstration of battery operated recorders including the Stuzzi Magnette, the Fi-Cord, the Clarion, the Grundig Cub, and the Butoba MT.4. The best buy was considered to be the Stuzzi or the Fi-Cord, but for its price of only 25 gns, members thought the Clarion stood up well.

NEW CLUBS AND COMMITTEE CHANGES

AT THE Rugby Amateur Tape Recording Society's Annual General meeting, *Mr. P. H. A. Scott* and *Mrs. M. P. Oxbury* were re-elected as Committee members, with *Mr. J. Campden* replacing *Mr. George Dawson*. The President, *John Bannister*, spoke of a year of great progress, and he had pleasure in announcing that within the last half hour of the A.G.M.'s commencement, the club had enrolled two new members thus arriving at the proposed "double-the-membership scheme" success, which he had urged the club to undertake at last year's A.G.M. For the ensuing 12 months he set a target of 75. The Secretary, *Mike Brown*, attributed the increase in part to the highly successful "Star Course" of Tape Recording, which alone gained the club 12 members. A repeat of this course is likely to take place sometime towards the end of 1960.



Inter-tape directory

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.

S. P. ROBINSON, Student (Cambridge), Matina, Round Oak Road, Cheddar, Somerset. Electronics (all varieties), motoring, engineering, chess, recording, etc. All except jazz and rock. Home-built Collaro Deck, up to 7 in.; 3½, 7½. Anywhere, preferably abroad.

JOHN G. GRAINGER, Nurseryman, Ashgrove Nursery, off Shaftesbury Road, Bisley, nr. Woking, Surrey. Music, pelargonium (geranium) growing. Big swing bands (Miller, Goodman, Dorsey, etc.). Stella 450, 5 to 7 in.; 1½, 3½, 7½ (1½ not favoured). English-speaking countries, particularly U.S.A. and Canada.

D. B. HODGSON, Apprentice, age 19, 21 Carline Road, Lincoln. Recording, radio, chess, science, fiction. Trad. jazz, modern rock, light classical. TK 20, 5½; 3½. Any English-speaking country.

WILLIAM JAMES, Engineer's pattern-maker, 34 Newhouse Road, Bucknall, Stoke-on-Trent, Staffs. 8 mm. cine, motoring. Modern. Fidelity "Argyll," 5½ in.; 3½. Any English-speaking.

H. PANNIFER, 12, Vernon Court, Vernon Road, Durban, Natal, S. Africa. Sports, general recording. Light classic, general. Philips, 3 to 7 in.; 1½, 3½, 7½. Anywhere.

JOHN DAVID WILSON, Cinema Projectionist (Second), 26 Lowther Browns, Morton, Carlisle, Cumberland. Tape, model railroads, general. Light and heavy classics to some pop. records. Philips AG 8108 and EL 3515, also Fi-Cord portable; 7 in. largest; 7½, 3½, 1½. Holland, France, Sweden and Australia.

JOHN MAHONY, Janitor in Distillery, 6 Cumbræ Crescent, Castlehill, Dumbarton, Scotland. Radio, Reading (all tape magazines). Pop, Country & Western, Folk songs, Trad. jazz. Truvox, 7 in. 3½, 7½. Canada, U.S.A., Germany, Italy, if English-speaking.

T. A. ATKINSON, Director, Automobile Agents, 79 Hartland Drive,

Edgware, Middx. Motor Cars, Tape Recording. Dance and light and organ swing music. Grundig TK 830 and TK 30, 7 in. 3½, 7½. Any English-speaking.

RICHARD HEWITT, Brewery Worker, 12 Warners Close, Stevenage, Herts. Ice Hockey. Spectone 161, 7 in. 3½, 7½, 15. Canada.

DAVID THOMAS, Motorcycle mechanic, 4 Dane Hill Row, Margate, Kent, England. Photography, music, motorcycling. All Types of music. Philips. Up to 5 in. 3½. U.S.A., Canada, Australia.

JOSEPHINE FOLEDER, Book keeper, 11 Vere Bank, Wimbledon Park Road, London, S.W.19. Music, camping, reading. Pop and light orchestral. Grundig TK 5, up to 5½ in. 3½. English-speaking world.

GORDON JOHNSON, Menswear salesman, 26 Larch Hill, Sheffield 9, Yorks. Music, do-it-yourself, archaeology, Egyptology. Generally most, but not extremes. Grundig TK 5, up to 5½ in. 3½. Canada, male, about 27 years of age.

J. S. FAZACKERLEY, Watchmaker and Jeweller, 52 Burnside Road, Kendal, Westmorland. Hi-Fi, audio electronics, playing drums. Jazz, Trad., Dixie and Mainstream. Philips AG 8106, 5 in. 1½, 3½. Britain and U.S.A.

E. MILES, Postman, 15a Stonehill Rise, Scawthorpe, Doncaster, Yorks. Motorcycling, fishing. Popular and any other except heavy classics. Tandberg Model 5, 3, 5 and 7 in. 1½, 3½, 7½. Norway, Sweden, U.S.A. and Germany, English-speaking.

K. D. BRAILSFORD, Clerk, 29 Clifton Lane, Rotherham. Tennis, sport generally, travel, cine photography and current events. Popular and Continental. Grundig TK 20, 5½ in. 3½. Germany, Austria, Holland, U.S.A., Canada and Sweden.

DAVID DICKS, Chef, 78 Tantallon Road, Balham, London, S.W.12. Youth Clubs, Sport, Wrestling, Badminton. Classical, military and Operatic. Fidelity Argyll, 5 in. 3½. Any.

LEONARD GREEN, Engine driver,

British Railways, 48 Stanley Road, Scunthorpe, Lincolnshire. 35 mm. and 8 mm. photography, travel motoring, tape recording. Wide, but not extreme. Grundig T35 and 25, Clarion Portable 7 in. 1½, 3½, 7½. World wide, speak a little French and German.

JOSEPH MONAGHAN, Glue processor, Formica factory, 30 Peartree Crescent, North Shields, Northumberland. Colour photography, 35 mm., reading. All kinds. Ferrograph and Fi-Cord, up to 8½, 1½, 7½, 15. Whole wide world.

PETER RUFUS VALENTINE, Surveyor and valuer, 12 Farmcombe Road, Royal Tunbridge Wells, Kent, England. World education, Sport (international understanding). Most types of music. Ferguson, 3 to 7 in. 3½. Anywhere outside England.

RICHARD A. WARD, Merchant Seaman, age 19, 13 Aquarium Street, Rhyl, N. Wales. Singing, body building, swimming, reading. Pops, straight songs, opera arias, etc. Philips, 5 in. 7½. Gt. Britain.

JAMES MACBRIDE, Photographic Journalist, 10 Hatterboard Drive, Scarborough, Yorkshire. Cinematography 8 mm, Freelance photo-journalism. Pop, light classical. Spectone 161, 7 in. 3½, 7½, 15. Anywhere.

PETER G. DAVIS, Manager, Wines and Spirits Shop, 4 Woodland Hill, Halton, Leeds, 15. Cars, tape recording, dancing (ballroom). Modern. Elizabethan Bandbox, 3 in. 3½, 1½. Any.

ROBERT J. BRUCE, Library clerk, 11, Oakthorpe Road, Oxford, Oxfordshire. Campanology, local history. English folk music, classical, Beethoven. Grundig TK 20, 5½, 3½. British Isles.

KENNETH SMITHSON, Draughtsman, age 18, 6 Mill Lane, Reddish, Stockport, Cheshire. Tape recording, science, astronomy, soccer. Beat music, guitar music, Trad jazz. Walter 101, 3 or 5 in. 3½. Australia, U.S.A., Canada.

JAMES WILLIAM SCURRAH, Photo-finisher, 171 Promenade, Blackpool. Photography, motoring, talking. Popular and light classics. Sound, up to 7 in. 3½, 7½, 15. Anywhere.

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 Tapespond with you. I own a X machine and use X in. spools playing at X i.p.s.

My interests are as follows:—

Yours sincerely,

Mr. & Mrs. **BRIMMCOMBE-WOOD**, Telegraphists, 21 Fairlop Road, Leytonstone, London, E.11. Do-it-yourself. Anything from grand opera to rock 'n roll within reason. Spectone 161, 7 in. 15, 7½, 3½. English-speaking anywhere.

ARTHUR C. EVANS, Builder's surveyor, 20 Woodland Road, Seaford, Liverpool 21. Photography, travel. Music (varied). Perth Saja, 3½ to 5½, 3½, 7½. Anywhere, particularly Scandinavia and North America.

RAYMOND PRICE, Civil servant, 22 Canaan, Lowton-St.-Mary's, nr. Warrington, Lancs. Brass bands, tape recording, anything. Brass bands, light classic, Rossini, Suppe, also popular. Philips, 5 in. 3½. Anywhere, only English spoken.

J. W. LANGLEY, Grocery assistant, 1 Bright Road, Chatham, Kent. Ballroom dancing, driving, youth organiser. Rock 'n roll, pop, trad. jazz (Chris Barber especially). Regentone RT 50, 7 in. 1½, 3½, 7½. Anywhere.

Mrs. **MARGARET MESSENGER**, Housewife, 5 Beaulieu Park, Wellington Road, St. Helier, Jersey, Channel Isles. People, indoor plants, cacti, animals. All kinds, especially dance music and Perry Como recordings. Grundig TK 25, up to 5½, 1½, 3½. Britain, America, Canada, Australia and New Zealand.

DON PERRY, R.A.F. Regular, 52 West Cromwell Road, Earls Court, London, S.W.5. Motoring, travel, oil painting, orientology, tape recording. Light classical, film music. Collaro Mk. IV, 7 in. 3½, 7½, 15. Anywhere.

IRVINE F. SWIFT, Teacher of the Blind, 74 Golborne Avenue, Wide. Photography, gardening, travel, social. All worthwhile music—Bach to Wagner. Ferrograph 4A/N 3 to 8½ in. 3½, 7½. International or National in English.

O. MOLLOY, Warehouseman in Clothing Trade, 2 Marske Terrace, Walker Estate, Newcastle on Tyne, 6. 35 mm. photography, radio, cycling, films, play guitar and harmonica (chromatic). Almost any except modern jazz, chamber and heavy. Collaro Mk. IV, up to 7½ in. 3½, 7½. U.S.A., Canada, Australia, any country in U.S.S.R. if possible.

BRIAN HOUGHTON, Radio and T.V. Engineer (married), 84 Percival Road, Hampden Park, Eastbourne, Sussex. Hi-Fi, photography, theatre. All except modern jazz and heavy classical. Brenell Mk. 5 Deck, rest homemade, up to 8½ in. 1½ to 15. Anywhere English spoken and Pidgeon English French.

A BUNTING, Schoolboy, age 15, 46 Oatlands Drive, Slough, Bucks. Cricket, Rugby, all sports. Pop, light orchestral, Sinatra. Walter 303, 3 in. and 7 in., 3½, 7½. Germany, German speaking.

STEPHEN GREGORY COOPER, Shoe Salesman, Fair-Rising, Dunstan Hill, Kirton-Lindsey, nr. Gainsborough, Lincs. Travel, campanology, sport (any kind). dancing. Anything (bar pops), especially choral, modern jazz. Philips, 7 in. 1½, 3½, 7½. Anywhere.

DAVID ADIE, Spinner, c/o A. Cumblings, 8 Pole Street, Dundee, Scotland.

Swimming, football, tape recording, etc. No high-brow—pop music, piano music, etc. Korting Mk. 112, up to 7 in. 3½. Any English-speaking country.

5068401 **L.A.C. ROBERTS**, L. T., Airman (Teleprinter Operator), Signals Traffic, R.A.F. Valley, Holyhead, Anglesey. Photography, music. All types. Telefunken 76K, 5½ in. 3½, 1½. Anywhere (English only).

IAN WARNER, Scholar, age 17, 5 Rosemary Avenue, Felixstowe, Suffolk. Photography and T.R. Light opera and classical. Philips EL/3515, 7 in. 3½. Holland.

J. C. SILCOCK, Service Engineer and Technical Rep. for solid fuel, 50 St. Giles Square, Camelon, Falkirk, Scotland. Sport, music, motoring (general). Musical comedy, opera and modern. Philips, 3 in., 5 in. and 7 in. 1½, 3½, 7½. Any English-speaking person throughout the world.

DOUGLAS DORNAN, Iron moulder (married), V East 10 Gretna, Dumfriesshire, Scotland. Photography, Swedish way of life. Folk music and pop. Gramdeck, 5 in. 3½, 7½. Sweden, English only.

COLIN I. TIBBLES, Bank Clerk, age 17, 4 Fort Matilda Terrace, Greenock, Renf. Scotland. Rock 'n Roll to light classical. Winston Thoroughbred, up to 7 in. 15, 7½, 3½. London area, male or female.

STUART POLLARD, Horticulture, Highlands, Hamlet Hill, Harlow, Essex. Motoring, swimming, concert going, eating and travel. Serious music, Bach to Boulez, any rare Toscanini recordings. M.S.S. 8½ in. 3½, 7½. Russia, Europe, America and U.K., only English spoken.

PAUL MICHAEL WALLACE, Chartered Accountant, Lisnabin, Newtownpark Avenue, Blackrock Co. Dublin, Ireland. Sport (athletics), photography, travel and general. Classical, light, good "beat" and general. Philips EL 3538, up to 7 in. 1½, 3½, 7½. Anywhere.

Miss **SHIRLEY A. MUSK**, School-girl, age 10, 95 Bolingbroke Road, Luton, Beds. Ballet dancing, Brownies.



Tape Recording? What's That?

Ballet, popular. Grundig TK5, 5½ in. 3½. Canada, Australia.

Mrs. **ANNE E. HAULTAIN** (Blind), Assistant in Workroom N.Z. Foundation for Blind, 677 New North Road, Mt. Albert, Auckland, N.Z. Braille, Nature sounds, general. Folk, light classic, religious, young peoples' choirs. Philips, Walter 303 (both dual track), up to 5 in. 3½. England, Scotland, Ireland, Wales, European (English spoken) Pacific Islands.

PETER I. CARRUTHERS, Book keeper, 1 Magellan House, Ocean Estate, London, E.1. Music, reading, travel, languages, philately. Folk music of Europe and Asia. Grundig TK 25, up to 5½ in. 1½, 3½. Countries of Europe (both West and East), Asia. (English spoken, also some French.)

GERALD RODWAY, Orchid Grower, East Lodge, Botanic Gardens, Glasgow, W.2. Orchids, cultivation and botanical, wide botanical interests, dog showing, camping. Mozart, Haydn, Beethoven, chamber music mostly. Philips EL 3515, up to 7 in. 3½. Anywhere, U.S.A. and Scandinavia especially—English-speaking only.

REGINALD HALL, Motor Coach Driver, 40A High Street, Little Lever, nr. Bolton, Lancs. Travel and Motoring. Modern. Elizabethan Princess, 7 in. 1½, 3½, 7½. Egypt, Sudan, America, Canada.

DAVID H. GEDDES, Gentlemen's Hairdresser, 113 Templeland Road, Pollok, Glasgow, S.W.3. Football, stereogram records, tape exchange. Musical comedy, light music, pops, Scottish dance music, Scottish and Hawaiian Folk songs. Grundig TK 5, up to 5½ in. 3½. Anywhere.

WILLIAM GEORGE BROWN, Coach-builder, 91 Kelmscott Road, Battersea, London, S.W.11. Chess, space travel, etc., anything except sport. Light classic, pops, no jazz. Korting Mk. 102, 3 in. and 7 in. 3½. Anywhere English is used.

CYRIL JACK MARTIN, Clerical, 213 Icknield Way, Letchworth, Herts. Classical music, travel. Classical, light music. Telefunken, 5½ in. 3½. Britain, U.S.A., Switzerland.

ALAN K. TERRY, Sheet-metal Worker, 9 Western Way, Basingstoke, Hants. Sport, genealogy, writing, aviation, films, T.V. and radio. Light classical, pops, most music except modern jazz. Elizabethan "Princess", up to 7 in. 1½, 3½, 7½. Home and abroad, anywhere English is spoken, feminine or masculine.

BRIAN A. BARKER, Maintenance Electrician, 121 Brecks Road, Ordsall, Retford, Notts. Motorcycling, amateur radio and music. All types but mainly light classical. Elizabethan Essex, up to 7 in. 3½, 7½, 15. Anywhere, anybody.

JAMES DAVID CRITCHLEY, Schoolboy, age 16, 41 Wrekin Road, Birmingham, 23. Metalwork and woodwork. Telefunken 85 KL, 7 in. 7½, 3½. Only England.

Mr. **H. M. SMITH**, Technical Civil Servant, "Priors Wood", Lower Wokingham Road, Crowthorne, Berks. Comprehensive. Operatic and orchestral. Simon

SP 2, 7 in. 3½, 7½. U.S.A. and Italy (learning Italian language).

E. T. GRIFFITHS, Engineer, 68, Castle Street, Caerphilly, Glam., S. Wales. Photography, travel, motoring, stamps, ballet. Light classical, opera, ballet music. Grundig TK 20, up to 5½ in. 3½. Sweden and Denmark.

PETER DAVIDSON, Electrician, Flat 7 Waldorf Flats, 89 Bayswater Road, Darlington, Sydney, N.S.W., Australia. Photography, recorders and music. Bagpipes (Scottish). Rola 3½ in. 7½. Scotland.

BRIAN R. HARRIS, Advertising Photography, 29 Cross Path, Radlett, Herts. Photography, "Y.C. & U.O." Musicals, classical and "Top 20" popular. Telefunken 85 KL, 7 in. 3½, 7½. Anywhere (in English).

ROGER K. GAMBELL, Television and Hi-Fi Engineer, 6 Chestnut Grove, South Croydon, Surrey. Live recording, motoring and engineering. Jazz, light and light classical. Ferrograph/Brenell Stereo Mk. V, Grundig TK 20, up to 8½ in. 3½, 7½, 15. America or any English-speaking country, Great Britain.

GIFFORD LEES, Journalist, Border News Service, Hawick, Rox, Scotland. Travel, open-air life, reading. Almost all from Trad. jazz to classical. Philips 3515 and Wyndor Victor, up to 7 in. 3½. Anywhere, but particularly Denmark and Malta.

W. T. ELLIOTT, Accountant, 36 Faraday Road, Wimbledon, London, S.W.19. Travel, photography, music. Classical, traditional, jazz. Grundig TK 5 and "Cub", Wright & Weare Series 4, all standard sizes, 3½, 7½. Canada, U.S.A., South Africa, Israel.

L. CITRON, Kibbutznik (Collective (would-be) Farmer), Kibbutz Hasoleum, Doar, Afula, Israel. Magic, maths., reading, tape recording. Popular (not pops), folk music, and most other styles. EAP Princess, up to 7 in. 1½, 3½, 7½. Anywhere.

FRANK VERGUTS, Clerk, 4 Cock-erillkaai, Antwerp, Belgium. Music, film, travel. Popular, light classical, jazz. A.C.E.C., up to 7 in. 3½, 7½. Anywhere—would like my tape friends to be unmarried (male) between the ages of 18 and 40.

MISS SYLVIA MACKIE, Taxation Clerk, 104 Green Lane, Ilford, Essex. Young Conservatives, reading, handicrafts, etc. Light from classics to pops. Geloso G 256, 3½ in. 1½. Anywhere.

WILLIAM GRAHAM, Hospital Porter, 48 Murchison Road, Rye Park, Hoddesdon, Herts. 8 mm. Cine films, sports, motoring. Rock 'n Roll, pops, musical shows, stereophonic sound. Grundig TK 60, 7 in. 3½, 7½. Any country as long as correspondent speaks English.

PETER DONOVAN, Police Constable, 21 Woodville Gardens, Ruislip, Middlesex. Cycling (racing and touring). 8 mm. Cine, angling. All except very classical and extremes of jazz. Brenell Mk. V, up to 8½ in. 1½, 3½, 7½, 15. Anywhere (must speak English).

F. A. BRYCE, Specification Clerk in Electrical D.O., 100 Bangor Street,

South Reddish, Stockport. Popular classics, cars and travel by car. Strictly classical but light (symphonies in particular). Saja, 5½ in. 3½, 7½. Any part.

DENIS RYAN, Civil Servant (postal), 252 Bealey Avenue, Christchurch, C.I., South Island, New Zealand. Tapesponding, reading, sport. Irish (traditional), Irish ballads, etc. Philips EL 3520, 5 in. 3½. Any country. Am a member of A.T.R.A. and I.T.P.A. (Ireland). Please write per airmail.

G. W. MALLOWS "Bill", Technician, G.P.O., 14 Yukon Road, Balham, London, S.W.12. General, family chat, DX radio. Spanish, South American, opera. Brenell Mk. V, 8½ in. 1½, 3½, 7½. Australia, U.S.A., U.K.

JOHN STUART PINDER, Schoolboy, age 14, 59B Longsight Road, Holcome-Brook, Bury, Lancashire. Music, reading, photography, recording. All types of music. Philips, 7 in., 1½, 3½, 7½. Any English speaking country.

Mr. P. LEWIS, Sales Representative (Paper), 21 Cranes Park, Surbiton, Surrey. Sport. Modern East Coast jazz, instrumental and vocal. Winston Thoroughbred, 7 in. 3½, 7½, 15. U.S.A. (New York area).

JOHN WATERLOW, Chauffeur, 23 Camden Passage, Islington, London, N.I. Dancing, piano, travel, boat modelling, dog lover. Classic, pop. Grundig TK 12, 5½ in. 3½, 7½. English-speaking countries.

STANLEY MOORE, Licensed Victualler, Bull Inn, Agincourt Square, Monmouth. Dialect speech, folk tales, etc. Brass, piano, symphony, light classical—no rock 'n roll. Winston Thoroughbred Mk. IV, 3 in, 5 in., 7 in. 3½, 7½, 15. English-speaking anywhere.

JAMES R. BANNISTER, Student, 1607½ E. Washington Blvd., Fort Wayne, Indiana, U.S.A. All types of tape recording, Hi-Fi records, tape, and equipment, 35 mm. and stereo colour photography. Classical, exotic, Oriental, traditional, some popular, not loud brass, progressive jazz, not extreme rock 'n roll. Revere T 1100, up to 7 in. 3½, 7½. Anywhere, but particularly the United Kingdom, Australia, New Zealand and Japan.

THOMAS TEE-COWN, Rate-Fixer, 48 Port Causeway, Bromborough, Wirral, Cheshire. Music, languages. Classical, traditional jazz, operatic. Grundig TK 12, 5½ in. 3½, 7½. Germany or Switzerland.

GORDON D. FOX, Cook, 9 St. Luke's Avenue, Clapham, London, S.W.4. Dancing, Swiss music. Popular music from shows. Philips, 5 in. 3½. Anywhere, English only.

J. W. GILMOUR, Merchant, Hudson Bay, Saskatchewan, Canada. Business, travel, general interests. Light classic and popular, not rock 'n roll. Philips, 7 in. 1½, 3½, 7½. Any part of the Globe, but not Canada or U.S.A. as have many tapepondents in these countries.

DURBAN & DISTRICT RECORDING CLUB, Box 2655, Durban, Natal, S. Africa. Exchange of programmes suitable for playback at club meetings.

General. Various, Mosby, Philips, 3 in., 7 in. 1½, 3½, 7½. Anywhere.

JAMES WILLIAM METCALFE, Works Assistant, Minster View, Bishop Monkton, Harrogate, Yorkshire. Tape recording, Hi-Fi equipment. Pops and light classical. Perth Saja De Luxe, up to 5½ in. 3½, 7½. Anywhere.

Mr. G. NOWELL, Hospital Engineer, 66 Swarcliffe Road, Harrogate, Yorkshire. Photography and Hi-Fi. Serious and light classical. Elizabethan Essex, 7 in. 15, 7½, 3½. Anywhere.

ANDREW CHRISTIE, Telephone Engineer, 61 Willow Bank, Wick, Caithness, Scotland. People and places. German language, music, dance and military. Bandbox, modified to take all sizes, 3½, 1½. British Isles and Western Europe. All tapes answered.

ERIC JAMES HEALY, Stockbroker's Clerk, age 18½, 158 Villiers Road, London, N.W.2. Geography, wrestling, films. Rock 'n roll and pops. Grundig TK 20, 5½ in. 3½. Anywhere.

DAVID LEWENDON, Instrument maker, 685 London Road, High Wycombe, Bucks. Aircraft, bee keeping, taping. Light classical. Grundig TK 20, up to 5½ in. 3½. Anywhere speaking English.

Mr. A. LAWRENCE, Accountant, c/o Box 925 Durban, S. Africa. Photography 35 mm., recording. General. Waiting for Philips Stereo, can use club's Philips EL 3538, up to 7 in. 1½, 3½, 7½. Anywhere but U.K. in particular.

JAN A. de VILLIERS, Storeman (Motor trade), 37, Burnside Road, Tamboer's Khoof, Cape Town, S. Africa. Recording, St. John Ambulance, 35 mm. Cine. General, not opera. Two Philips EL 3538 and 4-channel mixer, 3 in. 7 in. 1½, 3½, 7½. Everywhere.

MICHAEL P. WALKER, Medical Research Worker, 41 Swan Lane, Lockwood, Huddersfield, Yorks., England. Amateur Theatre, authorship, photo-



"Now don't you agree that that's a wonderful recording of the mating call of a Lioness?"

graphy, art, psychology. Classics, musical comedy, some jazz. Korting 128 (4 track) 7 in. 3½. U.S.A., Germany, Denmark, Greece, Britain. Anywhere, in fact. (Languages: English, French, Russian.)

Miss LORNA JENNE, Laboratory Technician, 61 Eltham Road, Lee, London, S.E.12. Church activities (evangelical), Gospel team work, Girl Guides, photography (colour) slides 28 mm. Gospel music, classical. Stella 450 and Tapemaster, 7 in. 1½, 3½, 7½, 15. Anywhere English-speaking.

PETER BUTTERWORTH, Turner (Engineering), 40 Grove Street, Rochdale, Lancs. Swimming (sub aqua), astronomy. Trad. jazz, Glen Miller, some classics, guitar music. TK 20, 5½ in. 3½. Anywhere English is spoken.

S. POLLARD, Horticulture, Highlands, Hamlet Hill, Harlow, Essex. Motoring, Ski-ing, Swimming. Serious music, Toscanini collecting, Bach to Boulez. M.S.S. 8½ in. 7½, 3½. Any, if English. Young people (male).

DOUGLAS A. WATSON, Schoolboy, age 13, 9 Staintondale Avenue, Dales Estate, Redcar, Yorks. Swimming, stamp collecting, chess. Popular, rock 'n roll, folk song, ballads. Grundig TK 20, 3 in. to 5½ in. 3½. Commonwealth.

WILLIAM STANLEY EVANS, Fish Fryer, age 20, 117 Bennetts Lane, Bolton, Lancs. Films, radio, T.V., tape recording. All pop music. Grundig TK 20, 5½ in. 3½. Any place.

THOMAS HENRY STEPHENS, Solicitors Clerk, age 19, 123 Horminglow Street, Burton-on-Trent, Staffs. Art, mostly sculpting and drawing, reading, astronomy, camping, rock-climbing and pot-holing and now, I'm pleased to say, tape recording, and of course sleeping, my usual 21½ hours per day. Liberal amount of anything, mostly pop music. Telefunken 75 KB, 5 in. and lower, 3½, 1½. Anywhere English-speaking but preferably Scandinavia, boy or girl.

KEITH SUTCLIFFE, App. Baker, age 17, 121 Smith Street, Nelson, Lancashire. Photography. Rock 'n Roll, Pop, Lonnie Donegan. Grundig TK 12 Telefunken 75, 15, 5½ in. 1½, 3½, 7½. Anywhere, especially U.S.A. English only spoken.

FRED RIMMER, joiner, 21, Mount Pleasant, Sutton-in-Ashfield, Notts. General, Woodwork, Tapesponding. Everything except highbrow. Sound Studio all sizes up to 7 in. 1½, 3½, 7½. Anywhere, English only spoken.

REGINALD CHRISTOPHER POORE, Airman (Photographer), 4196196 S.A.C. Poore, J.A.R.I.C., (M.E.) Episkopi B.F.P.O. 53. Recording, entertaining, fencing, photography. Varied. Philips EL 3527, up to 5 in. 3½. Italy (preferably).

ANTHONY S. FELDMAN, Schoolboy, age 15, 351 Hendon Way, London, N.W.4. Astronomy, modern rocket flight. Popular, some traditional jazz. Telefunken 76K, up to 5½ in. 1½, 3½. Canada or U.S.A.

Who are these tapespondents?

a survey by David Lazell

IN THE FIRST volume of "Amateur Tape Recording", over six hundred and fifty individual listings have appeared in the "Inter-Tape Directory" feature. Fortified by tea, biscuits and suitable background music, I spent vast aeons of time (almost a whole day) looking at the listings in order to identify this strange creature, The Tapespondent. Most of the tapespondents listed are resident in the British Isles, although some live overseas—in America, Africa and Asia. About 580 of the listings were of people in the British Isles, including the Channel Islands. Their ownership of recorders was interesting, with Grundig and Philips proving the most popular (146 and 89 respectively). Other machines listed included Elizabethan (36), Telefunken (36), Ferrograph (29), Walter (24), Wyndors (23), Sound (18), Brenell (15) and Stella (13). Many other machines were favoured by tapespondents (including Spectone, Saja, Clarion, Reps and Argyll); only a few stated that they had assembled their own equipment.

A Sample

I took the first two hundred individual listings—published in the first six issues of "Amateur Tape Recording"—as "a sample" of the occupations and interests of tapespondents. These would be a good cross section of those interested in tape recording. The occupations of those in the sample varied considerably—24 were employed in clerical and/or administrative work, 21 were in engineering, 12 were servicemen, 10 were civil servants and 10 also in the teaching profession, plus 4 students. There were as many salesmen/representatives as teachers! 8 were managers, 7 self-employed (shops, etc.) and 7 in public services. There were five in domestic service, and 4 each in telephone and electrical services, etc. There were about 60 trades and professions indicated in these 200 listings. The list, too long to print fully, included laboratory workers, teleprinter operators, nurses, hairdressers, housewives (!), builders, agents, printers, directors and draughtsmen. There was also an archivist, a minister of religion, a T.V. cameraman, a company solicitor, a hosiery knitter, a journalist and a cable-joiner (to mention only a few). If ever "What's My Line?" begins to run out of unusual occupations, the producer might take a look at the "A.T.R." listings. The

interests of our 200 tapespondents were also varied. As might be expected, music was the most popular interest, with 104, well over half, listing this, and a further 18 specifying jazz. Photography was well to the fore, with 56 indicating this, and 14 mentioning cine. Thus, a total of 70—over a third of the tapesponding readers of "A.T.R."—are interested in photography. The real proportion of readers so interested is probably higher, since many people, like myself, are interested in photography, but feel our efforts are too amateur to be mentioned outside the family circle. Other interests included motoring, motor-scootering (33), travel (19), books and reading (12), films (10) and drama (10). 15 stated an interest in radio. Sport was not too prominent, probably because those listed spend a lot of time tape recording. Sport generally was included by 7, boating by 6, swimming by 4, and ice skating and golfing, 3 each! Hi-Fi and Stereo had 13 enthusiasts. Other interests included cycling (4), stamp collecting (3), art (7) and gardening (4). There were many other interests listed, of course. These were varied, indeed—Salvation Army, scouting, architecture, T.V.(!), medicine (not taking it, I presume), interior decoration, nature study, psychology, weight training, hypnotism, conjuring, dogs, "Westerns", dancing, chemistry and physics (by a schoolboy), science fiction and youth work (again, mentioning only a few).

Men Only?

To try and draw any conclusions from this modest survey is perhaps rather difficult. However, it can be said that the listings include people with a variety of jobs and interests, and that there is great opportunity for the new tape recorder owner to find folks with whom he can converse on tape. One other interesting point—the first 200 listings contained only 11 members of the fair sex. Who said that the men are reluctant to talk? However, it looks as though the ladies are at last awakening to the opportunities afforded by the tape machine, especially when the weather is not kind enough for a talk over the garden wall. The number of battery machines mentioned in the listings to date shows that tape enthusiasts (with adequate income) recognise the advantages of having both a mains and a portable recorder.

Continued from page 22

Mr. Geof Burgess has been appointed Treasurer of the Friern Barnet Club, and subscriptions have been fixed at 10/- per head. The Club welcomes new members; please 'phone ENTERprise 7972 for details.

TEN members were present at a meeting of the newly formed South West London Tape Recording Society. A discussion took place on the immediate future programme and it was decided to produce a documentary feature about the River Thames.

A tape was recorded in reply to an American Contact which gave the club's views on—to quote—"The political implications of Russian leadership in space exploration." Secretary of the new club is Vivienne Killick, 6, Disraeli Gardens, Fawe Park Road, London, S.W.15.

Some 100 enthusiasts were approached prior to the launching of the Surrey Tape Recording Society, thus ensuring more than a fair margin for success. Two of the club's first decisions, which it described as "Musts" were to affiliate with the B.R.C., and to provide for a tape lending library. Due to the high cost of pre-recorded tapes, only one library has been established at present, but later other libraries will be formed in various areas. Priority for these libraries will be given according to the number of members in each area.

Committee members are still required for several areas and those willing to spare a little time for this work are more than welcome, as are recordings from private collections to occupy the empty space on the Surrey Tape Recording Club's library shelves!

A series of tapes to be made available by the library are foreign language conversational courses available at 7½, 3½ or 1½ ips. At present only a French course is available but if the course proves popular further courses will be issued in Russian, Spanish, etc.

The Secretary can be contacted c/o "Pinjarra," Pinewood Grove, Weybridge, Surrey.

The Blackpool & Fylde Tape Recording Club ask us to announce that the Secretary is now J. Bootle of 34, Raikes Parade, Blackpool, Lancs. (Tel. 22041), and that meetings are held every Wednesday evening at 173, Church Street, Blackpool, commencing at 7.30 p.m.

Mr. E. H. Foreman wishes to form a club in the Dartford area. Those interested should write to Mr. Foreman at 117, Westgate, Road, Dartford, Kent.

CLUBMAN REQUESTS

Barry Jefferson, Northern Rep. of the ROUND ROBIN CLUB, would like to get in touch with a tape friend in Maidenhead, Berks. She is Miss Ann Priest, and Mr. Jefferson has no other information about the address except that he thinks she may live near Henley. Mr. Jefferson has asked us to let Miss Priest know that he would like her to contact him at 60, Langford Road, Burley-in-Wharfedale, Nr. Ilkley, Yorks.

Mr. Gordon Butler of the Weymouth Tape Recording Club asks us to publish through A.T.R. his gratitude to Mr. Collins of the Waverley Hotel, who provided the club headquarters when the club was in danger of breaking up through lack of funds and expulsion from its original headquarters. Mr. Butler who goes on to briefly outline the club's history, says that if it were not for Mr. Collins' help the club would probably not be in existence today.

Will tapespondents of J. Rumney of New Zealand please note change of address, which is now 8 Armstrong Street, Huntly, Waikato, New Zealand.

Mr. Thomas Clough, 33 Queen Street, Perth, Scotland, wishes to contact members who would like to exchange tapes of extempore and original compositions of organ and piano.

STARTING CLUBS

Brixton

Mr. L. J. Walker, 124 Branksome Road, Brixton, London, S.W.2, is planning to form a local club. Any readers interested should communicate direct to him.

Buckie

Mr. Charles Riley, 54 Gordon Street, Buckie, Banffshire, Scotland, is interested in forming a club in his area and will be glad to hear from local recordists.

Sunderland

Mr. A. E. Skea, 1 Threlkeld Grove, Seaburn Dene, Sunderland, Co. Durham, is interested in forming a local club. Any readers interested should communicate direct to the address above.



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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.

Mr. P. FOSTER of Cliftonville, Kent, writes to say:

I would like to know if you have any information concerning any make of recorder that has these features: Stereo, four-track, three-speed, $1\frac{1}{2}$, $3\frac{1}{2}$ and $7\frac{1}{2}$ and most important has track change buttons. I was thinking of buying the Grundig TK 60 but I find it only has two speeds and no track change buttons.

ANSWER.—We believe the Tandberg 4-track machine has the facilities you require, but we advise you to write to the distributors for their specification and brochure.

Technical Suppliers Ltd.,
Hudson House,
63 Goldhawk Road,
LONDON, W.12.

JOHN A. KIRSH of Kilburn, N.W.6, asks:

Is it possible to copy a tape using only one recorder? I have been told that there is a method, but have been unable to find out how.

What is meant by high and low impedances in microphones? If a low impedance is 20 or 30 watt then a high impedance might be 14 watt, alternatively if a high impedance is, say, 5 M.ohms, then a low impedance might be one K.w. What is the "Baseline"? and would 200 watt be high or low impedance?

ANSWER.—By using a rather elaborate external means of winding the tape, two recording heads, and various additional tape guides, it would be possible to copy a tape using only a single machine. It is not a very satisfactory method of doing it and whilst the writer has succeeded in making copies of sorts, the additional mechanics and amplifiers involved would make the whole task too difficult for anyone without fairly exceptional knowledge and facility for constructing special equipment. In any case the mechanics and fitting of an extra recording head would mean extensive modification to the tape deck.

"High" impedance microphones are those which have an impedance of a megohm or more and refers generally to crystal types that are popular for recording.

"Low" impedance microphones are those with impedance of 30 ohms or less and which require a transformer to match the microphone into a high impedance valve circuit.

There are now other types of microphones with various comparatively low impedances, viz: 400, 600 and 1,000 ohms, etc., and which for correct matching to a high impedance valve circuit also require a transformer, although these microphones will generally operate without too much loss if a transformer is not used. These instruments are often used for transistorized tape recorders where the actual input impedance is very often between 400 and 1,000 ohms.

Mr. L. J. KITE, of Halesowne, Birmingham, enquires:

I have a Gramdeck with preamp and microphone, same make. I get good results taping records using the ex LS sockets but the level of volume when using the microphone after pushing the volume control on the set to maximum leaves a lot to be desired. As the microphone is the low impedance type I was wondering whether the microphone amplifier described by Mr. Judd in the March issue would solve my problem.

I would greatly appreciate your remarks.

Perhaps I should state I have only used the microphone to tape a friend playing the accordion.

ANSWER.—The transistor microphone pre-amplifier described in the AMATEUR TAPE RECORDING magazine should be quite suitable for your microphone.

The input to your pre-amplifier is obviously "high impedance" and for this reason your microphone does not "match" the input.

Mr. A. A. HANNAH of Blackpool, writes to say:

As a regular reader of the "Amateur Tape Recording" magazine and Club Member may I suggest an idea, which most of us could use a great deal and has not yet been catered for by the manufacturers? Why not give us a circuit and details where to obtain the parts for a battery driven recorder consisting of a motor drive one way only, no re-wind, no playback, just eye for recording only. This would enable us to go out and record only, then replay on electric machines.

ANSWER.—We should be most happy if we could supply you with a circuit and design for a battery operated recorder such as you suggest. Unfortunately design work takes up a lot of time and involves a good deal of expense, especially when a particular design is required more or less to order.

A manufacturer may well spend several hundred pounds on preliminary research and the development of one recorder. The Amateur who has the knowledge and sufficient tools can of course design for his own requirements, but he is not particularly concerned with the time taken to produce the finished article.

If a reader should send in details for a practical design, something he has created himself which could be constructed by others, we should of course be glad to consider publication.

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THE TAPE RECORDER AS AN AID TO EDUCATION

FORMING THE SCHOOL TAPE CLUB

by Dr. C. A. Smith

The first of a series of articles on the use of Tape in Schools based on the members' practical experiences in the B.R.C. Education Division.

THE RAPID GROWTH in popularity of tape recording as a hobby is paralleled by its development as an educational medium. For secondary—including grammar—school pupils, the tape recorder can serve both purposes simultaneously, wise direction making the hobby itself educational. It is not surprising, therefore, that recording clubs are springing up in schools.

This month we report the formation of a new club at Victoria Secondary Technical School. A technical school is likely to have a higher than average proportion of tape enthusiasts, and the staff of this particular school includes an experienced recordist in the person of A. L. Willemsen, but these advantages are not essentials, and what Victoria is doing can be done by any other secondary school.

Preliminary Discussion

First came the question of obtaining the machine. Willemsen's would be available, and some of the boys might be expected to lend theirs, but to function efficiently a club needs to have at least one recorder always to hand. That the boys should manage the enterprise as democratically as possible was obviously desirable, but—as experience has often demonstrated in wider contexts—democracy has both economic and cultural bases. The boys could not vote expenditure of the Council's money for the purchase of a tape machine, nor had the majority of them the technical knowledge to select the model most suitable for school use. In any case, the recorder would be required for school activities as well as the club's, so the purchase was fully discussed by the staff before the project was mooted among the boys. The English, French, Music and History Masters each desired to use the recorder in the teaching of his own subject, and other members of the staff were sure that the instrument would be helpful to several of the existing school clubs; it was thus clear that the recorder would be in constant demand for a wide variety of purposes in and out of the classroom. Willemsen, who runs the photographic club, agreed that it was to this club that the tape recording section should most logically be attached.

The Ideal Tape Recorder

The discussion then moved on to the facilities offered by the various recorders on the market, and the decisions were as follows:—

- (a) to ensure economy of tape, a four-track machine was the first essential;
- (b) again for economy, the inclusion of a slow speed of $1\frac{1}{2}$ i.p.s. was thought desirable, but the music man demanded $7\frac{1}{2}$ i.p.s., claiming that only such a speed could do justice to his choir;
- (c) since the preparation of documentary tapes entails a great deal of editing, treble controls would be necessary to compensate for the loss of treble in the copy tape;
- (d) the ability to mix microphone and radio was felt to be an advantage when recording plays;
- (e) a pause control was demanded in order to avoid clicks and bangs when dubbing from one machine to another;
- (f) since in most cases the acoustics of the classroom make it a poor auditorium, a recorder with a detachable speaker would be preferable; failing this, a good quality extension speaker;
- (g) monitoring facilities, through either a speaker or earphones, were considered indispensable; a radio jack could be used for the recording of B.B.C. Schools Broadcasts;
- (h) as the machine would have to be taken to many places in and out of the school, transportability was a prime requisite;
- (i) to resist and survive schoolboy treatment, the recorder

should be strongly built—as nearly as possible fool-proof and indestructible.

These points agreed, two members of staff were delegated to study manufacturers' literature and inspect various machines.

The Inaugural Meeting

In the meantime, preparations had been made for the formation of the school's tape recording club. An agenda was drawn up, the inaugural meeting announced, an atmosphere of expectancy created—and the appointed hour saw a good attendance not restricted to the top Forms.

Item 1 on the agenda was the election of officers. The boys decided that prestige considerations indicated the desirability of the Head as first President of their new club. Neville, a serious-minded Third Former, was elected Vice-President and head of the photographic section, and the Science Master Joint Vice-President and head of the recording section. For each section the boys chose a secretary—Harris, the electronics genius from the Fifth, for the recording and Clarke from 3D for the photographic.

Item 2 was subscription. As expenses would vary according to projects undertaken, it was decided to keep the sub. low, and 6d. per month was deemed sufficient to cover postage and other small incidentals. While this discussion was proceeding, the two secretaries distributed cards, asking each boy to enter his name and Form at the top and then below to list (a) equipment he possessed or could borrow and (b) his main interests other than recording. The new club found that it had at its disposal seven mains tape recorders and two battery models, and cameras ranging from Leica (staff) to Box Brownies; deserving of special mention was the English Master's Butcher Reflex, a family heirloom. Among other equipment offered were an 8 mm. cine camera, three enlargers, sundry lenses, masking frames and safelights.

Item 3 was home, habitat or premises. The Geography Room, having formerly been used for Art, has a sink; it has also been provided with an electric point and blinds allegedly effecting a black-out. Beyond doubt, this could have no rival as club headquarters.

With Item 4 came the main point of interest—what was the club to do? Suggestions came thick and fast, and soon covered the blackboard. The majority had to be eliminated as requiring facilities or equipment the club did not possess or relying too much on the co-operation of outside organisations. Finally, the meeting selected three projects—Port of London, Metropolitan Police and Post Office. For these it appointed three teams, each consisting of three recording enthusiasts and two or three photographers, the chief limitation being imposed by the number of battery portables. It was agreed that each project required a "script" before any approach to the selected organisation, and that there should also be a photographic "script". This would entail preliminary visits and careful planning, but would save much time on the day of the "official" visit and greatly improve design and execution.

Then came the problem presented by those boys not included in the teams. To have damped their ardour at the very outset by leaving them jobless would have been a major blunder. This was avoided by forming them into a taping section; back numbers of "A.T.R." have been scanned for interesting contacts, a card index is being compiled and postcards have been sent to countries in nearly every part of the world. The French Master is anxious to contact a school in France for the exchange of tapes. Ambitiously, he proposes that the Victoria tapes should be recorded in French. It is hoped that this will have no worse effect on Anglo-French relations than the Strasbourg speech which Sir (then "Mr.") Winston Churchill prefaced with the famous warning: "Prenez garde! Je vais parler Français".

Continued from page 20

many occasions on which I have entered the premises in time to hear the closing remarks of what must have been a singularly enlightening discussion. For instance:—

Shorn Man in Chair: "... so I told him it would only end in trouble ..."

Hairdresser: "He'll have to watch his step ..."

Shorn Man in Chair: "His father did exactly the same."

Hairdresser: "Well, I've never heard of it before."

Shorn Man in Chair: "You mark my words ..."

Hairdresser: "Anything on?"

Shorn Man in Chair: "Have you got any of that white sticky stuff?"

And so on. I can only suggest that it is high time that all these hairdressers bought tape recorders and captured some of these conversations for posterity. You know, you could probably invent a tape recorder and electric clippers combined (passed to any enterprising manufacturer!)

Slipping the Disc.

A friend of mine sent me a very interesting cutting from an American newspaper, in which some of the commercial uses of the humble gramophone record were described. Apparently, some enterprising American companies use discs to sell their wares. The advantage of gramophone recordings over printed material are many. For one thing, the efficient secretary is less liable to drop a gramophone record in the waste paper basket. And if she has no record player handy, the chances are that the disc goes right on to the desk of The Boss. These selling records are attractively packaged, and invite attention. The Boss, it is presumed, will take the record home and hear it. The recordings themselves use "dramatisation" to sell the goods; one quoted included sounds of settlers' wagons clattering their way over the thirsty desert until the settlers happily declared the discovery of a green and pleasant oasis. This oasis was, in fact, a piece of land being offered for sale by the sponsor of the gramophone record. Music is also used in these recordings, and one can well imagine the interjection of fanfares and choruses in the "sales pitch".

"Tete-a-Tape", anticipating this news item, has already suggested that applications for jobs might be put on tape, rather than on paper. Now it seems that one should dramatise (i.e., put in the form of a play) the highlights of one's own life. The great day when you were awarded your G.C.E., O.N.C., or driving licence could be captured on tape, and accompanied by dubbed fanfares. All this would impress someone ... (?)

TAPE AND DISC REVIEW

by Stanley R. White

"My Very Good Friends The Bandleaders"

Decca LK. 4344. Stereo-SKL 4090.

Ted Heath and his music.

This is one of the best L.P.s. that Ted Heath has ever made. In it he plays a tribute to other famous bands. In doing so Ted Heath retains his own individual style of playing, and that of his musicians. Not that Ted is featured himself, but his orchestrations stick mainly to the Heath sound whilst any solo work by his musicians is not aimed to copy any original style from the ranks of the band whose tune is being played.

The record kicks off to a swinging start with the famous Benny Goodman number, "Sing, Sing, Sing". This is followed by a number which must be world famous as the signature tune of the great Louis Armstrong, "When It's Sleepy Time Down South", which features a trumpet solo by Bobby Pratt in keeping with the mood of the number. "Sorta Crazy" is the next tune, and one which is associated with Billy May. I found this extremely pleasant. "One O'Clock Jump", instantly calls to mind the swinging orchestra of Count Basie. Les Brown is represented by a number which is probably more familiar to his American following, although I could be wrong, "I've Got My Love To Keep Me Warm". I need hardly mention that the swinging "Intermission Riff", is played as a reminder of that internationally known bandleader, Stan Kenton. Of course, Glenn Miller had to be included, and what better way to bring back memories of him than his popular number, "Tuxedo Junction". "Apple Honey", certainly takes me back a few years, and brings back the memories of that happy sounding band led by Woody Herman. Naturally Ted had to include a Duke Ellington number, and rightly so for Ellington has been leading a band since the twenties, "Take The 'A' Train", is the Ellington number, and it is extremely well played. "Dragnet", does not date back many years, but instantly reminds one, as it should, of Ray Anthony. The final number is "Night Train", and represents Mr. Buddy Morrow.

I have enjoyed listening to this record; the band is on top form with orchestrations which hold the interest throughout.

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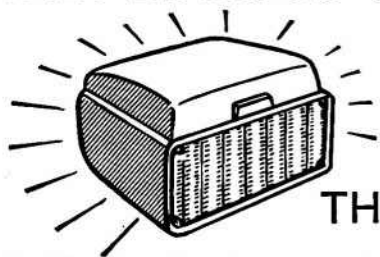
SPECIAL ANNOUNCEMENT

"Advertising Pays", so we are told, but we often wonder exactly how to convey to readers of **AMATEUR TAPE RECORDING** the facilities we can offer to those seriously considering the question: where shall I buy, and where shall I find a Firm willing and interested in MY requirements. One such Firm is **NUSOUND RECORDING COMPANY**, in the heart of London, and **THORNTON HEATH (Croydon) Surrey**, where we are really enthusiastic about Tape Recorders and Audio equipment. **WHY NOT WRITE TO US, OR PAY US A VISIT.**



Geoffrey V. Smith
(SOLE PROP.
NUSOUND REC. CO.)

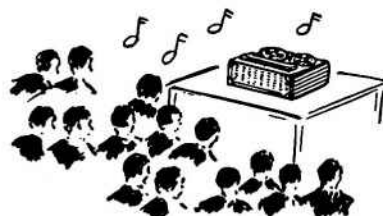
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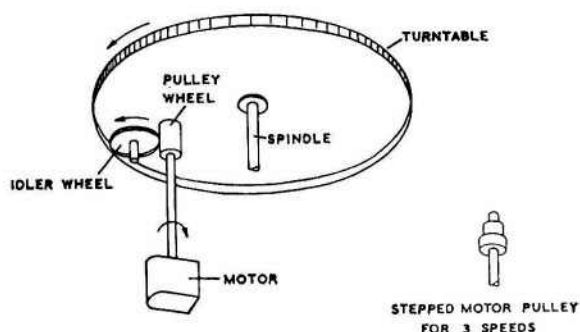
TRUVOX LTD. Neasden Lane, London, N.W.10. (Dollis Hill 8011).

There are several types of record players available but we will only discuss two of them. They are automatic record changer players and manual players. The automatic record changer has mechanical means of playing a number of records one at a time without any attention by the user. The manual turntable will play one at a time and records have to be changed manually.

Automatic record changers vary in design and operation according to manufacturers' theory as to the best and most efficient way of accomplishing the desired result. Some record changers will accept only one size of disc at a time (7 inch, 10 inch or 12 inch) whilst others will operate with 10 inch and 12 inch discs intermixed. However all the discs must be for the same turntable speed (33 $\frac{1}{3}$ r.p.m., 45 r.p.m. or 78 r.p.m.). We will not discuss the automatic selector mechanism since this varies so much according to the manufacturer.

There are several drive systems in use for the turntable part of the record changer. The inner rim drive system uses an idler wheel and pulley arrangement and is the system used by most manufacturers for multi-speed automatic changers. Figure 1 illustrates an inner rim drive system.

FIGURE 1.



TYPICAL INNER RIM DRIVE SYSTEM

There are many methods in use which provide different turntable speeds and we shall discuss them later in this issue under Manual Turntables. Since it is easier and less expensive to make, the stepped motor pulley system is commonly used. By selection of the proper diameters for the motor pulley, idler wheel and turntable rim the motor speed can be set to the speed required to rotate the turntable.

Automatic changers have the advantage that several records can be played without attention except for loading and unloading. Their disadvantages are many particularly with respect to high

What are . . .

AUTOMATIC and MANUAL RECORD PLAYERS

by Fredericks

In this article and the remainder of the articles we shall discuss various signal input equipments that can be used in conjunction with a tape recorder or amplifier.

fidelity requirements as rumble or motor vibrations are easily transmitted to the pickup head and thus amplified causing an objectionable low pitched rumble that can be heard by the listener. To keep down the cost two or four pole motors are used. These motors are affected by changes in mains voltage and frequency and result in speed variations whilst the turntable is rotating. This in turn causes wow or flutter; one of the authors once heard it called "music gone sour" which is a very apt description.

Only those gram units that use motors not affected by mains voltage and frequency variations are acceptable for high fidelity reproduction. Automatic

record changers usually require high needle pressure because of the mechanical connection to the automatic changer system and this higher needle pressure causes greater record and stylus wear which in turn shortens the life of both. Most automatic changers are not generally acceptable for playing long playing records since they tend to damage the grooves due to the action of the changer system

when the disc drops on to the turntable, usually from a height of several inches. There are however a few automatic changers that approach high fidelity standards but they are very expensive because of the extra complication of the mechanical handling system used for changing the records, operating the pickup arm and driving the turntable.

The better type of manual turntables are generally more expensive than automatic changers although they have less parts. The additional cost is due to the use of good quality motors, better and more precision parts and a heavier turntable unit. The drive systems are many and varied and some will now be discussed.

Turntables used for recording and a few used for playback use a direct drive by gear reduction. The spindle of the turntable uses a standard gear driven by a worm wheel which is fitted on to the motor shaft. Direct drive requires expensive precision motors that are as vibration free as possible with precision

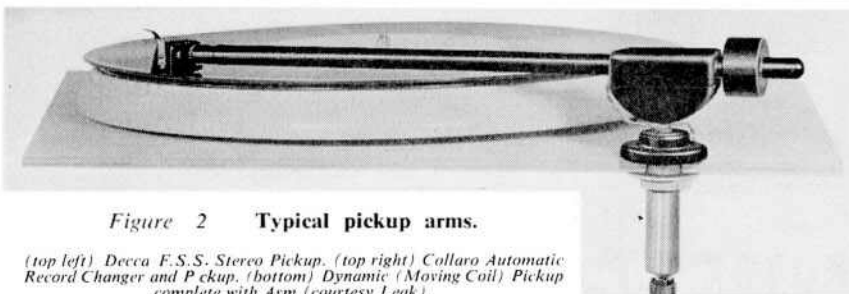
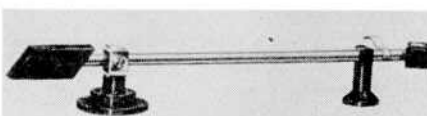


Figure 2 Typical pickup arms.

(top left) Decca F.S.S. Stereo Pickup. (top right) Collaro Automatic Record Changer and Pickup. (bottom) Dynamic (Moving Coil) Pickup complete with Arm (courtesy Leak).

gears to reduce rumble to a minimum. Another method used is a direct belt drive as this method helps to filter out motor vibrations. Many turntables use this drive system and are generally of good quality. Most of the inexpensive manual turntables available use the idler wheel and pulley drive system described under automatic disc changers. However hysteresis synchronous motors are used together with precision pulley and idler wheel parts. Most manual turntable units do not include a pickup arm in order to leave the user with freedom of choice. Therefore, this is an additional expense.

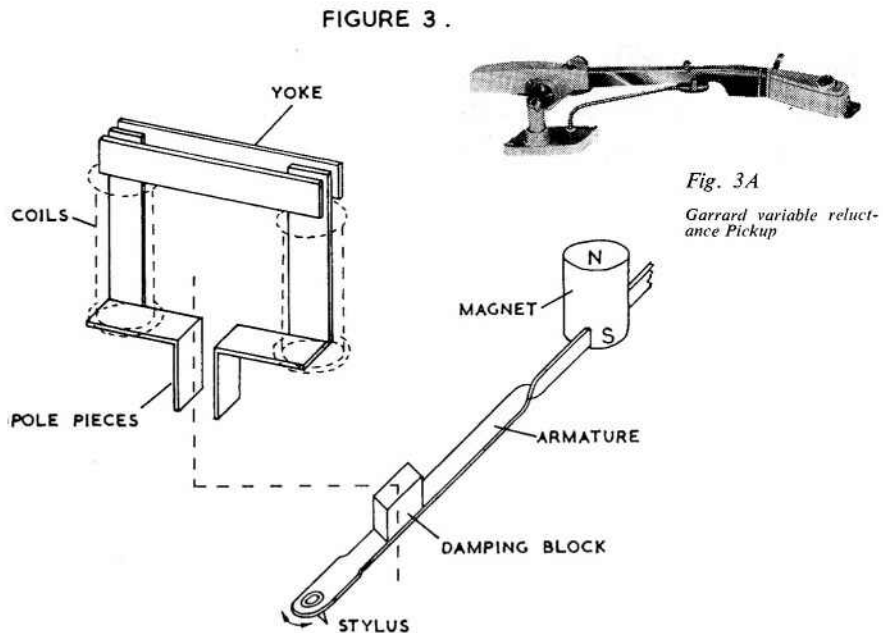
Monophonic (monaural) pickup heads are not generally affected by vertical vibrations, viz:- mechanical vibration from the motor, therefore drive systems were designed to eliminate horizontal vibrations and little attention was given to vertical vibration. However since the marketing of Stereophonic records and pickup heads, vertical vibrations became a problem as Stereophonic pickup heads are affected by vertical vibration. For this reason many of the automatic disc changers had to be redesigned and improved for Stereophonic playback. Most manual turntable designers avoided vertical vibration and these models are therefore suitable for stereophonic record reproduction. Due to the vast improvements in amplifiers and loud-speaker systems turntable rumble has now become a serious problem.

High Fidelity generally requires the use of a good manual turntable and a good quality pickup head. The turntable must be free of rumble and have good speed regulation. The pickup head must be well balanced and capable of tracking (following the groove of the record) at a low needle pressure.

Pickup Units

Now let us consider the pickup unit. This consists of an arm with a balancing system and a pickup head. The pickup arm is from 9 to 16 inches long and has a spring balancing or dynamic weight balancing system. The pivot system is made as friction free as possible. Figure 2 shows several types of pickup arms. The type used will be governed by the type of turntable. Most pickup arms fitted on automatic record changers use a spring balancing system. Manual turntables generally use dynamic balancing systems employing weights that can be adjusted to obtain the minimum pressure on the record.

The pickup head can be of several types. Variable reluctance heads use the control of magnetic flux through coils by varying the gap between pole pieces and the armature on which the stylus is



TYPICAL VARIABLE RELUCTANCE PICKUP HEAD

mounted. Figure 3 illustrates a typical variable reluctance pickup head.

Crystal pickup heads use the piezoelectric effect. This was explained in the article on microphones. A crystal element is mounted so that movement of the stylus twists or bends the crystal element thus producing a voltage. Dynamic or moving coil pickup heads use one or more coils connected to the stylus so that movement of the stylus results in movement of the coil in a magnetic field thus generating a voltage in the coil.

The pickup head should be selected to meet the impedance and signal requirements of the preamplifier input. Crystal heads have the higher signal voltage output, but the moving coil (dynamic) pickup head has better fidelity. The variable reluctance pickup head rates high in this respect but is more subject to distortion due to possible misalignment of the armature after being used.

So far we have covered the gram unit in a general discussion and considered some of the advantages and disadvantages of the various types. Now let us see how a signal is recorded on to a Disc and how we are able to reproduce it. Discs are usually recorded at three standard speeds. They are $33\frac{1}{3}$ revolutions per minute, 45 r.p.m. and 78 r.p.m. The long playing or microgroove recording uses $33\frac{1}{3}$ r.p.m. speed. The extended play, 7 inch, uses 45 r.p.m. At the present time records using 78 r.p.m. speed have been discontinued by most of the recording companies.

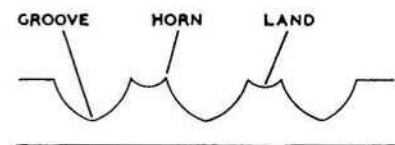
Records and Recording

The material generally used for records is shellac. However plastics are now replacing this medium and as new types are developed we can look forward to even better results than those obtainable at present.

Newer plastic materials have been recently developed that greatly reduce the problem of static electricity collecting on the record. This static electricity attracts dust and when the stylus (needle in pickup head) runs in the grooves and hits the small dust particles damage can be done to the record or the stylus. Records must be kept free from dust to reduce wear as well as to keep surface noise to a minimum. Vinylite plastic provides unbreakable records with low surface noise and excellent frequency response.

We will now see how a recording is originated and is processed to provide

FIGURE 4.



CROSS SECTION OF A RECORDED DISC

the record that we play on the gram unit at home. The turntable used for recording is in general the same as a good quality manual turntable used in the home. It has, however, additional equipment to regulate the number of grooves which are cut per inch, since there are no grooves on the original master. The master disc is acetate on an aluminium backing. Soft wax which was originally used is now a rarity because of the trouble in handling during cutting and processing. Other materials have been used from time to time for masters, but they have not proved to be as good as the aluminium backed acetate type. The recording head is similar to the magnetic pickup head but is larger and designed to handle higher power to drive the cutting stylus. The cutting stylus instead of being round as in the pickup head has sharp cutting edges. In most cases today the stylus is heated and by use of a hot stylus surface noise is reduced and high frequency response is improved. The hot stylus reduces the cutting friction thus enabling the stylus to follow more faithfully the changes in the signal voltage. Normally two masters are made when a disc is recorded. The first master intended for the pressing is "never played back", therefore the second master is used for play back to check sound quality. The first master is also checked for defects with a powerful microscope. Figure 4 shows a cross-section of the recorded grooves on a disc.

The area between the grooves is called the "hand". On the edge of the groove there is a raised edge called a "Horn". This is caused by the cutting stylus during recording and this Horn

can easily be damaged by rubbing the surface of a record. Damage to the Horn results in noise in the form of clicks and pops when the record is being played. The hot stylus method of cutting discs reduces the Horn edge, therefore the possibility of damage to the disc is minimised.

After the master has been checked and determined as suitable for pressing it is coated with a very thin layer of copper or nickel by electro-plating. Gold spluttering is also used for higher quality masters. This is a more expensive process and is not used very often. The nickel plating is supported by a back plate of wood or metal and then removed from the master. This is called a "Stamper" and is placed in a press with another stamper for the other side of the disc. When more than one stamper is required, a duplicate of the master is made by electroplating on a stamper. This duplicate is called a Mother and is then used to make additional Stamper discs. The disc is then pressed with or without heat according to the material used in manufacture.

We now have a vinylite disc with sound recorded on it. The sound was recorded by one of three methods. The lateral or side to side movement of the stylus, the vertical or up and down movement of the stylus, or the 45-45 recording method developed by Westex. For stereophonic recordings in the latter case one channel is recorded on one side of the groove and the other channel on the other.

And now, stereo . . .

Stereo playback styli are mounted so that they can move vertically as well

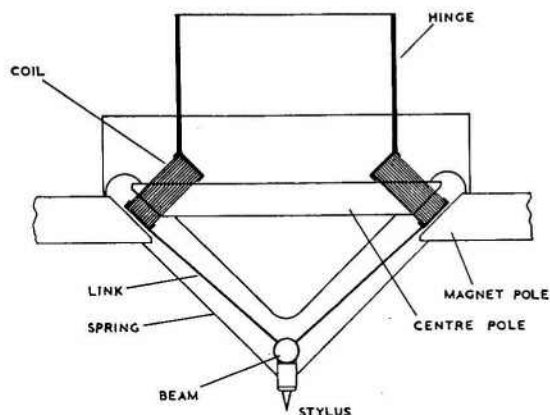
as laterally. Figure 5 shows a typical stereophonic mounting of a stylus.

The two arms are mounted at a 45 degree angle to the surface of the record. The right channel is recorded on the side of the groove towards the edge of the disc and the left channel is on the side of the groove towards the centre of the disc. Therefore, the arm driven by the right channel signal is on the side of the head towards the centre of the disc and the arm for the left channel is on the outside of the head. Figure 6 gives a series of diagrams showing the movement of the stylus when signals are connected to the recording head.

If we connect a signal to the left channel we get the result shown in A. Figure 7 shows how the groove will appear from above, i.e. looking down on the record. With equal signals connected to both channels in phase the result is a lateral groove as with monophonic records. This permits reproduction of the standard monophonic record with a stereophonic pickup head. When the equal signals are out of phase the result is a hill and valley or vertically recorded groove. When we record music the signal is very complex and as a result we get a combination of all four conditions as shown in Figures 6 and 7.

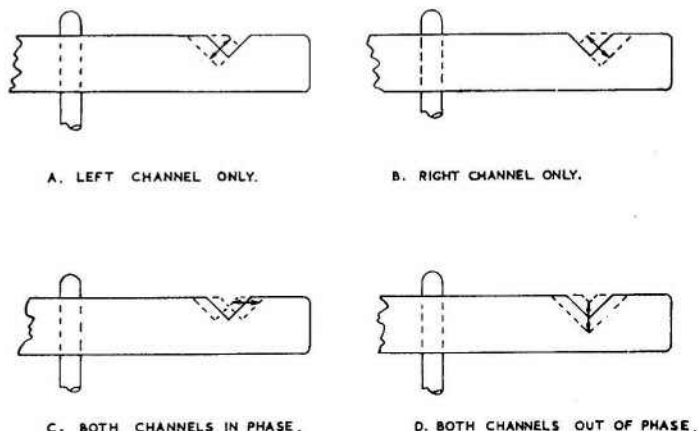
Monophonic pickup heads do not normally allow movement of the stylus in the vertical plane. Therefore they cannot follow the up and down movement of the recorder groove. This results in the stylus cutting into the hills and jumping the valleys, thus damaging the stereophonic record. This is the major reason why monophonic pickup heads should not be used on a stereophonic record. They will not reproduce all of the signal,

FIGURE 5.



TYPICAL STEREOGRAPHIC STYLUS MOUNTING

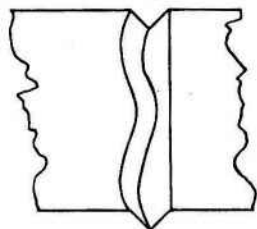
FIGURE 6.



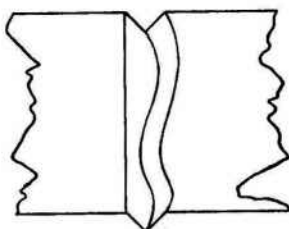
since we must combine the two stereo-
phonic channel outputs electrically to
obtain a monophonic signal.

The next article in this series will
discuss radio receivers and will include
medium wave and V.H.F. tuners.

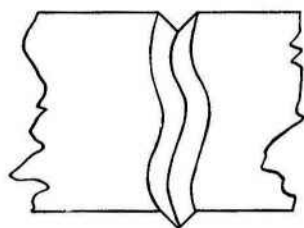
FIGURE 7.



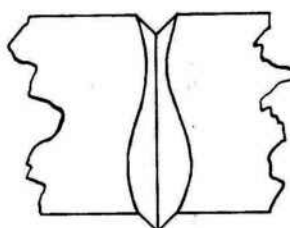
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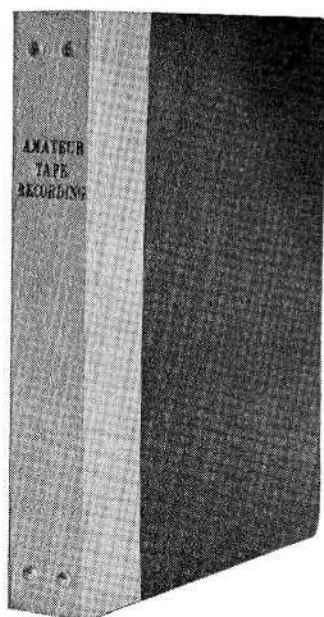
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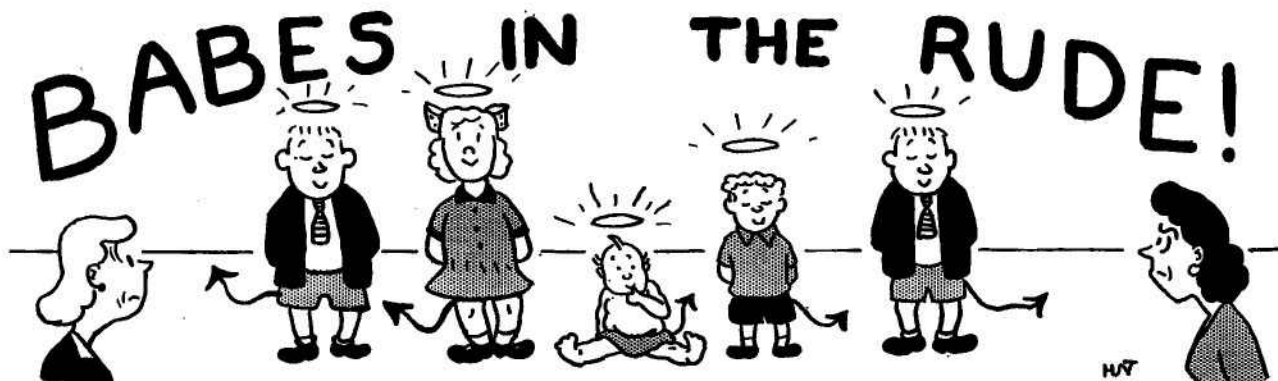
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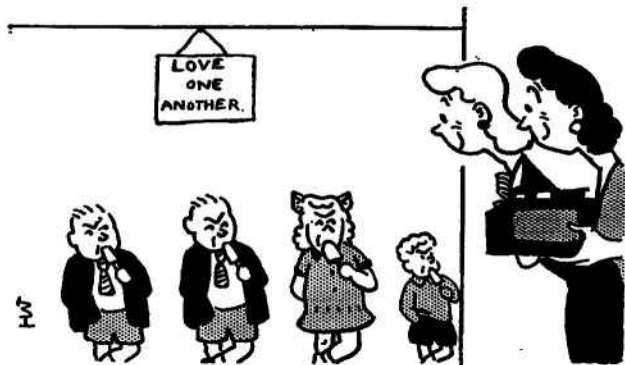


Lorna Gulston reporting

OTHER people's children at a safe distance can be droll and fetching little creatures, and that's the way I prefer to keep them—at a safe distance. I think I developed a Complex that would have gladdened Freud into a seventh heaven the night Ruth and Harry went to the Tennis Club Whist Drive, and I can see a change in Betty, too; a sort of nervous twitch every time a pram wheels past—which goes to show, for the umpteenth time, the danger of owning a tape recorder.

The nightmare began accidentally, as the worst nightmares do. Ruth was one of those folk born with a needle in her hand. She could take a quick glance at a length of material, murmur to herself, and in an hour or so have a skirt, or a frock, or a pair of rompers for the baby. It smacked of witchcraft to me, because I find sewing on a button a major operation. You can imagine therefore that any turnings up or down or lettings in or out generally landed in Ruth's lap, especially as Ruth was a most obliging soul and always willing to exercise her gift on behalf of her friends. There came a time, however, when my conscience smote me.

"Ruth," I said, one Saturday when I went to collect the latest batch of rejuvenated garments, "Is there anything I can do for you in return? You've been slaving away for me for so long that I'd like to help you out for a change".



"Oh nonsense," she scoffed, "That's nothing".

"Maybe not, but still, one good turn deserves another and all that".

"Oh well, if it would make you feel any better, there IS something you could do for me, provided it wouldn't upset your plans. You see, Harry and I would love to go to the Tennis Club Whist Drive next Friday, only we can't leave the kids. Harry's aunt Victoria usually comes to sit with them, but she's in bed with varicose veins these days. If you

were free on Friday and you could bring along your tape recorder the infants would be thrilled to bits."

And so I came on Friday, complete with tape recorder and my friend Betty, as an extra hand in case things became unmanageable.

The situation looked ominous right from the start. Ruth's neighbour Joan, hearing that Ruth had laid on a baby-sitter, decided that she and her husband would also love to go to the Tennis Club Whist Drive, and trotted her six-year-old ginger-headed twins, Gordon and Gerry, round to Ruth's, on the theory that two more couldn't make any difference. That, with Ruth's Carole (6½), Peter (3) and Oliver (5 months) totalled a menage of five, and when the front door clicked behind the escaping parents, Betty and I were left holding the babies. By rights, of course, they should have been in bed, because it wasn't far off 8 o'clock. But as a super-special treat in honour of the tape recorder, all of them except Oliver were strewn goggle-eyed round the dining-room sucking disgusting pink lollies. Oliver was upstairs in his cot sucking his disgusting pink thumb.

Carole took the initiative. She was a vivacious, dark-haired child who would undoubtedly grow up a flirt, and she had personality plus, a fact which she appreciated and exploited to the hilt. With a final hollow crunch she disposed of her lolly, slid off the armchair, marched across to the table and announced, "Well, we're ready any time you are".

"I bags first," bawled Gordon and Gerry in unison, leaping to their feet, and Peter, not to be outdone, screamed, "No, me, ME".

"I'm a lady, I go first," bridled Carole, taking a ladylike swipe at Gerry whose thin muscular hand was creeping across the table towards the mike.

"If you don't behave, we shan't have tape recording at all," threatened Betty, lighting on a pretty sound line in child psychology.

Consternation and instant quiet while four pairs of eyes searched our faces.

"We're behaving now," ventured Carole, folding her hands and assuming an angelic expression through which the bright mischief shone like a warning beacon.

"Keep it up," I said grimly. "Right, Peter, you're the smallest, so you can have first go."

"Ee-hee-hee-hee," tittered the little boy, beset by shyness now that the time had come. He wrapped one leg round the other and leaned his elbows on the seat of a chair. I switched on the Grundig and stooped down with the microphone.

"Come along, Peter, how about a nursery rhyme?"

"Don't know any nurse'y yimes."

"Oooh, he does," broke in Carole officiously. "He knows Humpty-Dumpty and Tom, Tom the Piper's Son and—oh—LOTS."

"Don't."
 "DO."
 "DOON'T."
 "DOOOO."

It was the sort of conversation which might have kept Carole and Peter absorbed for the rest of the evening if Gordon and Gerry hadn't chipped in.

"I'll do it while he's remembering something," volunteered Gordon. "'Twinkle, Twinkle, little star—'"

"That's MINE," cried Gerry, pushing his brother from the table and in his haste jolting the chair where Peter's elbows rested. It barely moved, but Peter seized his chance of drama and fell to the floor shrieking as if he had been run over by a steam-roller. He shrieked and shrieked, and drummed his heels on the carpet and pretended to be mortally stricken, and Carole came all over tigress-in-defence-of-her-young.



It was inevitable that Oliver would waken, and as Betty and I quelled the riot downstairs as severely as one can when coping with somebody else's juvenile property, a horrid wail filtered from the nursery.

"I'll go," sighed Betty, heading for the stairs with the expression of a victim mounting the steps of the scaffold amid howls of "A bas les Aristocrats!". She was back in a few moments clutching a heaving bundle which roared like a foghorn and waved minute fists as if it would punch the whole world on the nose and enjoy doing so. The magic eye on the recorder (still running, poor dear) pranced in an alarming fashion, and even when I turned the volume down to almost zero it still waltzed and twittered.

"I think he's—er—uncomfortable, or something," said Betty. "He probably wants changing."

Why ever should it be assumed that all women come into the world equipped with a built-in dictionary of Helpful Hints for Housewives and Cheerful Child-Care? Certainly no primeval instinct flew to our aid as we peered, baffled, at the mechanics of Oliver's comfort while he worked himself into such a tizzy that the house rocked with his outrage.

"I suppose we'd better have a bash," murmured Betty, setting Oliver on the sofa and poking at a safety-pin. "Perhaps there's a clean what-have-you in the kitchen."

There was, but how did one FOLD the wretched thing? After five minutes Betty and I—Oliver too, I imagine—were on the point of dialling 999.

"Oh, let's just shove it on anyhow till Ruth comes home," I groaned in despair.

We had quite forgotten the other children in our struggles, and it was a shock when Carole's voice said:

"That's wrong."

She was watching us with an expression of ancient female wisdom, the three boys gaping open-mouthed over her shoulder.

"Mummy doesn't do it like THAT," she went on, in superior contempt. "She does it like THIS."

Poised, assured, she stepped to the sofa.

At that moment Peter shouted, "Oh look, Pussums has got a mouse".

Gordon and Gerry dashed to open the window, and a black shape cannonballed past them into the room, growling and crouching and glaring with baleful amber eyes. Peter blundered forward and trod on Pussums's tail and the cat unlocked its jaws in an anguished protest. That was enough for the desperate field-shrew. One wriggle and it was scuttling free round the floor pursued by a swearing Pussums and three yelping children.

It was too much. Betty and I fled to the kitchen and brewed strong hot tea, closing our ears to the bedlam in the dining-room, until our sense of duty stirred feebly and we began to worry about Oliver, whom Carole might well have transfixed from stem to stern with a safety-pin by now. Besides, there was the Grundig.

"Listen," hissed Betty. "They've gone quiet. I wonder if they work on the same principle as the flying bombs? You know—you're safe until the engine noise cuts out..."

"If they do, hold on to your hat."

As we rose, a figure appeared in the kitchen doorway. It was Carole.

"You can come in now," she announced tranquilly. "I've done Oliver, and Pussums and the weeny mouse jumped out of the window again and it ran away from Pussums I'm glad to say, and I think Peter and Gordon and Gerry want to watch T.V. only you see they can't switch it on because the switch is in a secret place because Daddy didn't want us children spoiling the set, but I know where it is, you see."

Betty and I exchanged an eager glance.

"They—er—want to watch T.V.?" I breathed.

"I think they might. I think I can make them want to. And then, you see, you could tell our Mummies and Daddies how GOOD we've been ALL NIGHT."

Her eyes were very big, very innocent, but if ever there was a case of blackmail here it stood before us.

"They told us if we were VERY GOOD we could have some liquorice allsorts tomorrow, and I LOVE those, don't you?" pursued the artful madam. "That's why I'd LIKE them to be good, but you know what boys are."

We did. Girls, too.

"And when they were all quiet at the T.V. we women could all come in the kitchen and you could record me."

"You are a little monster," observed Betty.

"But I just want them to be GOOD for your sake," Carole's eyes opened so wide they nearly caught in her hairline.

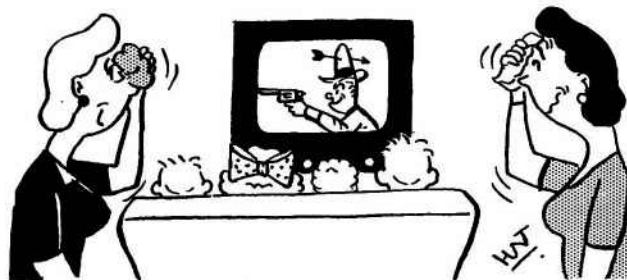
We knew when we were beaten. True, the lull was bound to be temporary, but ah! sweet transient peace!

"Then if I were you, I'd switch on the T.V.," I urged.

"And when they're nice and settled, you'll come and take me and the recording thing into the kitchen?"

"Baby-sitter's honour."

Presently from the dining-room came the thunder of hooves, cowboy yips and the bangs of indiscriminate slaughter, mingled with chants about somebody's unbelievably remarkable soap-powder.



Betty and I beamed from ear to ear. Never had we heard a more beautiful sound.

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Grundig Mixer	16	16	0

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Armstrong ST.3	27	6	0	Garrard 301	22	7	3
Dulci AM/FM	25	15	2	Garrard 301/Strob.	23	18	4
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Spectone Ex Tape	49
H.M.V.	£50
Grundig TK20	52
Telefunken 75 with mic.	56
Perth Saja De Luxe	56
Brenell 3 Star	58
Veritone	58
Mobile	58
Ficord	59
Grundig TK25*	62
Telefunken Deck*	63
Korting Stereo*	68
Telefunken 4-track with Mic.	68
Stuzzi Mag-Nette	69
Brenell Mk V with Mic.	69
Grundig TK30*	72
Brenell M.V. with meter. Mic.	74
Elektron Stereo*	77
Telefunken 85KL*	79
Sabafon Automatic*	86
Harting Stereo*	89
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New Stuzzi Professional Portable

ADVANCE information has been received about a newcomer to the Stuzzi range—the one-speed (7½ i.p.s.) "Magnetite" weighing 8lb. and priced at 75gns. Further details of the machine, intended for professional use, will be found in future issues.

T.U. Tribute to Tape

AT THIS year's annual conference of the Post Office Engineering Union delegates paid tribute to tape recording as a medium for presenting conference reports to union members.

Mr. Hayles of the I.O.W. Branch said that in no other way could the fire and eloquence of the speakers be put over to Branch members and Mr. T. C. Cook of the Executive Council emphasised the work of Tape Recording in promoting international relations.

WHEN REPLYING TO
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MENTION AMATEUR TAPE
RECORDING MAGAZINE

Trends in German Disc and Tape Sales

by Hans Koebner

AS IN Britain, German gramophone record production boomed in 1957 when 56 million discs were sold; the boom continued during 1958 reaching a peak of 57 million. Since then there has been a fall to 53 million in 1959.

The Trade here thinks that it is due to changing tastes and former "pop" and E.P. fans are going over to L.P. Classics—in 1959 8.5 million classics were sold as against 6.8 million in 1958.

Tape Recorder sales rose in 1959 to 651,000 as against 1958's 513,000 and exports reached their highest ever—330,000 German machines were sold abroad in 1959.

Further good results are expected of 1960, so it looks as though Germany will cater for more than half a million new tape enthusiasts every year for some time to come. Marketing experts do not predict a great future for four track Stereo, by the way.

More and More German Sound Books.

Radio programmes are now being put on flexible records and bound into book form, with text and pictures. A publisher in Cologne has just released a book of fairy tales which were broadcast as short plays over Westdeutsche Rundfunk. Selling at nearly £1 these books are rather pricey for children's reading, but as the idea catches on the cost may come down.

Incidentally these flexible records are becoming very popular in other parts of the world. In Japan "Asahi Sonorama" sound magazine topped ½ million sales each issue.

In Germany confectionery is packed in plastic boxes of which the lid is a flexible gramophone record—very useful for birthday greetings for those who can't sing!

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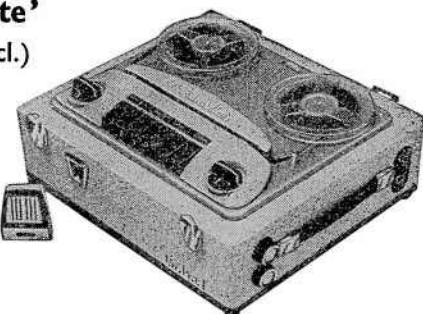
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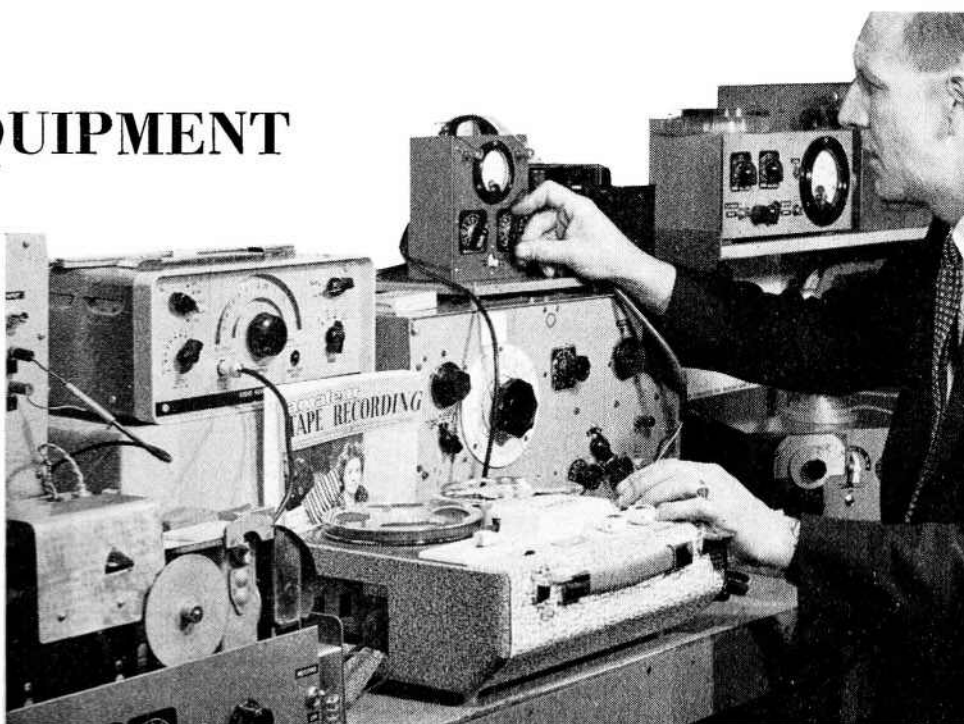
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REVIEWING EQUIPMENT

by F. C. Judd, A.Inst.E.

A.T.R. Technical Editor

The Amateur Tape Recording Magazine Test Laboratory is one of the best equipped of its type in the country. In the first of a series of articles our Technical Editor describes what happens when a piece of equipment is submitted by a manufacturer for review.



REQUESTS come in almost daily from readers of the Amateur Tape Recording Magazine for guidance on buying a recorder, microphone or some other accessory to tape recording. Whilst it is not always possible to recommend specific makes, we can at least discuss the various features one should consider when buying recording equipment and accessories and show how much information can be obtained from a study of magazine reviews and manufacturers' technical specifications.

Many people are confused by technical specifications and some do not understand them at all. An unbiased review will tell you much about the recorder you intend purchasing but of course no magazine can review every make of recorder or include every detail about it, as the space and time allocated for this purpose must of necessity be limited. Only those recorders and accessories which are representative of their class can be selected for review and even this discrimination is not always possible owing to delays in getting equipment sent in and the fact that the work involved in a review must be carried out about two months in advance of the actual publishing date of the magazine.

Every product that comes in for review is thoroughly tested and if it does not perform to within reasonable limits of the specification given it is promptly returned to the manufacturer and a second one requested. If then a reasonable performance is not forth-

coming, the review must be refused until a satisfactory instrument can be produced.

I have on more than one occasion returned products which have been considered unfit for review. Unfortunately we cannot publish details for various reasons although it is indeed rare that this sort of thing happens and nearly all the items submitted pass a 'reasonable performance' test. They are not as a rule specially checked by the maker before being despatched to our laboratory and are generally chosen at random from stock. Some manufacturers even invite the reviewer or a member of the Magazine staff to the factory to make their own selection.

The Test Programme

The majority of products sent in to the Amateur Tape Recording Magazine are subjected to a wide range of tests and our laboratory is fully equipped to carry out a specification check on most kinds of audio equipment including of course, tape recorders and decks on which mechanical function tests must be carried out as well.

Electronic measuring and testing instruments are costly and require considerable knowledge and experience for their proper usage. Both the results of tests and measurements made with instruments, and opinions arising from actual listening, are taken into account when assessing the performance of a product. In fairness to a manufacturer the accuracy of all test equipment must

be above reproach and therefore it is constantly checked to see that performance has not been impaired by wear or fault.

A full test programme includes checking all the items quoted in a manufacturer's specification plus a large number of purely functional points. Some idea of a test programme may be obtained from the following. The first eight items deal mainly with quality of reproduction. The remainder are chiefly functional, facility and constructional considerations.

(Note that all the items listed below are concerned with tests applied to tape recorders.)

1. Frequency Response
2. Hum and Noise Level
3. Wow and Flutter
4. Harmonic Distortion
5. Power Output
6. Noise Level on tape due to erase and bias oscillator
7. Efficiency of erase head
8. Azimuth Alignment Facility

Mechanical and Functional tests include

1. Type of controls and ease of operation
2. Tape tension and spool braking
3. Wind and re-wind time
4. Silent re-wind, i.e., muted speaker
5. Recording level facilities
6. Noiseless operation of volume and tone controls
7. Maintenance and servicing facilities
8. Provision for connection to external amplifier or loudspeaker

9. Provision for mixing and type of signal inputs provided
10. Standard of assembly, wiring and general construction
11. Provision for direct monitoring of recording
12. Weight and dimensions
13. Shape and finish of cabinet
14. Space for accessories
15. Size of tape spools
16. Tape speeds
17. Tape indexing or position indicator
18. Safety of operation

From this fairly formidable list, which is by no means complete, it will be realised that there is no point for instance in measuring the frequency response alone of a tape recorder in an attempt to estimate its overall electrical performance. Hum, noise, wow, flutter, power output, distortion, etc., must also be taken into account. One may find a recorder with a perfect frequency response and an otherwise good performance, completely spoiled by excessive hum and noise, an undue amount of wow, or even by noisy motors. An excellent electrical performance on the other hand may be considerably diminished by a poor mechanical performance, inaccessibility of controls or even a shabby cabinet.

A reviewer does, or should appreciate

that his readers may not understand the meaning of the characteristics mentioned in the specification or may not be able to interpret the technicalities discussed in a review. For example, *frequency response* is a term which confuses people because it is associated with other terms, such as *cycles per second* and *decibels*, or *dB* and it is difficult to explain the relationship of these terms in a way that can be readily understood by the layman. However here is an attempt which I hope will not be frowned upon by other Engineers who I am sure also appreciate how confusing these terms can be to those who have no knowledge of them.

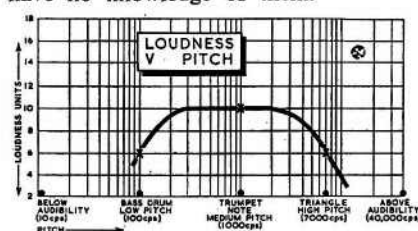


Fig. 1

Assume for the moment that a low pitched sound such as a bass drum has a loudness of 'X'. From the high pitched sounds we choose a triangle, also at 'X' loudness and from sounds pitched half-way between these two we take a

trumpet note at 'Y' loudness. The first two sounds have the same loudness (X), the trumpet note is either softer or louder, we have not indicated which, because no actual figures have been given for either degree of loudness. Now suppose we listen to these sounds and our ears and brain tell us that the trumpet note is louder. If we give this loudness a value of 10, and the loudness of the other two instruments a value of 6, we can plot a graph like that of Figure 1 which shows also the differences in loudness for sounds of intermediate pitch.

Reference Frequency

Assuming that all the sounds were originally produced with the *same intensity*, i.e., each at equal loudness, the graph shows that our own aural differentiation of loudness is not equal at each pitch. If we regard the medium pitch of the trumpet note as a *reference*, the curve readily indicates that all very low pitched and all very high pitched sounds will appear less loud. The frequency response of a recorder or amplifier can be plotted in the same way although it can mean very little unless a *reference frequency* is quoted. To say that a recorder has a 'frequency response over the audible range of sounds' certainly indicates

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A.T.R.

that it will record and play back all sounds that are pitched between the lowest and the highest we can hear. It does not indicate the loudness of the sounds with relation to each other. Instead of loudness we calculate on the power produced at the loudspeaker by tones at frequencies covering all or most of the audible range.

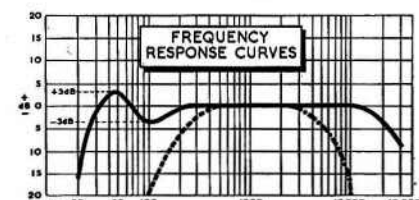


Fig 2

These tones are pure and are produced from an Audio Signal Generator or a test tape such as the E.M.I. T.B.T.I. which is accurate enough for testing all but professional class recorders. The strength of the tones as produced by a recorder or amplifier is measured with an output meter which is usually calibrated in decibels, and will show a steady reading if the power of each tone at the loudspeaker terminals is exactly the same for all frequencies. The reference is usually a tone of 1000 cycles per second which is generally accepted as a tone of 'medium pitch'. Based on this, tones of 10,000 c.p.s. and above are very high pitched and tones of 100 c.p.s. and below, very low pitched.

From the measurements made with the test tones and output meter we can plot a graph like Figure 2 which is similar to that of Figure 1. This graph is plotted in terms of frequency in cycles per second (c.p.s.) and decibels which are units derived from the ratios of the different power levels at the loudspeaker. The level at 1,000 c.p.s. is usually taken as zero dB or 0dB. Now if the power at say 10,000 c.p.s. is less than that at the reference tone of 1,000 c.p.s. the output meter will show a reduced reading and from its calibration we should see that the needle is pointing to so many dB below zero or nought. It should be explained that the volume control of the recorder is of course first adjusted so that there is sufficient power at the reference frequency to make the meter read approximately half scale which is usually calibrated as 0dB. Downward readings then, are so many dB below zero, often written as -dB, whilst upward readings are so many dB above zero or +dB.

Decibels

Note that a decibel does not indicate 'loudness' but only the ratio of one power level to another. From an

Engineer's point of view it is a far more convenient unit to work with. However, to give a rough indication of what differences in dB's mean, a reduction by -3 dB is approximately equal to a reduction in the power output by half, so that if the level at 1,000 c.p.s. was set to provide an actual power of two watts at the loudspeaker (referred to as 0dB) and was then reduced by 3dB, the power would have been reduced to 1 watt.

What then can be derived from the frequency response figures usually given in the technical specification. If no reference is given, i.e., 1,000 c.p.s. = 0dB the figures are little short of meaningless.

Taking a typical response graph (solid line) as in Figure 3 we see that it is straight between 100 and 10,000 c.p.s. The reference is given as 0dB = 1,000 c.p.s. Now at 20,000 c.p.s. a very high frequency, the response is -3dB and at 50 c.p.s. a low frequency, the response is +3dB whilst at 20 c.p.s. a much lower frequency, the response is -3dB. Thus the power output at both 20 c.p.s. and 20,000 c.p.s. is half that at 1,000 c.p.s., whilst at 50 c.p.s. the power is double. At most of the other frequencies the power level is equal to that at 1,000 c.p.s. A response like this would be very good indeed, for the average person can only just detect the difference of a 3dB decrease or increase.

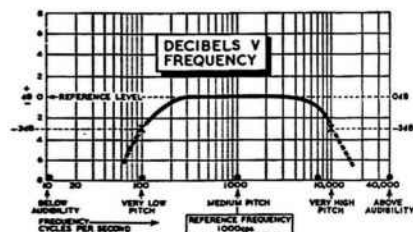


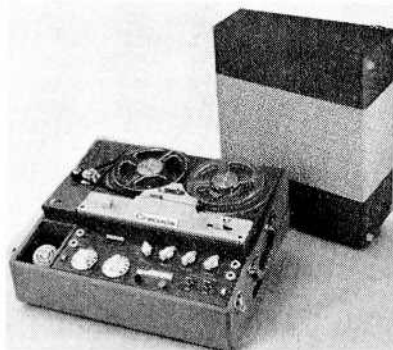
Fig 3

On the other hand if the low frequency response at 100 c.p.s. had fallen away by 20 dB as shown by the dotted line, reproduction would very noticeably lack bass. If the response at the high frequency end had been like that shown by the dot-dash line (-20dB at 10,000 c.p.s.) the high pitched sounds such as those of the triangle and so on would be missing and reproduction generally would sound muffled and flat because of the missing harmonics that normally characterize all musical instruments and most other sounds.

Part 2 will describe the methods used for frequency response tests in the A.T.R. Magazine Laboratory and will continue with a discussion on other functions relating to the electrical performance of recorders and audio equipment.

SHOP WINDOW

For the Movie-Maker



Type 'A' Cinecorder

THE "Cinecorder" has been designed with the needs of the cine amateur in mind, but, of course, is also ideal for anyone else who wishes to compile complicated tapes.

Economic Lip-synchronisation for the amateur is at last possible by means of perforated tape, and, with its special remote control the "Cinecorder" lip-sync. inserts to be produced with "existing" camera equipment. Arrangements have been made with Zonal Film Facilities Limited for the manufacture of perforated tape for amateur use at 16 f.p.s.

The "Cinecorder" will be in the shops in August/September at about £50.

H.M.V. Tape Recorder

AN EXAMPLE of co-operation between leading manufacturers and consultant designers is successfully demonstrated in the H.M.V. Tape Recorder. Produced in collaboration between the industrial designers John McEwan & Associates and technical staff of The Gramophone Company, the new recorder fulfils the original brief to "produce a tape recorder of professional quality at a popular price". Many features normally found only in the more expensive models are embodied in the instrument which is retailed at £50.



THIS recorder most certainly satisfies all its claims and quite satisfied me from the technical specification point of view. I have said elsewhere that frequency response is not the be all and end all of a tape recorder's performance. Neither is it, for many recorders with a limited frequency response have an otherwise excellent electrical performance that makes the instrument pleasant to listen to. Lack of response by a few cycles one way or the other is neither here nor there.

The WyndSOR "Victor" however, excels itself, with a wide frequency response, low hum and noise and low distortion as well. I have never tested a domestic class recorder of the same price with a better performance. As for "good looks", the photograph will confirm this for the "Victor" has a unique semi-contemporary styling, an attractive two tone grey finish and gilt fittings.

Controls are accessible and easy to operate, and the makers have thoughtfully provided storage space for tape spools, microphone and leads. Other features are the detachable lid containing the loudspeaker and a very convenient carrying handle running the full width of the recorder.

TECHNICALITIES

Three speeds, $7\frac{1}{2}$, $3\frac{1}{2}$ and $1\frac{1}{2}$ i.p.s. Fast wind and re-wind, finger tip drum type controls, through monitoring, microphone and gram or radio mixing facility, tone control, extension speaker socket, tape position indicator, recording level indicator, pause control, microphone, 1,200 feet of tape, spare spool and comprehensive instruction book. All for 45 guineas, plus a really first class performance.

The deck is the now very popular Collaro Studio, which of its own accord does justice to the "Victor's" well designed amplifier and a 7-inch elliptical loudspeaker. The amplifier and power supply are each assembled in separate chassis, strongly constructed and easily accessible for servicing through a removable panel underneath the recorder. The amplifier design is a sensible one, using a low noise tape head and microphone amplifier (6BR7), a twin triode (12AX7) intermediate stage and pentode output stage (EL84). The bias oscillator is a 6BW6 and an EM84—bar type magic eye takes care of recording level indication. The power supply employs a bridge rectifier followed by an ample H.T. smoothing circuit, which undoubtedly accounts for the very low hum level of this recorder. Common mixing of microphone and radio or gram inputs (which is much better than superimposing) allows voice and music or other signals to be recorded simultaneously.

PERFORMANCE TESTS

A general listening test showed the "Victor" capable of Hi-Fi performance, particularly if fed into a larger speaker system or Hi-Fi power amplifier. Although only a single treble-cut tone control is provided this can be used to reduce the sharpness of a fidelity recording for those who like a "mellow tone". "Mellow" according to one dictionary means "old and ripe" but however much one reduced the higher frequency response I don't think the quality of the "Victor" could be considered "fruity". Wow? Well a test showed this to be slightly higher than specification, 0.2% as against 0.15 r.m.s. at $7\frac{1}{2}$ i.p.s. with about the same order of difference for the slower speeds, but quite undetectable on music. Hum and noise level was better than the -40 dB quoted by the makers.

The frequency response is exceptionally good at both $7\frac{1}{2}$ i.p.s. and $3\frac{1}{2}$ i.p.s. being right up to that claimed in the specification (see response curve Figure 1). No response test was made at $1\frac{1}{2}$ i.p.s. but the claim is 50 to 5,000 c.p.s. The first frequency test run was made from the E.M.I. T.B.T.I. test tape with the output of the "Victor" fed into a sensitive pen recording output meter. The "playback" response was level to within 0.5 dB from 40 to 10,000 c.p.s. It was then decided to apply a test that few recorders will stand up to, namely a "through" record to playback response test. Recordings of pure tones were made at full level from 40 to 20,000 c.p.s. On playback the response at full output was exactly as Figure 1 shows for $7\frac{1}{2}$ i.p.s. and is little short

F. C. Judd
reports:



WYNDSOR VICTOR

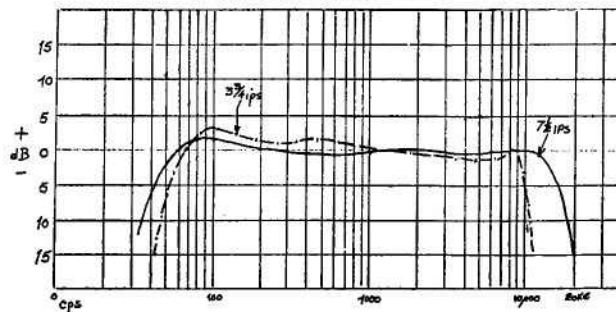
of professional standard, so the manufacturers have every right to claim "a fine performance" and "easy-on-the-ear quality".

The mechanics of the Collaro deck are fairly well known by now but for those who have not used one, this deck is powered by three shaded-pole motors, has "piano key" controls, tape position digital indicator, and a nice fast wind and re-wind speed.

Tape spooling was a little uneven on fast winding, it is on most recorders, but quite uniform and central at record/playback speed. Braking is almost instantaneous, and the tape runs smoothly through the guides without tendency to jump on fast winding. I did find the piano key controls a little stiff and sometimes sticking but this may have been due to newness. I should add that the recorder submitted for this review was taken at random from a large batch; this I can verify as I collected it from the WyndSOR factory myself.

Many readers may not know that WyndSOR award annually a Gold Medal for the best technical performance in a recording contest; someone should present the designers and manufacturers of the "Victor" with a Gold Medal for its excellent technical performance also. Need more be said?

Fig 1
Frequency Response Curve



AMATEUR TAPE RECORDING

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(August 1959 to July 1960)

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