

amateur

TAPE RECORDING

and HI-FI

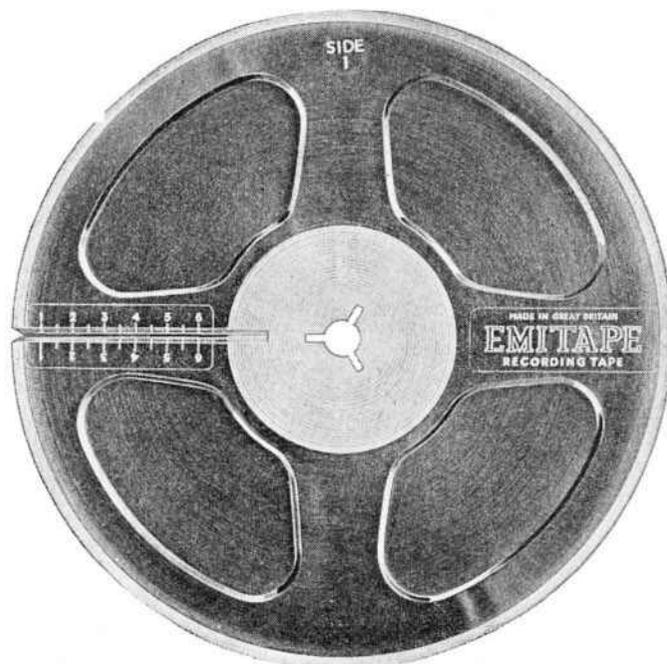
VOL. 4 NO.1 AUGUST 1962 PRICE 2/-

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AND CINE**

**TOP TEN
CLUBS**



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Amateur Tape Recording & Hi-Fi

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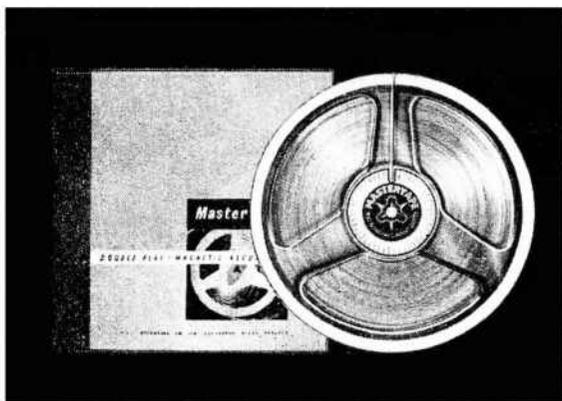
HOWARD

TAPE RECORDERS

218 HIGH ST., BROMLEY, KENT. RAVensbourne 4477 & 4000



as perfect as human skill can achieve



For almost a thousand years before our calendar began the Celts grew to be one of the greatest races of all time. Yet a mystery surrounds their culture and is evident in their art, of which this silver brooch is a typical example. The wonderful intricacy of design seems filled with some profound but inscrutable meaning. The great quality of skill and craftsmanship are however unmistakable.

In Mastertape, also, the qualities which outstanding craftsmanship and skill alone can produce are evident to the most discriminating connoisseur of fine sound recording and reproduction. In fact Mastertape is the end product of nearly thirty years research and development by a British pioneer company in recording techniques. Mastertape is specially approved by GRUNDIG (GT. BRITAIN) LTD. for use on their machines, as well as by many other leading tape recorder manufacturers. Those who really care for fine recording always insist on Mastertape. Obtainable from your local dealer or, in case of difficulty, write to the address below for your nearest stockist.



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Makes Sound Sense**

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Amateur Tape Recording & Hi-Fi

AMATEUR

Tape Recording & Hi-Fi

THE SOUND MONTHLY

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ON THE COVER

LATE AFTERNOON on a warm beach . . . a solitary swim, followed by a laze in the sun and restful music played by a companionable tape recorder. ATR photographer Dennis Lingane has captured the mood beautifully in our cover picture. The tape recorder which awaits the returning bather's pleasure is the Butoba MT5, reviewed in The Sound Scene on page 24.

Vol. 4, No. 1

August, 1962

Jack's all right, but—!

By THE TECHNICAL EDITOR

WITH increasing use of tape recorders for the taping of radio programmes and other material involving connection with external amplifiers and loudspeakers, the need for a standardised form of plug and socket becomes more urgent. Yet it is not uncommon to find recorders today with three or four different sockets, each needing its own particular type of plug. At least a dozen types exist, to perplex and frustrate us.

Most tape recorders of foreign manufacture employ the DIN plugs and sockets with three or five pins. While one of these permits three or more different connections via one plug, the method is not always convenient. Some manufacturers take an 'input' and 'output' from the same socket, each via a different pin. It would seem sensible at least to keep inputs and outputs quite separate, but presumably the practice saves plugs, or sockets—or both.



INFURIATING

In our view this is false economy; for nothing is more infuriating than to find a lead from one piece of equipment tied with another via a multi-way plug, preventing that same piece of equipment from being used elsewhere without changing plugs or unsoldering leads.

With many of the plugs and sockets now in use, especially the DIN types fitted to tape recorders, it is difficult for those with little experience of soldering to make good connections, or even any at all. Some of the smaller, single-way plugs must be used with ultra-thin screen lead, very tricky to handle and to solder. The uninitiated, unsuspecting user often runs the risk of recordings ruined by hum and crackle if not lost altogether.

THE BEST YET

Probably the finest plug ever devised is the standard jack, which is easy to connect and will accommodate a heavier, stronger cable that won't part company with the plug every time it is shifted to another socket.

The British Radio Equipment Manufacturers Association and the Audio Manufacturers Group, which jointly deal with these matters, recently issued a recommendation for standardisation of plugs and sockets in audio equipment. They have now compiled further recommendations concerning the inter-connection of radio and tape recorder, specifying the use of three-pin and five-pin DIN plugs and sockets, which are all very well so long as an expert mechanic is available to solder the screened leads to the various pins.

Certainly, the recommendations are a step in the right direction. But it would seem that little real thought has been given to a problem which must have begun the day that Marconi first tried to transmit signals without any connecting wires at all.

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Talking till

NEW idea for supermarkets is a cash register with a built-in speaker which puts over salestalk as it rings up the customer's bill and delivers a receipt. The sales messages are recorded on tapes which can be changed in ten seconds.

Hailing from Norway, the talking till was tried out in the U.S.A., where it increased sales of some goods by 30 per cent. Now it is being used to persuade British housewives to dig deeper into their purses.

World's first?

Believed to be the first section of any arts festival in South Africa—and probably in the world—devoted to tape recording, a competition in Kimberley attracted two entries from the U.S.A.

Demonstration

To impress on them their 'unnecessary' use of swear words, a major of the 1st Battn. Duke of Wellington's Regiment, Colchester, planted a tape recorder among his men as they waited

WORLD of SOUND

A NEWS COMMENTARY

By JEREMY GILES

His Master's Voice

To save his red setter, Teddy, pining for him and his family while he is away for two years in Malaya, R.A.F. Corporal Robert McGuinness sends him a special greeting when he tape-records with his mother back home in Radcliffe, Lanes. Says Robert's mother: "He cheers up at once when he hears his voice. Then he looks through the window to see if Robert is coming."

A vet commended the idea. If you're going away leaving Rover with neighbours, it might help to keep him happy . . .

Dockside ballad

Tape recordings made at Avonmouth Docks will be blended with words and music into an industrial folk ballad—'designed to show man's mastery of his technological environment'—to be featured at a Bristol Trade Council Festival in November.

to hear a lecture, played it back to them later. They were due to spend nine months in 'Paradise'—their name for British Honduras, where people are jailed for bad language . . .

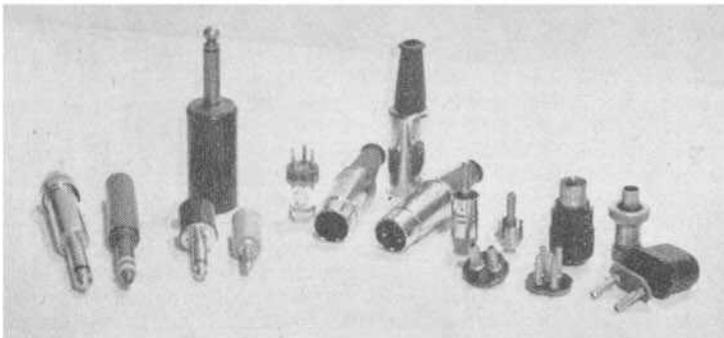
Take a letter . . .

Seven girls with tape recorders do typing chores for 120 staff in Birmingham's new skyscraper office building, Shell-B.P. House. Dictation is done by telephone direct from desk to desk, to save time-wasting walks down the corridors.

Spools for research

Tape recorders are being used in research by Shell Laboratories, Egham, aimed at silencing oil-burning equipment. Recordings made in the field are analysed in a half-octave frequency analyser to provide data on which modifications or new designs may be based.

Tell that to your Noise Abatement friends . . .



TAKE YOUR PICK . . . of this tidy little selection of 'standardised' plugs used with British tape recorders. See comment by the Technical Editor—p. 7.

Sound souvenir

The combined notes of the Mousehole and Newlyn Male Voice Choirs, heard at a concert in Penzance, re-echoed somewhere in Brazil. Seeing that a choir member had tape-recorded the programme, a South American visitor asked for a copy so that he could take it back with him . . . just as a change from those twanging guitars.

Monstereo

Underwater microphones and tape recorders are part of the equipment of three expeditions which are making a systematic search, this year, to run down the Loch Ness Monster . . . or monsters. Some say there's more than one.

You may yet hear The Monsters' Chorus in stereo.

Service for sick

Teenagers owning tape recorders and motor cycles are helping in a Plymouth Guild of Social Service scheme enabling hospital patients and disabled people to keep in touch with their friends. Besides message tapes, recordings of meetings and other events will be conveyed to those who can't attend through illness.

First class

Diadem, a luxury motor yacht being built in Lowestoft for a London business man, will be equipped with a washing machine and spin dryer, deep freeze, television, stereo record player . . . and tape recorder.

Flutter and wow? The 96ft. vessel is equipped with roll-damping fins to ensure smooth passage . . .

Electronic Evangelist

STRIKING testimony to the power of the tape recorder in promoting religious work was given in two special articles in *The Baptist Times* by the Rev. John Tugwell, minister of London Road Baptist Church, Portsmouth. He wrote:

'We who believe so deeply in the preaching, prophetic ministry . . . have a most exciting development placed in our hands. May the Lord give us wisdom and grace to use it wisely and well.'

'It has to be seen to be believed what . . . a service from their own church can mean to people who are indisposed and unable to attend public worship. Television and radio are helpful . . . but their hearts glow when they can share in a service from their own church, in their own homes.'

He instanced 'new avenues beyond our expectations' which are being explored, including presentation of sermons on tape to professional people—'far too sophisticated to attend a church'—invited by church members into their homes.

To clergymen whose sermonising may have sonorous effects he gave this hint:

'For the minister who is not afraid of self-criticism, the tape recorder can be a most faithful friend by the way in which it unfailingly reveals the flaws in his homilectics, style, mannerisms and voice. Through its accurate reproduction a wise man may learn from this honest if mechanical friend. A fool will despise it.'

'I cannot imagine a more useful aid to homilectics classes in divinity colleges than a good tape recorder, and one can only hope that their employment may be more widespread, for the sake of the preacher and worshipper.'

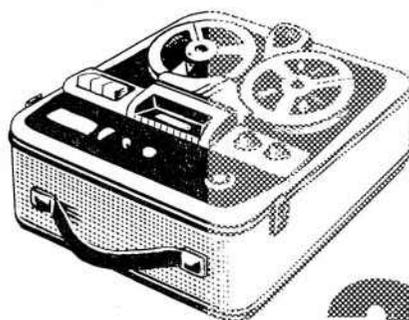
In reviewing the merits of various machines, he insisted:

'The surest guide is to go for the best; there is no cheap way to quality and reliability. In taping divine services we handle holy, precious things, worthy of the finest.'

He summed up:

'Every fair-sized church should consider having a tape recorder as part of its equipment, using it not only in the ways mentioned earlier, but for instruction and entertainment.'

IS HALF YOUR TAPE RECORDER



WASTED?

The performance of a portable tape recorder is severely limited by the space available for its internal loudspeaker.

The connection of a high quality external speaker will reveal hidden detail in your recordings, and the Wharfedale PST/8 is an ideal choice.

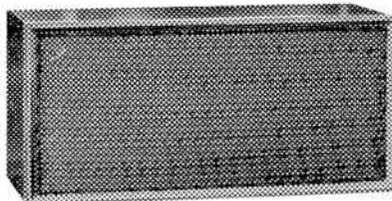
This unique, patented enclosure design gives optimum results with Wharfedale 8" unit. Impedances are easily matched by fitting the WHTI transformer, costing only 13/6.

Descriptive literature FREE on request including Cabinet Construction Sheet

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**Making a voice
track for your cine
film can be tricky.
Our expert tells
you what
to aim for . . .**

THE ART OF CLEAN SOUND

By A. TUTCHINGS, M.B.K.S., M.B.S.R.A.

YOU may have noticed that the loudspeaker and output stage fitted to the average TV is pretty inadequate by hi-fi standards. The reason for this is not entirely economic but partly psychological. 'Large' sound is all wrong with a small picture; as the picture size is reduced so must the frequency range of the sound be limited to maintain a balance.

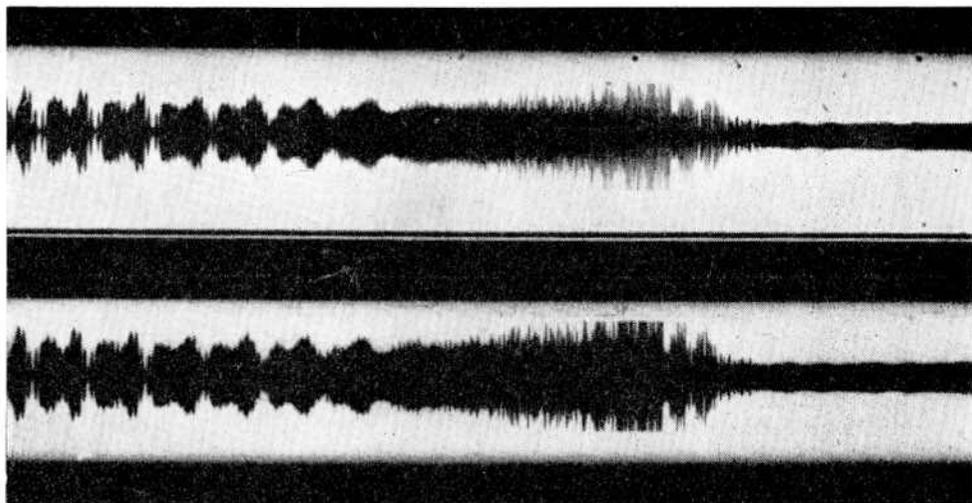
There is rather more to it than this, however. I think I can illustrate some of the complexities of cine sound by describing my own experiences when setting up a film unit for the Ministry of Supply just after the war.

Money was no object and, within reason, I was able to order any equipment I considered necessary. I looked through the specifications of several sound-on-film recorders and was rather alarmed to find that bass response was 10 to 15 dB down at 100 cps and that most of them showed a peak of 6 to 10 dB around 3 Kc/s, with very little response beyond about 6 Kc/s.

Not good enough

This was nowhere near good enough for a hi-fi enthusiast like myself, and I promptly ordered a wide-range speaker for the theatre, a set of very expensive condenser microphones with responses level to within 1 dB from 30 cps to beyond 10 Kc/s, and an American optical track recorder which would record out to 10 Kc/s with the proper film stock and processing. Each link in the recording chain was carefully checked against its specification and a professional commentator hired for our first sound track.

In those days tape recorders were not in general use and we had to wait for the film to be processed before we could hear what it sounded like. To say that it was bad is almost an understatement. It was awful. The speech quality was heavy and muddy and the sibilants 'splashed' in a most alarming way. No amount of 'tone controlling' on the projector made it any better, and we eventually decided that the work would have to be scrapped and done all over again.



These microphotographs of 16mm variable area optical sound track negatives represent an 'e' followed by an 's'. The top one is properly recorded, but on the lower one the 's' waveform is clogged up and would reproduce badly.

But first I settled down to an intensive study of the literature on recording for films. I found that a 'dialogue equaliser' was always used on voice to compensate for what is known as 'effort equalisation.'

You may have noticed that if a person addresses a large audience both the level *and the pitch* of the voice are raised. But if the same person talks quietly into a microphone and the amplification is increased to produce the same level at the ear of each member of the audience, the effect is quite unnatural, as all the chest tones and low frequency components of the voice are over-amplified and the voice sounds heavy and boomy.

Lowering the boom

The dialogue equaliser consists of an electrical filter which cuts the low note response according to a carefully calculated curve which, for the average male voice, amounts to about 15 dB at 100 cps.

In the same way, it is common practice to insert another filter to give what is known as 'presence control.' This consists of a peaking circuit centred on 3 Kc/s, and the average setting is about plus 6 dB! So it was nice to know that all this playing around with the frequency response was scientifically correct—but we seemed a long way from hi-fi.

Worse was to follow. The 'sibilant splash' was caused by a form of photographic rectification which made the very high frequency waveform of an 's' very one-sided, so that each time one came along it was accompanied by a dull thud due to the added D.C. component. The remedy? A vigorous cut at around 6 Kc/s so that such frequencies did not get on to the film.

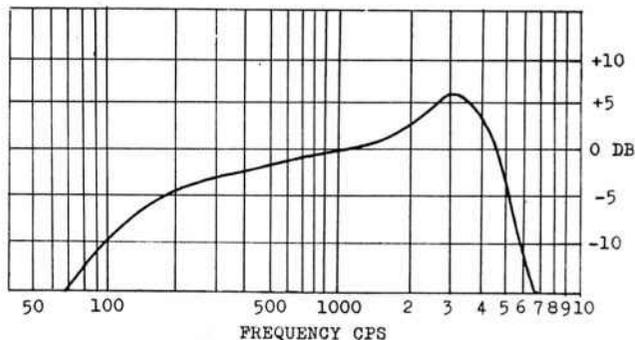
The moral

The new track, using all these devices, was crisp, clean and well balanced, and all that a voice track should be—but it was not hi-fi.

The moral of this story is that a cheap crystal microphone with a bass cut and a peak in the mid-upper range may well be more satisfactory for cine recording than a wide-range, super-duper ribbon microphone. In the same way, if sound effects can be made to sound effective using a limited range microphone or portable recorder, there is less chance of being disappointed when they finally get on to optical track or magnetic stripe in the final show copy.

This magazine has already stressed the fact that frequency response has been oversold on most magnetic recorders, and that low distortion and lack of noise is much more important. This goes double for sound on film.

Clean sound covering the range 300 cps to 3,000 cps is much more satisfactory than an effort at a wide frequency



This response has been found the optimum for voice reproduction on 16mm optical sound track. The sharp cut above 4 Kc/s prevents the 's' clogging shown in the microphotograph, and the peak at 3 Kc/s adds a sharpness to compensate for the lack of extreme high frequencies. The bass cut compensates for 'voice effort.'

response with its attendant noise, intermodulation and distortion. Only when these factors are reduced to a very low level can the frequency response be cautiously extended.

Use high speed

If you are recording, on tape, for final transfer to optical or magnetic track, I suggest you use the highest possible tape speed to keep the sound 'clean' together with carefully chosen limited range microphones with a rather hard mid-upper range and a falling bass response for maximum intelligibility.

As a rough test of the tape's suitability for film it should be re-recorded at 1 1/2 ips at a fairly high level and replayed under conditions similar to the final film track—with the projector running and the loudspeaker under or behind the screen. If it still sounds clean under these conditions it will probably be suitable for transfer to film—from the original 7 1/2 ips track, of course, *not* from the 1 1/2 ips test tape.

If the commentary and sound effects are to remain on tape—for use with a synchroniser—each of the component tracks

TURN TO PAGE 22



The kits you enjoy building

When adding to your hi-fi equipment — Tape, Record, Radio —



EQUIPMENT CABINETS (E11.12.6 to E18.10.0)

you cannot afford to overlook HEATHKIT models. famous all over the World for top quality and moderate prices. A simple, well illustrated Instruction Manual guides you step by step: no electronic or soldering experience is necessary.

TAPE AMPLIFIER UNITS, Models TA-1M and TA-1S. The mono version, TA-1M, can be modified to the stereo version, TA-1S, by the modification kit TA-1C. Special features include the provision of a bias level control; easy to read thermometer-type recording level indicators; large printed circuit boards. TA-1C E6.10.0. TA-1M E18.2.6. TA-1S (identical presentation) E23.6.0.



TA-1M

HI-FI STEREO 16W. AMPLIFIER, Model 5-88. Within its power rating, this handsome looking amplifier is the finest available, regardless of price. U/L push-pull output. 0.1% distortion at 6w/chl. E26.12.6.



5-88

HI-FI STEREO 6W. AMPLIFIER, Model 5-33. Only 0.3% distortion at 2 1/2 w/chl. E12.8.6.



5-33

HI-FI 12W. POWER AMPLIFIER, Model MA-12. Generous auxiliary power supply (single channel) E10.19.6.



MA-12

STEREO CONTROL UNIT, Model USC-1. With variable filter, switched rumble filter, and printed circuit boards. It operates direct from tape heads. Total power requirements 250v 10mA DC, 6.3v 1.5A AC. E18.18.6.



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The 'COTSWOLD', acoustically designed enclosure (26" x 23" x 15 1/2") with 120° polar distribution; freq. resp.: 30-20,000 c/s E21.19.0.



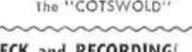
COTSWOLD

The Model SSU-1, ideal where space is limited; freq. resp.: 40-16,000 c/s. (with legs: E11.15.0.) E10.14.0.



SSU-1

The range also includes F.M. Tuners, Tape Decks, Record Players, portable Radios, Amateur Gear and Test Instruments.



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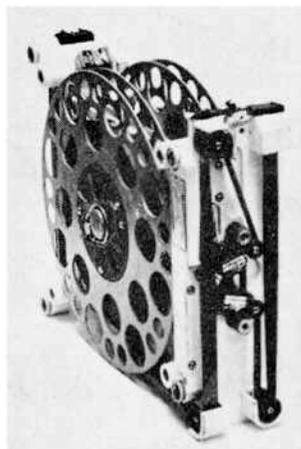
(b) Full details of models _____

(Block capitals please) _____

NAME _____

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Equipment for Spacemen ... and others



LEFT: Miniature tape recorder used for space-flights

RIGHT: The TR22 TV tape recorder



THE miniature tape recorder pictured above has played a vital part in the conquest of space. It is one of two which went into orbit with Colonel Glenn aboard the *Friendship Seven* space capsule, and was on show recently at the Instruments, Electronics and Automation Exhibition.

Two similar recorders were in the *Aurora Seven* space capsule in which Colonel Scott Carpenter made his orbital flight. All were made by the Consolidated Electrodynamics Corporation of Pasadena, who also manufactured the transducers used to telemeter and record the technical data gained in both flights.

The miniature recorders, measuring 11in. × 13in. × 3½in., weigh 9 lbs. unloaded and operate on low voltage. They can record continuously for eight hours at 1½ ips.

C.E.C., which has its British headquarters at Woking, Surrey, is now developing an advanced miniature tape recorder to be used in the Surveyor Project which will attempt to land an instrumented capsule on the Moon next year.

On the right is a rather bigger piece of equipment which is helping to develop an entirely different field—television. It is the R.C.A. TR22 vision recorder, which is completely transistorised and can be used for recording radar displays as well as TV pictures.

The tape deck alone in this case measures 3ft. × 2ft. and takes spools of 2in. tape which give up to an hour's playing time. Tape speed is 7½ ips or 15 ips.

The TR22 employs a special vertical-scan tape headwheel with four separate record/playback heads. It features many new developments in video recording, including a special picture lock system, and has built-in vision and waveform monitors, and an air cooling system.

Recording Machines Ltd

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The "NUMIX" is a convenient mixer which enables a Ferrograph user to mix and fade at will two programmes, from microphone and radio/radiogram. Alternatively, speaker output sockets from power amplifiers can be used. Any combination of two programmes is possible with the Nusound "NUMIX" device. Price : £4. 7. 6. Radio Lead complete 7/6.

Write for leaflet on NUMIX 1, 2 and MONITOR UNITS

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TAPE FAMILY ROBINSON

The Robinsons set up as sound manufacturers

THE ROBINSONS ARE RUNNING THROUGH THE FILMS THEY TOOK ON HOLIDAY...



THIS IS ONE OF THE SCENES WE HAVE NO SOUND EFFECTS FOR...



... NOR FOR THIS ONE OF THE SPEED-BOAT



OKAY - LET'S SET UP AN FX DEPARTMENT

WELL, WE COULD MAKE SOME OF THE SOUNDS



RIGHT-MIXER CONNECTED

FOR SHIPS SIRENS, BLOW ACROSS THE TOP OF A BOTTLE. RECORD AT 7 1/2 IPS AND PLAYBACK AT 3 3/4 IPS...

WHOOOO WHOOOOO



JUST TICKING OVER

OKAY RECORDER ON!

BY RECORDING THE SOUND OF THE EXHAUST WE CAN GET A MOTOR-BOAT ENGINE SOUND



ANNE RECORDED THE EXHAUST SOUND AT 3 3/4 IPS. IF WE SPEED THAT UP TO 7 1/2 IPS AND SUPERIMPOSE THE SEA SOUNDS AND SEAGULLS FROM THE PORTABLE, WE HAVE A MOTOR-BOAT AT SEA

VERY GOOD! NOW WHAT ABOUT SOME FOOTSTEPS ON THE SHINGLE BEACH - REMEMBER WHEN WE WENT LOOKING FOR SHELLFISH?



OKAY FOR SOUND

FOR THE FOOTSTEPS ON SHINGLE... JUST RHYTHMICALLY CRUMPLE CELLOPHANE NEAR THE MIC.

WHAT'S THE CELLOPHANE FOR?



REMEMBER WHEN WE ALL WENT IN SWIMMING?

YES, BUT THERE WAS TOO MUCH BACKGROUND NOISE TO GET THE SOUND OF YOU AND ANNE SPLASHING ABOUT IN THE WATER



OKAY ANNE - START SPLASHING... READY DOWNSTAIRS, DAD? START RECORDING!



OKAY ANNE - NOW JUST RIPPLE THE WATER FOR THE CLOSE-UP WHERE WE'RE SWIMMING

JUST LOOK AT THE MESS YOU TWO ARE MAKING!

ALL FOR A GOOD CAUSE, MUM...

HAVING DISCOVERED THAT QUITE REALISTIC SOUNDS CAN BE CREATED AT HOME, THE ROBINSONS NOW HAVE TO SYNCHRONISE THEM WITH THE FILM BY MAKING THE RECORDINGS WHILE WATCHING THE DIFFERENT SCENES.

NEXT MONTH THE ROBINSONS JOIN A LOCAL TAPE RECORDING CLUB

Much depends on this sensitive instrument . . .
so handle it with care. But first —

INVEST IN A GOOD MICROPHONE



A high-grade ribbon microphone by Grampian Ltd.

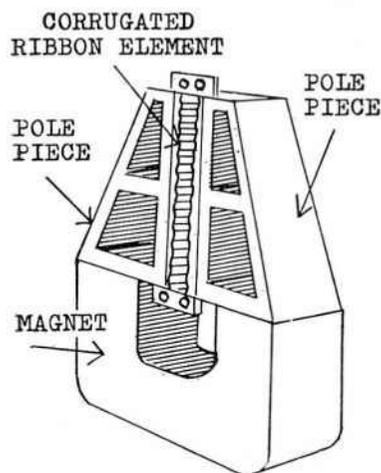


Fig. 1: The ribbon microphone

TAPE WITHOUT TEARS

By A. LESTER RANDS

LAST month I discussed the merits of the crystal and moving coil microphones which are pressure operated instruments. We come now to the other two kinds, the velocity and cardioid types, regarded as the ultimate in microphone design.

The Velocity or Ribbon Microphone

The generating element in the velocity microphone is a thin metallic ribbon suspended in a powerful magnetic field (Fig. 1). When the ribbon is moved by motion of the air due to sound pressure waves, the field of the magnet is disturbed, creating a backward electromotive force which causes minute electric currents to flow in the ribbon. Incidentally, this means that the ribbon microphone is of the 'generator' type like crystal and moving coil microphones.

Being extremely thin, the ribbon is less responsive to air movement from the sides and is therefore directional; in other words, its greatest sensitivity is to sounds occurring in front of and behind it. The directivity 'pattern' is shaped like a figure-of-eight, as shown in Fig. 2.

Another peculiarity of the ribbon microphone is its extremely low impedance, which usually entails an internal transformer to raise the actual impedance of the ribbon to around 30 ohms, another internal or external transformer being necessary to raise this nominal 30 ohms up to high impedance. Many who purchase a 30 ohm ribbon microphone often make the mistake of trying to use it directly with a high impedance micro-

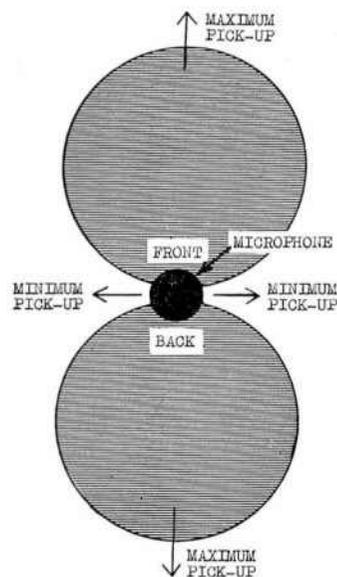


Fig. 2: Directivity pattern of a ribbon microphone

phone socket such as those found on most domestic tape recorders.

Properly matched to the tape recorder, a velocity or ribbon microphone such as the one illustrated will provide far higher quality than a crystal microphone. Ribbon instruments are, however, exceptionally sensitive at low frequencies and will pick up floor vibration if not suitably suspended or mounted. Close speaking will result in over-emphasis of the bass and even distortion.

These microphones are ideal for recording music and speech indoors but are greatly affected by the wind when used outdoors.

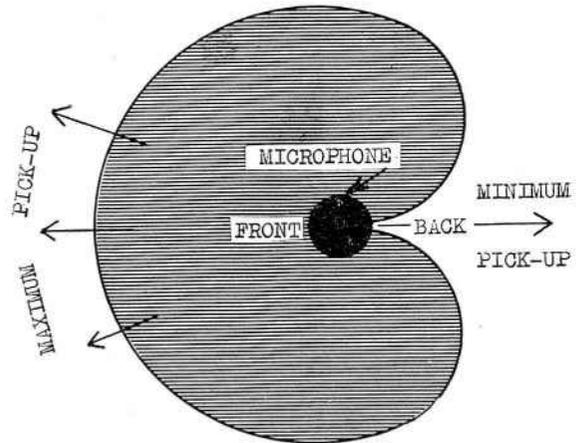
The Cardioid Microphone

So called because of its peculiar directional properties, the cardioid microphone generally employs two generating elements, a ribbon and a moving coil. As I

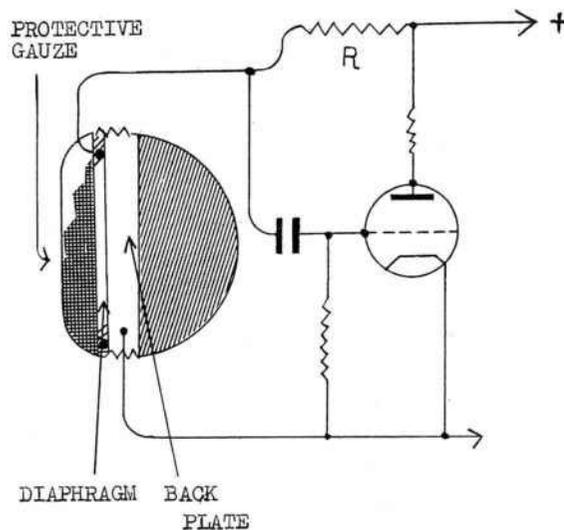


LEFT—The Shure 55S cardioid microphone

RIGHT—Fig. 3: Directivity pattern of a cardioid microphone



BELOW—Fig. 4: The condenser microphone and its input circuit. The resistance R is usually of the order of several megohms



Condenser Microphones

I have left these until last because the condenser is in a class by itself. The basic condenser microphone consists of two metal plates which, because of the extremely small space between them, form a low capacity. In practice one plate is heavy and may form part of the main assembly. The other plate is a thin metal diaphragm suitably insulated from the rest of the assembly (Fig. 4).

The condenser microphone requires a 'polarising' voltage to enable it to operate with a valve amplifier, and because of this and its

have said, the ribbon is most sensitive to sounds from the front and back.

If the sounds picked up by the moving coil are arranged so as to be in phase with those from the front of the ribbon, the overall sensitivity at the front of the microphone will be increased. The sensitivity towards the back will be decreased, and the resultant directional characteristic will be like that shown in Fig. 3.

The frequency response of a cardioid microphone is comparable with that of a ribbon instrument but tends to fall off rather more sharply at the very low frequencies. It is therefore less responsive to wind and vibration than a normal

ribbon microphone. An excellent example of a ribbon cardioid is the Shure 55S, shown in the picture.

extremely high impedance it is not widely used with domestic tape recorders. Studio condenser microphones are, however, regarded as the highest grade instruments in use to-day and are very costly. A studio instrument usually has a built-in pre-amplifier with a low or line (600 ohm) output.

The microphone is the most important accessory to tape recording, and to get the best from the recorder a microphone of comparable quality should be used. For example, most tape recorders costing £50 or more warrant the use of a moving coil or ribbon microphone, either of which will result in greatly superior recordings, especially of music. A good microphone is a sound investment and properly treated will last a lifetime.

Next month I will attempt to explain impedance matching, which most tape recording enthusiasts come up against sooner or later.

IMPORTED TAPE RECORDERS: HIGH COURT DECISION

H.M. Customs & Excise have pointed out that *ATR* readers may have been misled by the item, 'Not Musical Instruments,' in the March issue, in connection with a test case concerning the duty payable on imported tape recorders.

It should be made clear that the decision of the Court of Appeal dealt only with certain instruments imported before January 1, 1959, the date when the current Customs and Excise tariff came into operation.

For similar recorders imported since that date the High Court had already upheld the action of the Customs in charging duty at 20 per cent, and this decision was not the subject of appeal.

The current tariff shows that the 10 per cent rate is specifically limited to dictating machines. All other tape recorders, including machines 'suitable for the recording or reproduction of music,' are chargeable at 20 per cent.

YOUR CLUB CAN WIN THE ATR CHALLENGE CUP

MORE and more tape recording clubs all over the country are entering into the spirit of ATR's unique Club League competition in which a silver Challenge Cup will be awarded to the club which has made the best all-round progress during the year.

Every month, from among those sending us news of their activities, we select the Top Ten Clubs which distinguish themselves in various ways. The top club wins a 5in. spool of L.P. tape as well as gaining the satisfaction that it is helping to set the trend for the tape club movement.

Points are awarded for evidence of consistent progress by any club, for some specially constructive or original club project, for good service to the community, or for promoting interest in tape recording generally. Other factors may also be taken into account . . . it depends on your initiative as a club team!

This assessment is made from the club news presented in each issue. Not from the length or literary style of reports submitted but from what they tell of each club's achievements and progress month by month.

From points thus gained the position of each club securing a place in the Club League is decided, and reviewed every month. At the end of the year the club which, by continuous effort, has won and held first place in the League will be awarded the ATR Challenge Cup.

So let us know what your club is doing to maintain members' interest, harness their abilities and expand its activities, wherever it may be. Send your news in regularly and promptly to the Club News Editor, ATR, Room 532, Ulster Chambers, 168 Regent Street, London, W.1.

Your club may be among the Top Ten next month—and by December you may be the Top Club for 1962! It's up to you . . .

Busy Brixton

BRIXTON Tape Recording Club has been very active recently. Besides building their own studio and control room members have produced a parody on *The Archers*, a feature on blood transfusion and the first edition of *Pegasus*, a tape magazine of news and gossip concerning local personalities.

They joined with other organisations in initiating a civic recording scheme for local blind and disabled people. They also invited local politicians to make recordings during the municipal elections, and enabled member Pete Rogers in Aden to receive personal messages from his family.

In between times they held a competition and recorded a local jazz group. If ever a club deserved the No. 1 spot, it must surely be Brixton.

Audio Show plans

Plans are well advanced for the largest audio exhibition to be held outside London, the Cambridge Audio Show. Support from several of the big manufacturers is assured, and the organisers, **Cambridge Amateur Tape Recording**

Society, will themselves exhibit home-built equipment and a recording and closed circuit TV studio.

Programmes will be relayed from this studio throughout the three days of the exhibition—October 17-19—and a competition to find 'The Voice of Cambridge' will be staged (all enquiries to the society's secretary at 6 St. Vincent's Close, Girton, Cambridge).

The society recently played host to 12 members of Northampton Tape and Cine Club, when they presented a feature by Len Brown on the gowns used in the colleges at Cambridge and other universities.

On ITV News

In one month **Cornwall Tape Club** has recorded a stage play, a concert by a male voice choir for hospital presentation, and a pop talent contest judged by Alan Freeman. The tape featuring the winning group was used in an ITV news item and helped 'The Staggerlees' of Redruth to gain an audition with Philips Records.

Members also paid a visit to Trewithen House and gardens for recordings which, after editing, were played at hospitals and old people's homes.

Future projects include an outing to Goonhilly Downs satellite radio station and a 'sound dictionary' of Cornish birds.

Spanish pop

A tape received from Secretary S. J. Powell of a pop concert in Barcelona proved to **Ellesmere Port Tape Recording Club** that Spain has its own Cliffs and Elvises—and that wherever pop singers perform they are greeted by screams from teenage girls. It's the same the whole world over . . .

The club has made a recording of the local Salvation Army which is being sent to Hong Kong, where Colonel Jewkes is on missionary work. It includes a message from the Mayor, Alderman P. H. Hall.

Cricket for hospitals

Hull Tape Recording Club's hospital broadcast service goes from strength to strength. A big increase in the number of requests is expected now that the local WVS has taken over the job of liaising with patients.

Edited commentaries on the three days' play at Hull Circle when Yorkshire

THE LEAGUE POSITION

	Pts.
1. NORTHAMPTON	28
2. THORNTON HEATH	27
3. RUGBY	22
4. WHITSTABLE	20
5. HULL	19
6. CAMBRIDGE	18
7. WALTHAMSTOW	15
8. MEDWAY	14
9. SWANSEA	13
10. NORTH LONDON	11
10. SOUTH DEVON	11
12. BIRMINGHAM	10
12. BRIXTON	10
14. BATH	9
14. CARLISLE	9
14. LIVERPOOL	9
17. WEST MIDDLESEX	8
18. BROMLEY	7
18. NELSON	7



John Wells interviews Walthamstow Carnival Queen Doreen Birch and her Maid of Honour on the steps of the Town Hall on Carnival Day. In charge of the Butoba is Colin Stares. John Wells is one of the Walthamstow Tape Recording Society's four blind members, two of whom worked on the programme.

C.C. met Derbyshire were broadcast over the hospital network. On the strength of the experience gained in this exercise, it is hoped next season to link up with the Huddersfield Hospital Broadcast Association and network taped commentaries to more than 50 hospitals in the Ridings.

The club is investigating the possibility of a Yorkshire Federation of Tape Clubs and has been sending round a 7in. tape inviting comments on the venture. Members are also issuing a challenge to other clubs to compete with them in extricating within two weeks any hero or heroine left 'cliffhanging' on story tapes.

From 3 to 27

Since its formation six months ago, **Middleton Tape Club** membership has risen from three to 27. Monthly competitions have been organised, and the club is seeking to exchange tapes with others to promote better co-operation between those with similar aims. A club

magazine is also being produced, to feature technical articles by expert Joe McCormack, who will support them with practical demonstrations at club meetings.

A sample programme presented at the Oldham Blind Centre included an edited recording of the local carnival parade, done by the club, which has also had a session with a local 'rock' group.

Service to delegates

The **Phoenix Drama and Tape Recording Society** of Windsor was officially invited to record the proceedings at a 'Safety in the Home' exhibition and conference at Windsor Guildhall, attended by delegates from all over Britain, to whom the 'audio-minutes' were made available at cost price.

'Audio' View bi-monthly

A new project of **South Devon Tape Recording Club** is *Audio View*, a tape magazine produced bi-monthly and

edited by a different member each edition. The best produced over the year will gain a trophy—a metal replica of a 4in. spool mounted on a mahogany base, with a plaque for the names of the winners who hold it year by year.

Editing 'ATR'

An exercise in editing an article from the May issue of *ATR* was the subject of a competition in teamwork at the **Tufnell Park Club**, which continues to attract good attendances every week.

A visit was paid to **Barnet Tape Club**, whose members offered some constructive criticism of one of Tufnell Park's recorded plays. The club is anxious to contact any dramatic societies in the North London area that would welcome its assistance with their productions. Address of Secretary Glen Wilgrove is 38 Highgate Road, N.W.5.

Council tribute

Intense local interest has been shown in the activities of **Walthamstow Tape Recording Society** as a result of its work during the ten-day carnival in the town. At a special playback of its running commentary on the carnival procession, the chairman of the Carnival Week Committee, Alderman Baldwin, said: 'This is a most impressive effort. I enjoyed every minute of it.'

The Young Ones

It was the turn of the younger generation to shine at **Whitstable and District** club meeting when Michael Glover (14)

TURN TO PAGE 34

TOP TEN CLUBS FOR AUGUST

- | | |
|--------------|-------------------|
| 1. BRIXTON | 6. WALTHAMSTOW |
| 2. HULL | 7. ELLESMERE PORT |
| 3. CAMBRIDGE | 8. SOUTH DEVON |
| 4. CORNWALL | 9. WHITSTABLE |
| 5. MIDDLETON | 10. WINDSOR |

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Going to a club meeting?
Glamour still has its place ...

EVEN IF YOU USE TAPE YOU CAN BE FRILLY

Says RACHEL LINDSAY

MENTION the word glamour girl to a man and he'll immediately think of long blonde locks and false eyelashes. On the other hand, tell him about garage hands, racing drivers or bus conductresses and he thinks of flat-chested, hatchet-faced females.

With this in mind I asked my own dearly beloved what sort of woman he thought would be interested in tape recorders and equipment.

"Brainy bluestockings," he said at once. "Not dumb clucks like you!"

I ask you! Why do men always think that intelligence and glamour can't go hand in hand? I visited a few tape recording clubs and, though the company was predominantly male, I found the few women there were both intelligent and pretty.



'Help!'

RIGHT: A scarf blouse in sleeveless style with slashed neckline and slimfit slacks of polished cotton make gay but sensible gear for an outdoor tape recording session. Both blouse and slacks are washable.

But, I won't say my old man is completely wrong. By and large, women who take an interest in what are considered more masculine pursuits are inclined to fuss less over themselves than their scatter-brained sisters.

Only chums

Perhaps that's why a lot of women have written to me complaining that the men in their lives treat them as chums. What can they do about it, they ask?

The answer is simple. Even if it goes against the grain, **be frilly, be fluffy, be feminine.** And, of course, if you can really bring yourself to do so, pretend to let the boy friend know more about tape recorders than you do.

Just because a woman knows how to mend a fuse or work a recorder doesn't mean she isn't a twittering little female at heart. If any man reading this column has any doubts about the subject, I suggest he takes a mouse along to his next club meeting and see the effect it has on the females in the room.

Ideally, we women should be capable and feminine at the same time. Even when wearing slacks and sweater—and these are the most comfortable things when you're bending and kneeling—it's still possible to look delectable. But make sure the pants aren't baggy and that the sweater is in a flattering colour and the latest style.



The Lost Look

Tapered trows stop you from showing too much when you bend and yet help you to remind the man in your life that you exist. And we all know how enticing a sweater can be when it's big and cuddly and makes you look like a Little Girl Lost inside it!

Make-up is something that shouldn't be forgotten. Heavy

pancake and masses of eye shadow will only make you look ridiculous. So choose delicate colours and keep a light hand. But do splash out on the scent—it works wonders when you're both bending over the same plug!

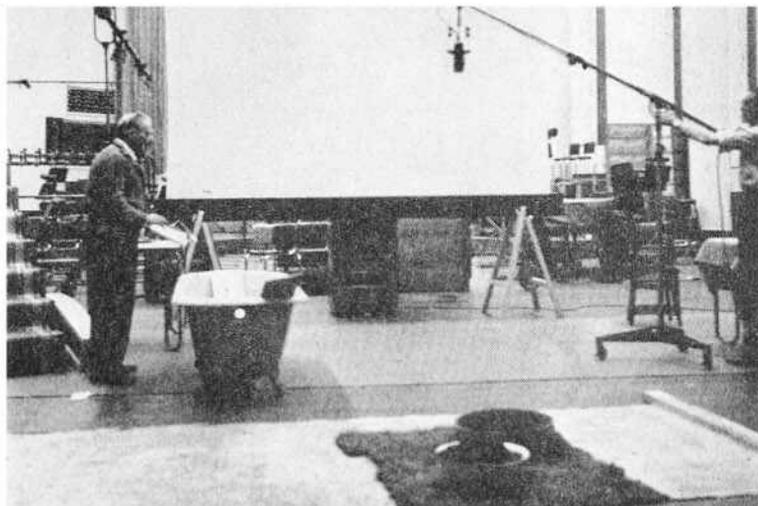
STRICTLY FEMININE

THE PAGE FOR BARGAINS

There are bargains for everybody among the Classified Advertisements which you cannot afford to overlook. If you've something to sell, this is the page to bring you results. See page 38.

A train crash . . . a storm at sea? You can have a smashing time making your own sound effects tracks under the direction of our Technical Editor, who tells you how to run

YOUR OWN FX



Men at work in the FX studio of the Associated British Picture Corporation at Elstree. In the foreground are special surfaces for the sound of footsteps—note the bowl of soft earth and turf.

DEPARTMENT

By F. C. JUDD,
A.Inst.E.



IN the production of films and television and radio plays the sound effects department has a very important role. Would you be surprised to learn that nearly all static sound effects are created in the studio? Take a close look at the picture of the 'FX' studio at Elstree and you will see some of the props they use.

When a motion picture, complete with dialogue, is finished the background music and special effects are dubbed on via three-channel, wide-track magnetic tape-film. Everything can be accurately timed by a special cue system.

Sound effects which cannot be created in the studio—traffic noise, railway sounds, jungle animals, farmyard noises, and suchlike—may be recorded on tape outside and dubbed in at the right moments. But FX studios carry a wide range of 'stock' sounds, just as they do of stock scenes like ships sinking, aircraft battles, and so on.

Sometimes a special effects track is needed which may require quite elaborate equipment and recording techniques. In a studio the size of a super cinema—completely soundproofed, of course—there is no difficulty. Dummy doors for slamming, water tanks, a bath, complete stairways for the sound of footsteps up and down, and large areas of hard, soft or gravel surfaces—also for footsteps—can all be accommodated.

There are none of the unwanted traffic and bird noises that you get in the open, and sounds as soft as the rustle of bed-clothes—yes, they use a real bed—can be produced at will.

← A Decca recording unit at work on an historic assignment—the departure from King's Cross of the Aberdeen Flyer, headed by Mallard, on the last non-stop steam run to Edinburgh. The unit was afterwards flown to Scotland to record the train's arrival ten hours later.

Creating sounds

Proficiency in creating sound effects from a few available props can only be gained by experiment and experience. There is no need here to describe in detail how different sounds may be produced artificially. Most recording enthusiasts are aware of the coconut shells for horses' hooves (plastic cups are also used), or screwing up cellophane close to the mic for burning buildings, and so on.

But supposing you need the sound of a building crashing to the ground after being hit by a bomb, or of a train crash. Perhaps your cine film needs the sound of a rough sea washing the deck of a large sailing ship, with the cries of seagulls and possibly a distant thunderstorm. There are three ways of producing such complicated sound tracks.

One is to record the real thing! the second is to manufacture the sounds and record them all simultaneously. But this requires several people, at least two or three microphones, a microphone mixer, and someone to operate both mixer and tape recorder. In the studio you have the staff and equipment to do this—plus the advantage of complete soundproofing.

The third method is one which tape and cine clubs and those fortunate enough to have, say, two mains recorders, a portable recorder and a mixer can adopt. It involves some exercises in tape splicing and mixing, plus a little imagination.

Complex FX

To give you a complete picture of how a special sound track can be made by this method, I will describe the exact process and equipment actually used to make two entirely different but complicated recordings.

The first, a train crash, obviously required some train sounds plus those of splintering wood, metallic crunching of iron against iron, smashing glass, and so on.

Train sounds can be recorded with a portable or extracted from available FX recordings.

Splintering wood: An old orange box may be stood on and broken up close to the mic.

Crunching iron: Anything metallic—old pieces of heavy iron moved around or dropped on to a concrete surface with the mic up close. Record these sounds at 7½ ips.

Breaking glass: An old piece of window pane or one or two large bottles smashed on concrete near the microphone. Record at 7½ ips. (Carefully sweep up broken pieces afterwards.)

These sounds must now be cut and reassembled, and this is where imagination comes in. Try replaying at 3½ ips, which will stretch the sounds and make them heavier. By cutting and juxtaposing one can make some remarkably effective crashing noises.

Now choose two recordings of trains, one just starting from the station, puffing and moving slowly away. The other may be a fast train coming from the opposite direction, the sound gradually building up to maximum loudness. At this point both trains cease—because this will be the point of *impact*. Imagination you will need, but the diagram will help.

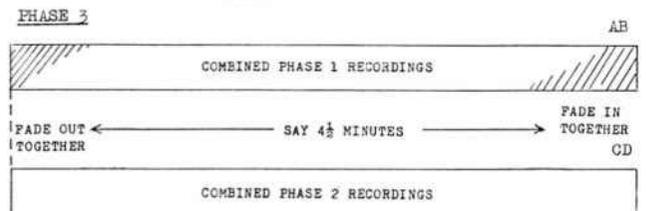
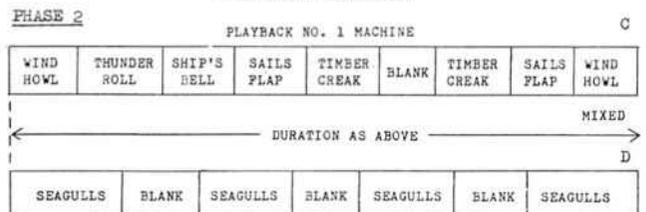
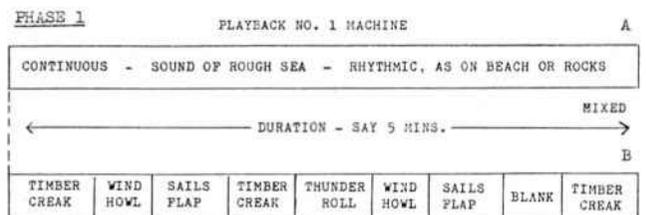
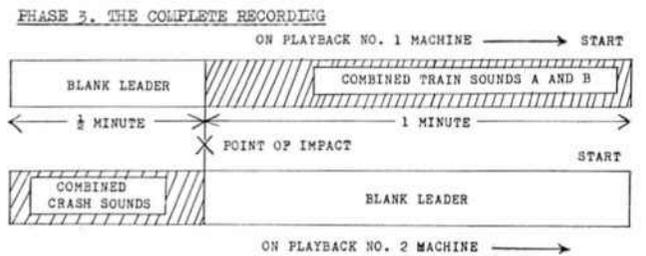
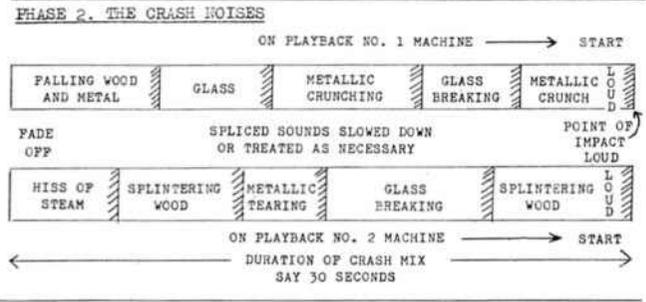
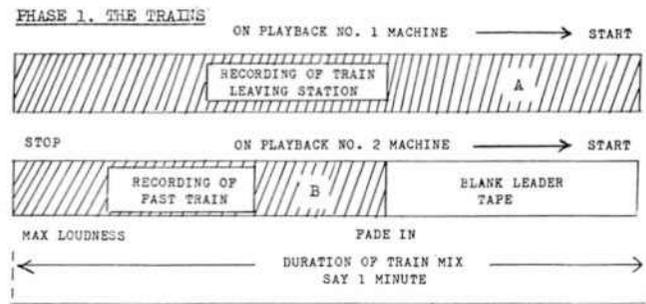
Storm at sea

You are on a four-mast sailing vessel ploughing its way through a heavy sea. The wind is whistling through the rigging; there is the sound of timber creaking, sails flapping, seagulls

SEE NEXT PAGE

TOP RIGHT: The diagram shows the three phases in making an FX recording of a train crash. The two recordings of Phase 3 could be spliced at 'Point of Impact' and then copied.

BOTTOM RIGHT: The three phases of making an FX recording of a storm at sea.



crying and the roll of distant thunder brewing into a violent storm.

Well, you could hire a clipper ship from somewhere and sail down through the Bay of Biscay with a portable tape recorder aboard. But why not try this as an FX exercise? Ready-made FX tracks contain most of the individual sounds, or you can record them separately yourself.

Thunder: Every good recording enthusiast should have a bit of thunder on tape. Remember what I said about 'stock' sounds?

Sails flapping: Record indoors by flapping a towel or tea cloth near the mic; record at $7\frac{1}{2}$ ips and replay for mixing at $3\frac{3}{4}$ ips.

Timber creaks: Try one of several methods—a piece of wood which creaks when stood upon, any door that creaks a bit. Record at $7\frac{1}{2}$ ips and playback at $3\frac{3}{4}$ ips.

Seagulls: Use a bit of gulls' cries on an endless loop ready to mix in as required; don't overdo it, though.

Rough sea: FX tracks or recorded live at the seaside with a portable (get a few seagulls at the same time).

Have fun!

Now for assembling and mixing. Use the other diagram on page 21 as a rough guide, and have fun. You *could* end up with two sailing ships colliding in a railway station. . . .

I have said nothing about crosstrack fading, the possibilities with panning techniques and stereophonic effects. Try making a recording where two motor cars crash in the middle of the living room. Or what about a fighter aircraft attack at low level—diving aeroplanes, machine-gun fire, ack-ack fire, small bombs dropping, buildings falling? If it's realistic enough, your neighbours will soon let you know!

THE ART OF CLEAN SOUND

—continued from page 11

should be recorded at $7\frac{1}{2}$ ips, if this is possible, and the mixed composite track re-recorded on to the final $3\frac{3}{4}$ ips tape.

If only one tape recorder is available, and the combined track has to be built up on the one machine, it is more than ever important that the principal ingredients—voice or sound effects—be kept crisp and clean, even at the expense of any mood music in the background.

Compressing volume

I have said nothing about volume compression. In professional films a 60 dB dynamic sound range is compressed to about 35 dB for 35mm film, and to about 20 dB for 16mm optical track, by special electronic compressor amplifier circuits. Such circuits are too complex for amateur use or construction, so recourse must be had to manual volume compression or intelligent use of the recording volume control.

Remember that the ambient background noise of the projector will mask any quiet sounds, which will have to be artistically faded up at the right time; and that, conversely, any loud sound effects or musical climaxes will have to be anticipated and turned down to avoid overload.

Sound recordings for film is much more of an art than a science, and the narrower the film gauge the more artful the sound recordist has to be to make the best use of the limited frequency and dynamic range at his disposal.

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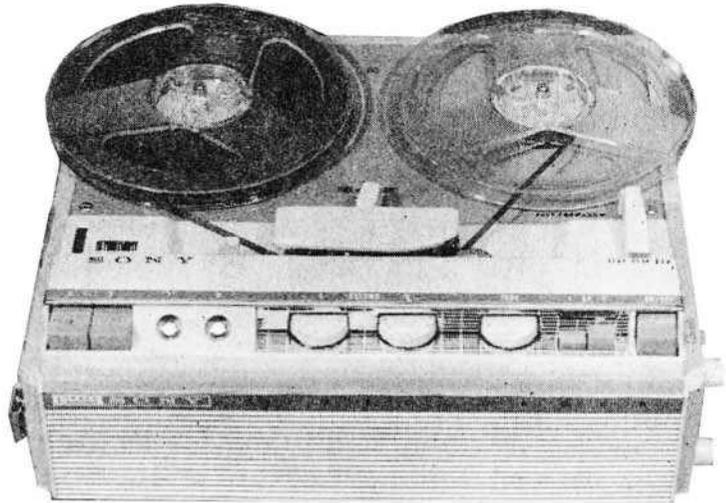
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The Technical Editor reviews
the Sony 464 and the Butoba MT5
in this month's survey of

THE SOUND SCENE



The Sony 464 four-track tape recorder.

THE SONY 464

Reviewed by F. C. JUDD, A.Inst.E.

THE Sony 464 four-track tape recorder is of Japanese manufacture, and I must say I was impressed both by its appearance and performance.

Well designed and well made, the Sony 464 has a nice compact look, and a good deal of attention has been given to details. For instance, there are standard jack sockets for the microphone inputs and miniature jack sockets for all other outputs and inputs. The compartment for the mains cord and microphone is easy to get at and is made, not from bits of cardboard or plywood, but from pressed steel!

The removable lid is of the same material, and so is the bottom of the case, which comes completely away to reveal a nice, clean printed circuit amplifier, the mains transformer, drive motor and loudspeaker. The deck cover also comes off easily, making the whole machine readily accessible for servicing.

For stereo

The picture gives a clear idea of the deck and control panel layout. Record/playback controls are interlocking, and neat thumb wheels are fitted to the volume and tone controls. Two magic-eye record level indicators are fitted, one for each channel, because this machine can be used for stereo recording *a la* two channel/four-track. It is in fact a stereo recorder, requiring only an external amplifier and speaker to provide full stereo playback.

There are, therefore, two microphone inputs and two line and high level inputs. The Sony 464 will record and play back via both channels simultaneously, or record on either channel separately and dub across to the other, together with new material as required.

A socket for an earphone is provided and all recordings can be monitored via this. The deck will accommodate spools up to 7½ in. diameter with the lid removed or 5 in. spools with the lid closed. There are, of course, fast forward and reverse rewind control, pause control, tape position indicator, speed control for the two speeds—3½ and 7½ ips—and a special mounting bracket for a cine synchronising system which the distributors can supply.

Accessories supplied with the Sony 464 include a microphone, a reel of tape and spare spool, two line connecting leads, an earphone for monitoring, a capstan sleeve for 60 cps mains, and a mains lead and plug.

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TECHNICAL SPECIFICATION

Power Requirements: 75 watts; 100/110/117/125/220/250 V. A.C. 50/60 cps (convertible).

Reel size: Up to 7 in.

Tape speeds: 3½ ips and 7½ ips.

Playing time: Maximum 8 hours with double-play tape at 3½ ips in 4-track monaural. One hour with standard 1,200ft tape at 7½ ips in 4-track stereo.

Frequency response: 60 to 13,000 cycles at 7½ ips; 60 to 10,000 cycles at 3½ ips.

Wow and Flutter: Less than 0.2 per cent at 7½ ips; less than 0.25 per cent at 3½ ips.

Signal to noise ratio: 45 dB or more across line output.

Harmonic distortion: Less than 2 per cent at 3 dB below rated output.

Power output: 2.5 watts.

Input: Two microphones; 2 line inputs (one each for channel 1 and channel 2); auxiliary input (DIN connector).

Output: Two line outputs (one each for channel 1 and channel 2); jack for external speaker (either channel).

Record/Playback channel: 4-track stereo; 4-track monaural.

Track system: 4-track 2 channel.

Recording level indicator: 2 magic eyes.

Amplifier: Main amplifier (either channel as selected); two pre-amplifiers (one each for channel 1 and channel 2).

Bias frequency: Approx. 60 Kc/s.

Tube complement: 12AX7, 6AV6, 6AU6, 6AR5, 6X4, 6ME10 (2).

Microphone: Sony F-7B dynamic microphone.

Dimensions: 14½ in. × 6⅞ in. × 12½ in.

Weight: Approx. 26 lbs.

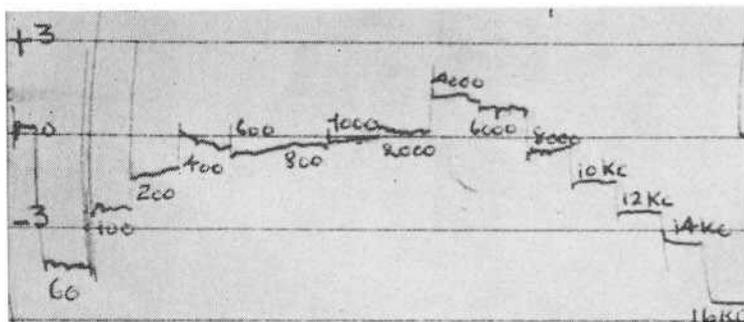


Fig. 1: Pen graph showing frequency response of the Sony 464 for 7½ ips.

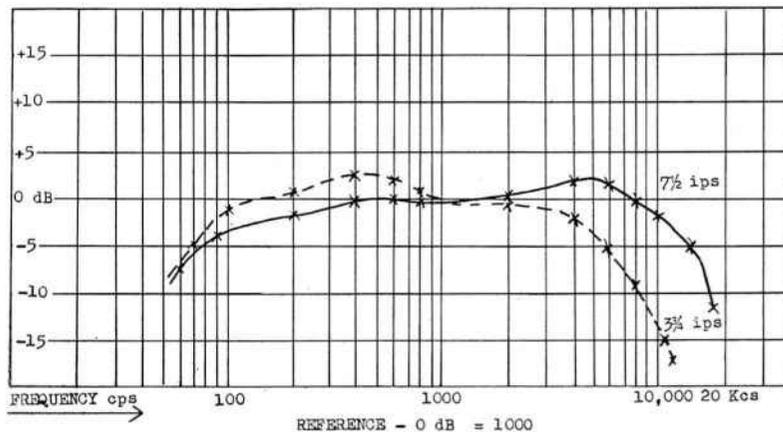


Fig. 2: Frequency response for track 1, channel 1, of the Sony 464 (record through to line output).

The maker's specification (see panel) gives all the performance details, and the recorder submitted for review was tested accordingly.

The frequency response at 7½ ips is completely satisfactory for high-fidelity reproduction, for it extends up to 12,000 cps at -3 dB and down to 60 cps at -7 dB, being substantially level in between (see Figs. 1 and 2). At 3½ ips the response falls off rather rapidly above 6,000 cps and is down to -12 dB at 10,000 cps (Fig. 2).

The frequency range tests were made via the tape and back through the amplifier to a line output, thus checking the overall record-to-playback performance. Measured at the loudspeaker extension socket—with the internal speaker switched off—the h.f. response remained more or less level to around 12,000 cps at 7½ ips and 10,000 cps at 3½ ips.

Hum and noise level measured at the line output was better than -45 dB but slight noise from an erased tape was evident, and the hum level on channel 2 was a little higher than on channel 1.

Recordings were made from the dynamic microphone, which gives a nice crisp reproduction, and from other external signal sources. The internal speaker is adequate for casual listening but, being small, has a poor bass response. Tests made by connecting a line or high-level output to an external hi-fi amplifier and speaker proved that the Sony 464 can be regarded as a hi-fi programme source.

The deck

The mechanical performance of the deck was excellent but I discovered that tape loading could be a bit awkward because of a special guide that seemed to be out of alignment with

the tape slot. The control panel, too, protrudes above the head assembly and makes it difficult to mark a tape for editing. Rewind is fast, and in other respects the mechanical functions gave a good account of themselves.

For those who are seeking a multi-purpose tape recorder with a good performance and easy conversion for full stereo, the Sony 464 should fill the bill. It is an attractive machine which does not require a superman to carry it around, and it has all the facilities the enthusiast could wish for, apart from four-track operation and attendant saving on tape.

The price is 72 gns. complete with all the accessories mentioned in this review. Makers: Sony Corporation, Tokyo, Japan. Distributed in Great Britain by Tellux Ltd., 44 Brunel Road, London, W.3.

THE BUTOBA MT5

Reviewed by F. C. JUDD

THE Butoba MT5 is a transistorised portable which operates from eight 1.5 V flashlight cells, these providing 6 V for the drive motors and 6 V for the amplifier.

The shape and finish is typical of German and other Continental machines, and by and large the MT5 is an attractive recorder. It will operate in the horizontal or vertical position and can be used when suspended on the adjustable shoulder strap. When carried sideways from the shoulder the press button controls are handy and easily visible, but the magic-eye indicator is out of view.



The Butoba MT5 portable tape recorder.

The MT5 operates at two speeds, $3\frac{1}{2}$ and $1\frac{1}{2}$ ips, and is for standard two-track recording and playback. Playing time will depend on the tape used, but a 5in. spool—the largest the machine will accommodate—of double play tape will provide 1 hr. per track at $3\frac{1}{2}$ ips or 2 hrs. per track at $1\frac{1}{2}$ ips.

Fast forward and reverse rewind is taken care of by a separate motor and such features as a pause control, which also operates as a quick stop/start button, a clock-type position indicator, a magic-eye record level indicator and a tone control make this a fairly versatile recorder.

It has inputs for microphone, radio or other signal sources and an output for monitoring headphones or an external amplifier. It can be operated from a special mains power pack which is actually inserted in the recorder in place of the batteries. The power pack has an additional socket which will enable the MT5 to be run from a 6 V car battery.

Accessories

The Butoba MT5 is supplied without any accessories except an empty 5in. tape spool and external connecting lead with plugs. Here is a list, with prices, of some of the available accessories:

- MT5/C: Converter 110/260 V to 6 V, 11 gns.
 - MT5/L: Pigskin carrying case, 7 gns. (Plastic case available.)
 - MH1: Monitoring headphones, 4 gns.
 - MT5/T: Telephone adaptor, 3 gns.
 - CL/1: Car battery connecting cable, 12s. 6d.
- Various microphones are recommended as follows:
- LD66: Moving coil, hand or table, £4 12s. 6d.
 - LV59: Moving coil, with neck harness, £8 18s. 6d.
 - DP4: Moving coil, £9.
 - MD21: Studio moving coil, 16 gns.

Performance

The machine loaned for review was subjected to the usual tests for frequency response, hum and noise, wow and flutter, and so on, but rather more attention was given to its general performance as a battery portable.

Though the machine is a little bulkier and heavier than most, it is not unduly awkward to operate when slung from the shoulder. It is reasonably economical on batteries, and will run for 20 to 40 hours on a set of eight U2 or equivalent cells. A 5in. spool of L.P. tape provides ample recording time for most occasions, and as the running speeds are standard recordings made on the Butoba can be replayed on other machines.

The various input and output sockets provide sufficient flexibility for recording from radio or microphone or another tape recorder, though I found the output sockets (radio or external amplifier, etc.) gave barely enough signal. This is mainly because the impedance at the output socket is 200 ohms and the output voltage approximately 100 mV.

Frequency response

The general electrical performance of the MT5 is adequate for good quality recording. The hum and noise level is exceptionally low even when operated from the mains power pack, but the overall frequency response could be improved upon. At $3\frac{1}{2}$ ips the response above about 6,000 cps falls away rather rapidly, though some compensation can be effected by the tone control. At the low frequency end there is a much slower fall-off.

However, one should not judge a machine of this nature purely by its frequency response. Portables for high-fidelity and professional use are necessarily very expensive and the Butoba does not come within this category. The mechanical

TURN TO PAGE 25



From DENHAM & MORLEY

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BUTOBA MT5

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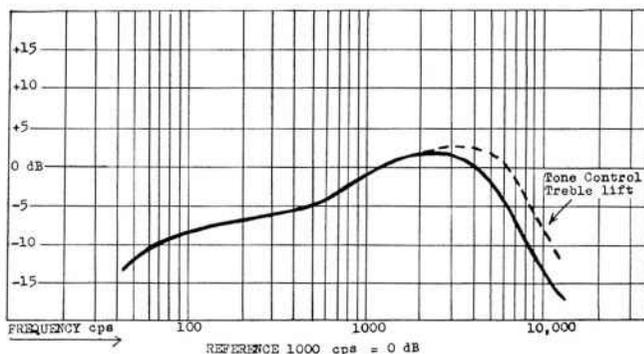
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THE SOUND SCENE

—continued from page 25

performance is satisfying, and cyclic speed variation (another name for wow) is only just detectable on recordings of steady tones. There was no noticeable h.f. fluctuation and the nominal speeds were found to be accurate.



Frequency response (record to playback) of the Butoba MT5 for 3¼ ips.

The Butoba is well engineered and completely accessible for servicing. Spares are available, as listed in the instruction and service manual. I think the MT5 should more than adequately cater for every kind of outdoor recording, and with the addition of some of the accessories it is a most adaptable machine.

Manufactured in Western Germany and distributed in Great Britain by Denham & Morley Limited, 173/5 Cleveland Street, London, W.1, the Butoba MT5 retails at 66 gns.

TECHNICAL SPECIFICATION

Speeds: 3¼ ips and 1½ ips.

Playing time: 2 × 1 hr. at 3¼ ips; 2 × 2 hrs. at 1½ ips.

Push-button operation: Recording; playback; fast forward and rewind, stop.

Microphone impedance: 200 ohms; input voltage: 200 μV.

Radio input impedance: 100 K.ohms; radio output 200 ohms, approx. 100 mV.

Frequency range: 50 to 13,000 cps at 3¼ ips; 60 to 5,000 cps at 1½ ips.

Noise level: 40 dB.

Output (speaker): 1.2 watts.

Seven transistors: (OC 603, OC 75, OC 71, OC 76 = 2 pcs, 2 × OC 74). **2 diodes:** (OA 81 = 2 pcs). **1 valve:** (DM 71 = magic line).

Batteries: 2 × 4 flashlight cells, 1.5 V each × 6 V, for motor and 6 V for amplifier.

Converter: 110/260 V, 50–60 cycles or car battery (6 V).

Life of batteries: 20 to 40 hours.

Dimensions: 9½in. × 12in. × 6in.

Weight, including batteries: 12 lbs.

Number of motors, 2; double-track system, international standard; volume level indicator through magic line; tone and volume control.

TAPE TALK FOR TEACHERS



Dialect will never die while there is tape to preserve it . . . and the schools can play their part

much research and some guesswork.

Teachers can do good work by building up tape archives of living English, which even within the present century has varied widely from time to time and from place to place.

Music lovers of Montrose

Montrose Academy's recently formed tape club has a membership of over 60. It meets after school every Friday to compose and edit tapes which are sent to the U.S.A., Sweden, Australia, Canada, Denmark and other places.

The recipients include a Wiltshire farmer whom these sturdy

Scots evidently regard as another interesting foreigner from whose queer speech and customs they may gain enlightenment and entertainment. These tapespondents send accounts of their countries, climates, occupations, histories and cultures—not forgetting any culture still lingering in wild Wilts.

In return, club members have described Angus and Montrose, recorded plays and Scottish music, and sent a sound picture of farming in Glenesk. Already the club has received nearly 70 tapes from abroad.

So Montrose, which pioneered in Scotland the introduction of a school radio station, is again making history. With them, pop music is largely 'out'; they collect classical music and folk song, which further increases my respect for them.

Cry of the carrot

The Norfolk branch of the National Cactus and Succulent Society, I see, heard a tape recording on 'Lithops and Mimicry Plants.' Naturally, an affluent society begets a Succulent Society, and anybody who doesn't know what lithops are must blush for his ignorance.

As for mimicry plants, we know they mimic form and colour, but do they mimic sound? If so, can the tape recorder reproduce their efforts?

The Indian botanist Bose insisted that plants sometimes behave as though suffering pain, and claimed microphonic evidence that carrots shriek when cut.

● Letters relating to this page should be addressed: Dr. C. A. Smith, M.A., Education Division, ATR, Room 532, Ulster Chambers, 168 Regent Street, London, W.1.

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For posterity

TAPE clubs in the North are doing work of special interest to historians of language.

An old Rochdalian 'exiled' in the South asked Rochdale and District Cine Society for a recording of the local dialect, which is fast disappearing. It was provided. The Yorkshire Dialect Society heard a talk illustrated by recordings of West Country dialect.

Schools, please note. If schools clubs in, say, Lancashire, Yorkshire, Northumberland, mid-Durham, London and Devon would exchange greetings in their local dialects—with translations, of course—they would come to realise how Kelt, Saxon and Dane have stamped their impress on the England of today.

It would transform the teaching of English Literature if we could hear recordings of Chaucer, Shakespeare and Pope reading their poems with the pronunciation of their day. The BBC has several times attempted this task, which involves

HOT OFF THE PRESS

A NEW service for the 30 blind workers of Philips in Eindhoven enables them to 'read' their own copy of *The Koerier* house magazine every week.

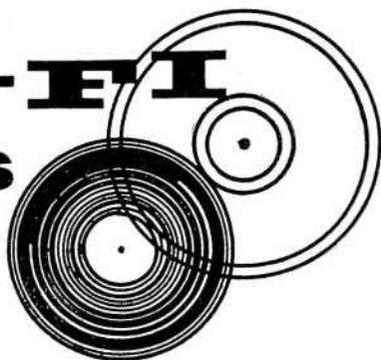
Volunteers among the older employees read an hour's selected items from the magazine on to tape. This is then sent to The Hague where 30 copies are made in time to be posted to the workers on Friday afternoons.

As the recordings are made when the magazine is at page proof stage on Wednesdays; the blind employees receive their own 'copy' at the same time as the rest of the workers—Saturday morning. The tapes are later returned for re-recording.

It is hoped in time to expand the service to the company's blind workers throughout the Netherlands.

RUSS ALLEN savours a feast of percussion . . . a new singer . . . and the strich

HI-FI discs



WITH MALLETS AFORETHOUGHT! As a title this alone deserves a mention, if only for its sheer, unadulterated cheek. But this **Fontana** album deserves mention for a better reason, particularly some splendid recording which sounds like stereo in the monaural version and positively fantastic in the stereo.

As the title might suggest, it is mainly a feast of percussion. But don't be fright—it's not a drum record. The instruments are, in fact, one normal drum kit, bongoes, congas and scrapers, double bass, piano, marimba, vibraphone, glockenspiel, bells and a couple of xylophones.

They combine to make some highly interesting music on numbers like 'I want to be happy' and 'Stompin' at the Savoy'. Not only is it interesting to listen to; it's also a fine fault-finder for hi-fi.



Fontana have wrapped the whole thing up in a delicious three-fold sleeve with an instrumental flavour inside to aid your detection.

Become an accessory after the act. **The Harry Robinson Crew on TLF 5178.**

As I overheard the other day: "I fink Frank's fab."

A new singer, **Oscar Brown junior**, is to be found on **CBS BPG 62016, Between Heaven and Hell**. Here's a guy who can really holler, and he's a must.

Mr. Sinatra is great, but we've heard him before and this guy is like new. And not only does he sing; he writes the words and music as well. His lyrics are highly original, and his style might be described—if you can imagine it—as the masculine equivalent of Lena Horne's.

Themes range from 'Hymn to Friday,' the gay carol of a family man's favourite day of the week, to the saucy 'Hazel's Hips,' a man's visual of living doll sex appeal in the form of a waitress. Orchestral backing is superb and recording double good. Arrangements are by **Ralph Burns** and **Quincy Jones**, and there's some fine trumpet work by **Joe Newman**.

'Between Heaven and Hell'? It's Paradise.

From Paradise to Britain and—to tangle further—**Alex Welsh, Echoes of Chicago, Columbia 33 SX 1429.**

My first playing of this disc was marred completely because I was awaiting the dread moment when the drummer would rise to his feet and shout inanelly his now infamous 'Ooh yah, ooh yah!' etc. But he refrained and second hearing convinced me this is a delightful album with one of my favourite tenor men, **Danny Moss**, endeavouring to emulate **Bud Freeman** instead of **Ben Webster** for a change. Well, he does on the 'Eel' anyway.

My old mate **Jerry Salisbury**, who seems always to be playing a different instrument with a different hand, turns

Loveliest disc of the month goes to that living fable **Sinatra on Capitol W 1676, Point of no return**. Backing is from **Axel Stordahl** and is lush as lush can be.

Franky is at his singin'est best with a bag of good ol' good ones including 'September Song,' 'When the world was young' and 'I'll remember April.' Twelve tracks in all and each as good as the rest.

up here on trombonium and plays, as usual, a little storm.

This is one echo you must get reverberating round your front room.

Kirk's Work, Esquire 32-164 (recorded November 11, '61), features one of my pet hates, the electric organ. But in this case, though I still dislike the noise, its manipulator, **Jack McDuff**, really does play jazz and almost makes me like the wretched thing.

Joe Benjamin plays the bass and **Arthur Taylor** drums, while the leader, **Roland Kirk**, makes hay with everything, including what was probably part of the kitchen



plumbing. He is listed as playing tenor saxophone, manzello, strich, flute and siren.

Manzello and strich are, apparently, of the saxophone family. Luckily, Kirk plays them all rather well and with much originality—as, I suppose, anyone who names an instrument a strich must. Altogether a swinging disc, and a must for organ lovers.

Lastly, but most certainly not leastly, again from **Esquire, Afro/American Sketches, 32-162, Oliver Nelson Orchestra**. Nelson has done the lot—written, arranged, conducted and blown. It was recorded on September 29 and November 10, '61, with a score or so top musicians.

A lot of research went into this, and Nelson reckons he listened to recordings of the tribal music of over 200 African tribes before he settled down to score. Result is a sometimes exciting, sometimes funereal hodge-podge of different, jazz-slanted, sophisticated Africana.

There are moments of near genius and, in the main, I loved it. But unless you're prepared to listen carefully, don't bother.

TAPE GUIDES

This page brings you all those handy tips and bits of information you can't find in the textbooks ...

Tape winding

DID you know that when magnetic tape is wound on a spool with the dull, oxide coated side towards the centre of the spool it is called an 'A' wind? Tape wound with the coating facing outward, as is generally the case with large-spool professional machines, is called a 'B' wind.

A simple radio/mic mixer

Many who record from the radio extension speaker socket would like to mix their own voice announcements without superimposing, which often spoils the desired effect either by reducing the recording level of the music or because exact timing is difficult.

Tape recorders with dual channel mixing permit accurate fading and mixing, of course. But here is an inexpensive little gadget which will permit fading in the microphone over recordings taken from an extension speaker socket which is low impedance—usually 3 to 5 ohms.

The fader control, resistor and two plugs can be accommodated in a small metal box about 3in. × 2in. × 1½in. Make

sure the 'common earth' line goes right through. Metal of the box and the metal shell of the fader control should also be connected to the earth.

The value of resistor 'R' must be found by experiment. Start off with about 100 ohms and increase or decrease to provide sufficient signal for maximum recording level when the fader control is turned fully anticlockwise to 'radio' (see diagram). When the control is turned clockwise to 'mic' the radio signal will be diminished and voice announcements can be made.

Panel signs

Home constructors—here's something useful for that new amplifier or microphone mixer. Panel transfer signs produced by Data Publications Ltd., 57 Maida Vale, London, W.9, are available in four different sets at 3s. 6d. per set.

No. 1 contains twelve control panel scales suitable for volume and tone controls, a tuning dial scale, and a selection of white

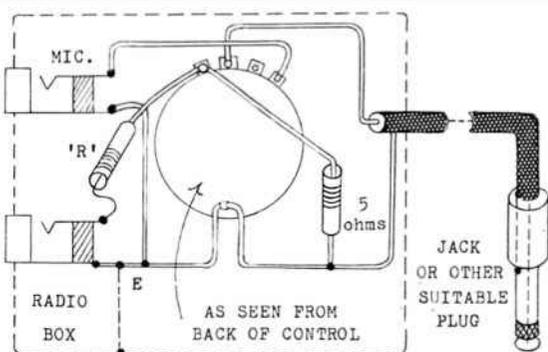
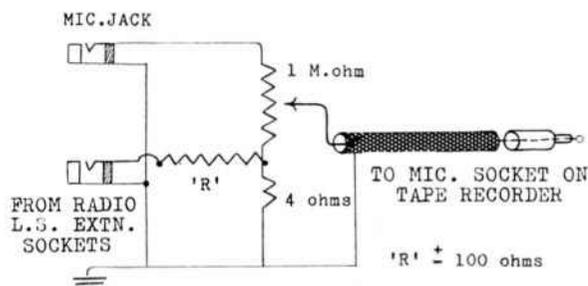
● *If you have a practical tip to offer, send it to Tape Guides, ATR, 168 Regent Street, London, W.1. A guinea is paid for each one published.*

wording and symbols. No. 2 is for test equipment and contains scales, control dials, lettering, etc.

No. 3 is wording in white for amplifiers, receivers and other radio apparatus, and No. 4 is similar in black wording. The sets comprise five sheets with over 750 words and symbols.

Stretching it!

In the June issue under the heading 'Making a Tape Time Calculator', we gave a formula for 'tape-time' followed by an example answer which said: 'which for 600ft. of tape at 7½ ips would be 32 minutes.' This should have read 'for 1200 ft. of tape' (standard play). We apologise for the slip, which several readers were quick to detect.



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(8-62)

tape parade

**Ellington or Elgar? Whatever your taste,
STAN WHITE helps you to keep track
of the new releases**

* **Ellington in Concert.** Duke Ellington and his Orchestra. World Record Club, TT 160. Dual $\frac{1}{2}$ -track mono, $3\frac{1}{4}$ ips, 40 mins.

This important release represents a milestone in the history of recorded jazz. Captured for all time on this tape are the sounds of one of the great orchestras under the leadership of Duke Ellington, who is heard introducing the numbers.

The recording was made during a concert at Cornell University in December 1948, and the reproduction is excellent, really capturing the exciting atmosphere. There are times when the band really lays down a beat, much appreciated by the audience, who make more than one attempt to join in with hand clapping and foot tapping. The solo work by musicians and vocalists is very effective.

One number, which Ellington says he first played in the Twenties, turns out to be a most impressive performance, with soprano voice in the background, of the famous 'Creole Love Call.' I have heard many Ellington recordings, but never such a fine selection as this. Included are 'How High the Moon,' 'Don't Blame Me,' 'Limehouse Blues' and 'Blue Skies.'

* **Gigi,** from the film soundtrack, with the M.G.M. Studio Orchestra conducted by Andre Previn, Leslie Caron, Maurice Chevalier, Louis Jourdan, Hermione Gingold. TAMGM C-770. Dual $\frac{1}{2}$ -track mono, $3\frac{1}{4}$ ips, 40 mins.

This tape presents the music and songs as heard on the soundtrack of the famous film. The whole recording is pleasant and makes ideal material for home listening.

One of my favourites is 'Waltz at Maxim's,' and I wish the version on this tape was non-vocal as it is an excellent subject for an instrumental recital. However, it is still a fine recording for anybody's money.

* **Adam.** Adam Faith, with music and arrangements by John Barry. Parlophone TA-PMC 1128. Dual $\frac{1}{2}$ -track mono, $3\frac{1}{4}$ ips.

Adam Faith gives some good performances on this recording, which will have a natural appeal to the younger set. The John Barry group give him some very sensible backing in the modern idiom. His version of 'Singin' in the Rain' is particularly pleasing.

Other titles include 'Summertime,' 'A Girl Like You,' 'Turn Me Loose,' and 'Hit the Road to Dreamland.'

* **Carmen Suite, Esoteric (Tape Of The Month Club).** Dual $\frac{1}{2}$ -track mono, $3\frac{1}{4}$ ips, 40 mins.

This new release from Esoteric presents an excellent recording of the famous suite as played, I believe, by the Vienna Philharmonic Orchestra. I hesitate to state this definitely because, in an effort to keep their prices at the lowest possible level, Esoteric have omitted such information.

If it is not the orchestra mentioned, then at least this combination deserves an equal reputation.

* **Elgar.** Variations on an Original Theme (Enigma), Op. 36; Introduction and Allegro for String Orchestra, Op. 47. London Philharmonic Orchestra conducted by Sir Adrian Boult. World Record Club, TT 158. Dual $\frac{1}{2}$ -track mono, $3\frac{1}{4}$ ips, app. 40 mins.

This famous music comes over very well, considering tape speed. For those



The smiling Duke may be heard on tape—14 years later.

who have heard the local church organist and orchestra belting it out, it is pleasing to hear such music properly performed.

I have heard it said that a musician taking part in its performance derives more satisfaction from Elgar's music than the listener. I would hesitate to support this view after enjoying this recording.

The famous American guitar player, John Cucci, has made a number of recordings in the past, but due to the difficulty of releasing material under certain labels in different countries, they have never found an outlet here. He has now completed his first recording for Esoteric (Tape Of The Month Club), and the initial release date is set for September.

THE THINGS YOU SAY . . .

How much time left?

Michael D. Claydon, Orpington, Kent, writes:

THANK you for your article on 'Making a Tape Time Calculator,' but may I make a suggestion which would help the amateur a great deal and which tape manufacturers might like to adopt? It is that incorporated in each spool there should be a graduated scale from which the number of feet of tape could be calculated.

In view of the fact that there are three types of tape currently available, I suggest that the graduations should be scaled so as to give at a glance during recording the number of feet of Standard Play tape. Those who use L.P. or D.P. tape could determine the length by multiplying by a coefficient of 1.5 and 2 respectively.

A number of manufacturers today show a scale with even graduations, which to my mind is utterly useless. It would be quite simple to replace this with one such as I describe. Frequently when coming to the end of the tape during recording I would like to know exactly—not by guesswork—how much playing time is left. A scale such as the one suggested, used in conjunction with your Tape Time Calculator, would be a boon to many.

(We know of at least two tape recorders—both made abroad—which have a graduated scale printed on the deck. But your suggestion is one which a tape manufacturer might well adopt, we think.—Editor.)

Making copies

D. P. Moore, Cookridge, Leeds, writes:

I am a newcomer to tape recording, owning a Stella ST454, and find your magazine useful and informative.

I wish to re-record some of my tapes. Do I need a complete second recorder to do this or just a tape deck? If the former, can I utilise the speaker as the second channel for stereo pre-recorded tapes?

Your feature on portable recorders in the June issue implies that tapes can be re-recorded at different speeds—e.g., 7½ ips to 3¼ ips. Do I interpret this correctly?

(For good copying you need a deck and tape head pre-amplifier with a CCIR replay response. Better a second tape recorder with a high impedance output. You could make use of this recorder as the second channel for stereo but the results might not be satisfactory. Good stereo can only be obtained by using properly balanced amplifiers and loudspeakers. Tapes recorded at one speed may be copied down or up to another speed. A tape recorded at 7½ ips must be replayed at that speed but can be copied at 3¼ ips.—Technical Editor.)

Hands across the sea

R. Finch, Halesowen, Birmingham, writes:

As secretary of Halesowen Tape and Hi-Fi Club it is one of my jobs to arrange programmes. We tried an exchange of tapes with other clubs without much success. But it gave me the idea for a tape exchange organisation for clubs which, if it could be started, might become a world-wide organisation.

To help us in launching this project, perhaps you would let it be known that we wish to exchange tapes with clubs in America or Holland, one of our special interests being folk music.

(We shall be glad to assist in putting overseas clubs in touch with Mr. Finch or with any other clubs in this country, and say amen to his project for an international hook-up. Meanwhile, club secretaries with programme problems should refer to p. 34.—Editor.)

Getting mobile

Jim Law, Hillsborough, Co. Down, writes:

In the article on 'Sound Hunting' in April *ATR* I read that one can buy a converter which will run a mains recorder off a car battery. Having a Grundig TK24 mains type machine, I am anxious to increase its flexibility but have not been successful in obtaining information about a converter. Could you let me have this?

(Write to Valradio Ltd., Browells Lane, Feltham, Middx., stating the type of recorder you own and the voltage of your car battery. See also the Valradio advertisement on p. 18, this issue.—Editor.)

● **This is everybody's page and we like to hear from you, whether you have a question, a suggestion, or just a grouch. Write to The Editor, ATR, Room 532, Ulster Chambers, Regent St., London, W.1**

Double stretch

J. F. Adams, Gillingham, Kent, writes:

Referring to the article on a Tape Time Calculator in the June issue, just you try making a 600ft. tape last for 32 mins. at a speed of 7½ ips. The amount of time mentioned would require a standard play tape of 1,200ft.

(You are quite right—and the manuscript of the article in 'Tape Guides' clearly said 1,200ft. It would seem that, at some stage between typing and printing, someone discovered a way of stretching S.P. tape into D.P. ditto.—Editor.)

Magnetised heads

S. J. Bousfield, 12 South Road, Almondsbury, Bristol, writes:

I am the proud owner of a Robuk RK3 recorder, the heads of which have become magnetised. As a novice, may I ask if I am likely to damage the machine if I use a probe demagnetiser such as the Wal D-Mag, which you advertise?

(No; you will not damage the heads. The Wal demagnetiser is quite safe to use and you are wise to use one.—Technical Editor.)

First quality

B. G. Loxton, London, S.W.8, writes:

Thank you for an excellent magazine. It is helpful, honest, interesting, humorous—and much too dear. Still, I suppose that quality is more important than quantity, so thanks again.

(And thank you!—Editor.)



NORRIE PARAMOR says—

POP MUSIC ON TAPE IS A BIG STEP FORWARD

Who wants it on disc? Who prefers it on tape? He has his ideas on this too, but he's quite prepared to be proved wrong . . .

I BELIEVE that in releasing pop music on tape we've reached a very important stage in recording history.

By that I don't mean that I think tapes will sweep the board clean and replace records, or anything as drastic as that. But it is definitely a big step in catering for the growing number of tape recorder enthusiasts.

And it proves that the big companies have found it pays to give tape enthusiasts what they want.

There has been a lot said about the advantages and disadvantages of these tapes compared to records. To be quite truthful, I really can't see there's an awful lot of difference.

Of course, there is one advantage with tape—you can wipe it clean and use it again. You can't do that to an L.P. disc!

Four generations

If there is a difference in reproduction it is only very slight, and is due to the fact that a record goes through what we call 'four generations' before it is released—master tape to lacquer, the lacquer to 'mother,' and then on from there.

Tape, on the other hand, has only to go through three stages. And you don't get the sort of pick-up needle interference you get on a record player.

We started this business of putting music on tape a few years ago, but it was mostly orchestral stuff and classical works. Now we have transferred pop L.P.s like Cliff's *The Young Ones* and something of Helen's on to tape—at 3½ ips, which is pretty slow, considering the master tape is 15 ips.

Personally, I feel that 3½ ips tapes are a bit restricting. But, from a sound point of view, reproduction is excellent and it is technically more practicable. When we set out to record straight on to tape instead of transferring L.P.s it will save a bit of time.

Discs for teenagers

I can see the possibility of tapes replacing discs when it comes to classical and light music. But somehow I can't see it happening with pop stuff, mainly because there are very few people with both a record player *and* a tape recorder. And when teenagers—who make up the pop market—have to choose between the two, they'll plump for a record player nine times out of ten. The older people, I think, will go for tape.

Now I'll sit and wait to be proved wrong!

And while I'm on the subject of tape, don't forget that you record discs from the radio at your own peril! It is illegal, and you can be prosecuted, since the material is copyright.

When you buy a record, so much of the price goes to the artiste, so much to the song writer and so much to the company which produces the record. So you are virtually cheating all these people of their money when you record from the radio and it can get you into a whole heap of trouble.

After that sober word of warning, I'll settle back and think about my world cruise. Happy listening!

LONG PLAY DREAMS

Dreams are being 'monitored' on tape by scientists in America who are trying to put new interpretations on what goes on in our minds when we sleep.

The subjects are fitted with an electronic larynx which amplifies slight sounds made by the vocal muscles during their dream episodes.

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THE TAPE DIRECTORY

the tape directory

An ATR service in the interests of world-wide friendship.

ESSEX

ALAN HAYES, 18, printer, 42 Rowlands Road, Dagenham. Fishing, ten-pin bowling, general chat; pop, trad jazz. Philips 4-track, 7in. 1 $\frac{1}{2}$, 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **U.K.**

HERTFORDSHIRE

B. SIMPSON, 25, projectionist, c/o Broadway Cinema, Letchworth. Films, music, pops, dialogue of films, tape talk, life in general; classical and show music. Telefunken KL85, 7in. 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **Anywhere, to entertain lonely people.**

RAY STONELAKE, 30, carpenter, 29 Robins Way, Hatfield. Family, angling, cine; classical, African. TR Editor, twin-track, 3 to 7in. 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **Anywhere English speaking.**

KENT

DAVID ARTHUR BIRD, 22, radio engineer, 92 Gardiner Street, Gillingham. Electronic music, photography; instrumental, pop, mainly classical. Philips EL3541, up to 7in. 3 $\frac{1}{2}$. **Anywhere in British Isles.**

ERNEST A. MOODY, 53, servicer (firework factory), 'Casa Mia,' 33 Hawes Avenue, Ramsgate. B/W and colour photography, movies, gardening, D.I.Y., models, almost anything; any kind of music except trad or heavy stuff. Truvox (home-built), 7in. 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **Anywhere English speaking.** Would learn French and/or German.

LANCASHIRE

G. C. BACKHOUSE, 58, estate manager, 103 Keswick Road, Blackpool. Cine, still photography, do-it-yourself; light orchestral, operetta. Grundig TK35, 7in. 1 $\frac{1}{2}$, 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **Anywhere English speaking.** All tapes answered.

VINCENT CROSBY, 21, dental technician, 633 Ashton Road, Oldham. Travel, photography, taping, helping people with difficulties (treated as confidential); classical, pop. Robuk RK3, 7in. max. 1 $\frac{1}{2}$, 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **Anywhere.**

MAVIS B. HAMPSHIRE, 25, man-

ageress (studying for clinical psychologist), 13a Higher Lane, Whitefield, nr. Manchester. People and their interests, singing, everything under sun; light classics, show, some pops. Telefunken 75 two-track, up to 5 $\frac{1}{2}$ in. 1 $\frac{1}{2}$, 3 $\frac{1}{2}$. **U.S.A., Southern England.** Anyone in field of psychological medicine or psychiatry especially welcome.

LONDON

DAVID ABRAHAMS, 16, student, 53 Avenue Road, N.W.8. Discs, films, record production; American pop, rhythm and blues. Elizabeth Major 4-track, 7 $\frac{1}{2}$ in. 1 $\frac{1}{2}$ to 15. **U.S.A., any English speaking countries.**

GEORGE NORRIS, 23, checker, 9 Cliff, Deptford. Photography, scootering; pop, trad. Grundig TK14, 5 $\frac{1}{2}$, 3 $\frac{1}{2}$. **Anyone English speaking except in U.K.**

MIDDLESEX

RONALD BARRETTO, 24, technical representative, Flat 1, 17 Hopson Avenue, Glenwood. Photography, golf; Goodman, Herman, Cole, Martin, etc. Philips EL3541, up to 7in. 3 $\frac{1}{2}$. **U.S.A., Gt. Britain, Ireland, France, Spain.** No need to write; all tapes answered promptly.

NOTTINGHAMSHIRE

ROY EVANS, 32, railway shunter, 5 Ethel Grove, Netherfield. Records, photography, general, radio; big band jazz, vocal, pops, humour. Fidelity Argyll, 5 $\frac{1}{2}$ in. 3 $\frac{1}{2}$. **Anywhere English speaking.**

RON TANSLEY, 23, fireman, 1 Hodgkinson Street, Netherfield, Reading, 35mm photography; pop, mod, and trad jazz, Latin. Worfield, 7in. 1 $\frac{1}{2}$, 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **Anywhere England and abroad.** All tapes answered.

SOMERSET

JIM BLAKELEY, 40, clerk, 10 Kenn Road, Clevedon. Photography (8mm cine, 35mm colour, B/W); pop and clas-

sical. Grundig TK20, 5 $\frac{1}{2}$ in. 3 $\frac{1}{2}$ only. **Anywhere.** No letters; all tapes answered.
R. CULLIMORE, 28, postman, 2 Chatsworth Road, Fishponds, Bristol. Photography; pop or modern organ, trad jazz. Truvox R7, up to 7in. 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **Anywhere English speaking.**

SURREY

NORMAN BARNES, 18, electronic wireman, 19 Mount Road, New Malden. Electronics, general, hi-fi; modern jazz, classical. Brenell Mk.5, 3 to 8 $\frac{1}{2}$ in. 1 $\frac{1}{2}$ to 15. **Anywhere English speaking;** male or female.

MICHAEL DAVID JUDD, 19, laboratory assistant, Warren Farm, Warren Mead, Banstead. Model railways, sport, youth hostelling; trad and modern jazz, classical. Fidelity Argyll, 5 $\frac{1}{2}$ in. 3 $\frac{1}{2}$. **Anywhere, especially abroad.**

ALAN ROBINSON, 19, electrical and radio mechanic, 48 College Road, College Town, Camberley. Travel, radio, motorcycles, anything; all but chamber music, big Holly fan. Telefunken 75, 3 to 5 $\frac{1}{2}$ in. 1 $\frac{1}{2}$, 3 $\frac{1}{2}$. **Norway, Australia, N.Z., N. America, Europe;** English speaking only. Any age, either sex.

WARWICKSHIRE

T. W. DRAPER, 31, showroom manager, 13 Newnham Road, Lillington, Leamington Spa. General; trad jazz. Philips, Stuzzi, twin-track, up to 7in. 1 $\frac{1}{2}$, 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **U.S.A., Gt. Britain.**

LYNDA FINLAY, 16, student, 46 Glencoe Road, Stoke, Coventry. Poetry, modern dancing, theatre, records; trad and mod. jazz, pops, musicals. Grundig TK24 4-track, 5 $\frac{1}{2}$ in. up, 3 $\frac{1}{2}$. **Any French or English speaking person outside U.K., 17 to 25.** Card first appreciated.

23807867 Pte. TONY GREEN, 23, soldier, 12 Leonard Road, Handsworth, Birmingham. Swimming, reading, physical culture; all types, trad jazz. Grundig, 3 to 7in. **U.S.A., France, Germany.** Either sex, any age.

ANDREW HOPE, 16, cinema operator, 1 Desford Avenue, Beeches Estate, Great Barr, Birmingham. 8mm cine, records, cinema; pops, classical. Carol TR3, 5 $\frac{1}{2}$ in. 3 $\frac{1}{2}$. **U.S.A.**

DEREK HUNT, 31, fitter's mate, 68 Hay Green Lane, Bournville, Birmingham, 30. Radio, photography, records; anything except modern jazz. Elizabethan Princess, 3 to 7in. 1 $\frac{1}{2}$, 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **Anywhere English speaking.** All tapes answered.

WORCESTERSHIRE

BRIAN JAMES, 11, schoolboy, 58 Moat Crescent, Malvern. Correspondence; all music. Argyll, 5 $\frac{1}{2}$ in. 3 $\frac{1}{2}$. **Anywhere outside U.K.**

YORKSHIRE

TREVOR DOWDING (and wife), 34, electronics engineer, 4 Segrave Walk, Acomb, York. Cine photography, archery, radio; light opera, pops, no jazz. Grundig TK8, 3 to 7in. 3 $\frac{1}{2}$, 7 $\frac{1}{2}$. **U.K., Malaya, Singapore, U.S.A., Canada, Europe.**

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SPOOL TALK

Army records

DID you see that the Army has given its blessing to tapesponding? Sweethearts, wives and mothers of men of the Prince of Wales Own Regiment, about 200 of whom have their homes in Hull and district, met at the Army Information Office to tape personal messages which were flown out to them in Wuppertal, Germany. They were told they would probably get replies back in ten days. The local recruiting officer would let them know when they arrived.

Tapes for the troops are not exactly new, but this is the first time to our knowledge that they have been organised with the full co-operation of the Army authorities.

Credit went to the originator of the scheme, the attractive, 19-year-old wife of a battalion lieutenant, Mrs. Carol Bowyer, who was pictured in the Yorkshire papers busy with tape recorder and microphone. Carol, who lives in married quarters at Strensall Barracks, York, put the idea to the Army, and got quick approval for it.

Then she arranged for advertisements to appear in local papers offering to extend the tapesponding service to all concerned. A nice bit of enterprise which should promote the sales of those tape recorders they stock in the NAAFI's over there, so we're given to understand. If they don't, they'd better jump to it.

Tell your story

Have you a good tapesponding story to tell? Of course you have! That time you sent a tape to the wrong tapespondent, or received one that wasn't intended for you at all . . . Or when you said something which might have been put better and was entirely misunderstood . . .

How did you start to tapespond? What new interest do you owe entirely to this hobby? In some cases, it has led to a completely new life—even to matrimony.

We want *your* tapesponding story for this column. **A guinea will be paid for every story printed.** All tapespondents may enter. Address: *Tapesponding Tales*, ATR, Room 532, Ulster Chambers, 168 Regent Street, London, W.1.

TAPE CLUB NEWS—continued from page 17

and Peter Robinson (12) kept their elders amused with the third episode of a members' participation thriller serial, producing some lively schoolboy humour if not-so-snappy dialogue.

The Playcraft Theatre Group of Canterbury is again enlisting the club's aid for their forthcoming production, *Crime Passionel*. The action calls for radio announcements, explosions, gunfire, military traffic and smashing glass, so there should be plenty of fun to be had in making up this 'sound-track.'

Pals' first meet

Some 60 people from all over the country visited the first get-together of the U.K. Section of **World Tape Pals** and heard a report on its work by British representative John James, of Colliers Wood, London.

With its sections devoted to sound effects, educational programmes, tape/cine, tape/slide and tape/postcard—the object of these being to show Britain to the world—the section claims to comprise the most comprehensive tape club in Britain. It has in addition a stamp collector's section, a writers' group, and another devoted to stereo.

A new section is Readers for the Blind, which is an offshoot of that belonging to the American body.

Officials wed

Tape secretary John Hunt assisted by sister Wendy recorded the ceremony and reception when the chairman and secretary of the **York Tape Recording Society** became man and wife. A colour film was also made.

A new society has been formed in York by the Acomb Community Association. Meetings will be held weekly at its premises in Front Street. Correspondence should be addressed to B. Snowden, 51 St Paul's Terrace, York.

NEW CLUBS

Bexhill: Write to Leslie Lea, 48 Grange Court Drive, Bexhill, Sussex.

Great Yarmouth: Enthusiasts are invited to contact Walter W. Grimmer, 39 Queensway, Caister-on-Sea, nr. Gt. Yarmouth, Norfolk.

Warrington: M. Sutton, 5 Sandringham Avenue, Helsby, Warrington, Lancs., wants to form an **East Cheshire** club.

Boston Soundhunters: Secretary, Philip P. Towell, 107 Spilsby Road, Boston, Lincs. Meetings are second and fourth Tuesdays in the month at Pilgrim College, South Square, Boston.

NOW—A TAPE LIBRARY SERVICE FOR CLUBS

AS a special facility for clubs, *ATR* has initiated a **TAPE LIBRARY SERVICE** for their exclusive use. This will comprise a selection of material not normally available from other sources, such as instructional lectures and demonstrations, sound effects tracks, electronic music, and so on.

Tape Library recordings will be available only to bona fide tape recording societies, and not to individuals. Requests must be made in writing by the secretary or other responsible officer of the club, which will be permitted to make copies from Library tapes, so long as they are for use of club members only.

To obtain recordings from the Tape

Library, clubs will have to send an appropriate reel of tape on to which they will be copied at the required speed. In each case, a fee of 7s. 6d. will be charged to cover the cost of copying, packing and postage. In this way, the complete contents of the Library will always be available to those who wish to borrow any particular item without delay.

The *ATR* Tape Library service will be operated entirely from this address: *ATR* Tape Library, 152 Maybank Road, South Woodford, London, S.E.18. All correspondence and service fees should be forwarded to this address.

Full details are available on application.

FOR BEST RESULTS USE *ferrania* **MAGNETIC RECORDING TAPE**

AMATEUR TAPE RECORDING & HI-FI

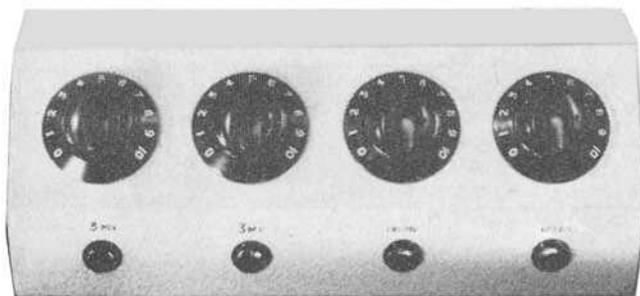
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THE UHER 4000

In the survey of Portable Tape Recorders in the June issue the frequency response of the Uher 4000 was given as 50 to 12,000 cps at 7½ ips. According to the manufacturer's specification this should have read 50 to 22,000 cps.

THE STUZZI MAGNETTE

In the same survey it was stated that the Stuzzi Magnette had been discontinued. We are now informed that Recording Devices Ltd. are continuing to market this popular model, and are glad to correct the misleading impression which was due to a misunderstanding.

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