

**amateur**

# **TAPE RECORDING & HI-FI**

VOL. 3 NO. 9

APRIL 1962

PRICE 2/-

**magazine**

**THE SOUND MONTHLY**



**Hunt  
for Britain's  
Vanishing  
Sounds**

**HI-FI  
Loudspeakers**

**Tape Parade**



# EVERYTHING YOU'VE WANTED!

Here, for the real enthusiast, is a new tape recorder to make your dreams come true. Not only does its performance meet the most exacting standards; but it has also brilliant operational refinements which make it a delight to use. Please study some of the highlights of the specification below and then try a TK.40 for yourself. We are proud of it, and are sure you will be too.



## STAR FEATURES

### Three tape speeds

$1\frac{7}{8}$ ,  $3\frac{3}{4}$ ,  $7\frac{1}{2}$  i.p.s.

### Frequency response

60 to 10 Kc/s at  $1\frac{7}{8}$  i.p.s.  
60 to 15 Kc/s at  $3\frac{3}{4}$  i.p.s.  
60 to 18 Kc/s at  $7\frac{1}{2}$  i.p.s.

### Wow/Flutter

$\pm 0.1\%$  at  $7\frac{1}{2}$  i.p.s.  
 $\pm 0.12\%$  at  $3\frac{3}{4}$  i.p.s.  
 $\pm 0.2\%$  at  $1\frac{7}{8}$  i.p.s.

### Four-tracks

Selected by positive piano-type keys.

### Signal to noise ratio

Better than 50 db at  $7\frac{1}{2}$  i.p.s.  
Better than 45 db at  $3\frac{3}{4}$  and  $1\frac{7}{8}$  i.p.s.

### Pressure sling

This, unlike the conventional pad, is flexible and maintains even pressure over the whole surface of the head. It gives better H.F. response and minimises "drop-out" effects.

### Multi-disc clutches

In addition to the normal slipping clutches the TK.40 embodies additional multi-disc clutches to remove excessive tape strain. Using *double-play* tape you can switch immediately from fast-forward to fast rewind or vice versa without tape breakage or stretch.

### Inching

Fast-forward and rewind are controlled by a slider actuating a progressive clutch. Inching is thus unusually easy and accurate. A lock position is also provided.

### Cine-socket

To connect magnetic heads from a cine projector to the TK.40 to record sound films or play back from them.

### Built-in tape cleaner

Retractable, and press-button operated.

### Indicator re-set

The digital indicator is provided with a button for immediate zero re-set.

### Automatic stop

At the end of the tape.

### Remote control

An adaptor is available.

### Mixing facilities

For microphone/pickup and microphone/diode.

### Monitoring

Through loudspeaker when required.

### Synchronous recordings

Output for monitor amplifier provided.

### Superimposition

Push-button provided for adding effects or commentary to existing recordings at will.

**GRUNDIG**

Ask your Grundig Approved Dealer for a demonstration or write to us for an illustrated leaflet.

**TK40**

**75 GUINEAS**  
(INCLUDING MICROPHONE)

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G5.301/1

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## DON'T BUY A TAPE RECORDER!!!

At least not before carefully considering from whom to purchase it. What can we offer you that makes us so confident you will, without the slightest hesitation, purchase a tape recorder from one of our showrooms? As Britain's leading Tape Recorder specialists we offer you our exclusive and unique TWO YEARS FREE SERVICING GUARANTEE which ensures that every new tape recorder over £35 purchased from us is serviced absolutely FREE for two whole years. You cannot obtain this unique Guarantee anywhere else and the amazing thing is that you do not have to pay a penny extra for it!! Why buy elsewhere when you can obtain a Guarantee which ensures two whole years of worry-free, trouble-free and above all cost-free servicing. Our enthusiastic and experienced Staff will be happy to assist you select, from our wonderful range, a recorder and accessories to suit your individual requirements and pocket. All equipment available on our easy, no fuss Hire Purchase Terms over 9-24 months. Remember we are one of the few A.T.R. approved dealers who come up to the high standard required.



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### SHOWROOMS

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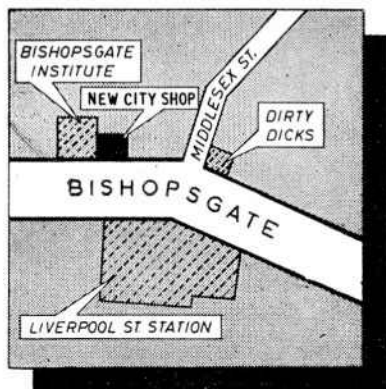
228 BISHOPSGATE, E.C.2 (Opposite Liverpool Street Station) BIS 2609  
OPEN MON. to FRI. 9 to 6 p.m. CLOSED SATS. OPEN SUN. 9 to 2.30 p.m.

#### STRATFORD :

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(STRATFORD & EAST HAM OPEN ALL DAY SAT.) MAR 5879

#### EAST HAM :

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# CITY & ESSEX TAPE RECORDER CENTRES

Looking for  
professional  
sound fidelity  
at standard prices?

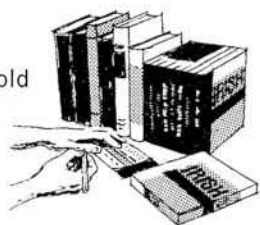
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# irish<sup>®</sup> ferro-sheen<sup>®</sup> PROCESS PROFESSIONAL RECORDING TAPE

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Brenell Mk. V Model M ..... 88 gns.  
\*Brenell Mk. V ..... 64 gns.  
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Brenell 3 Star Stereo ..... 89 gns.

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\*Ferrograph 4AN/S ..... 88 gns.  
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Grundig TK24 ..... 55 gns.  
\*Grundig TK60 Stereo ..... 128 gns.

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\*Uher 4 Tr. Stereo ..... 126 gns.  
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Philips Portable ..... 24 gns.  
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\* Microphone extra

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- RECORDER HIRE SERVICE

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Dynamic ..... £3.13.6  
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Standard, Double Play and Long  
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# NEW FI-CORD 202

## PORTABLE BATTERY/MAINS RECORDER

*so much in so little space*

**The FI-CORD 202 offers all these features:**

2 speeds— $7\frac{1}{2}$  and  $3\frac{3}{4}$  • Standard 4" spools • Vu-meter • Fast forward wind • Fast rewind • Resettable counter • Manual and automatic volume control • Built-in loudspeaker • Extension speaker socket • Low and medium input sockets • Socket for remote control • Safety record switch • Easy-load battery cassettes • Battery warning lamp • Mains input.

FI-CORD 202, the new portable battery/mains high fidelity tape recorder, has been developed after years of exacting tests in the Fi-Cord laboratories. It is a worthy successor to the famed FI-CORD 1A, used internationally by broadcasting companies during recent years.

FI-CORD 202 is for the most exacting professional and equally for the enthusiastic amateur demanding the highest professional standards. It incorporates all the practical advantages of a full-size recorder in a small, light-weight machine.

FI-CORD 202 gives you high fidelity recording at your fingertips—whenever you wish, wherever you go.

**AND the FI-CORD 202 weighs only  $6\frac{1}{2}$  lbs, measures  $9" \times 6\frac{1}{2}" \times 4\frac{1}{2}"$ .**

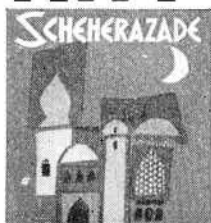


**Price: 66 guineas, including long life mercury batteries and tape.**

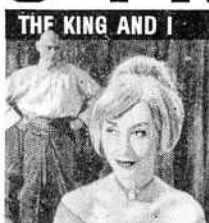
**ACCESSORIES INCLUDE:** Carrying case, choice of microphones, power packs for mains and car.

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# WORLD RECORD CLUB OFFERS YOU THE CHOICE OF ANY 3 PRE-RECORDED TAPES



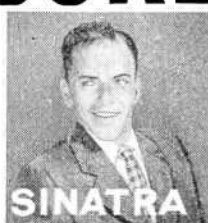
31. Rimsky-Korsakov: Scheherazade. Sir Eugene Goossens conducts the LSO in a breathtaking performance of this rich and exotic masterpiece. Also on disc: mono/stereo



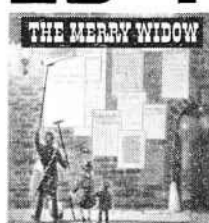
32. Star cast and orchestra stage all the famous songs: Getting to Know You, Hello Young Lovers, I Whistle a Happy Tune, Shall We Dance, etc. Also on disc: mono/stereo



53. These two suites, containing some of Bizet's most thrilling music, are given magnificent performances by the Sinfonia di London under Muir Mathieson. Also on disc: mono/stereo



19. Look Over Your Shoulder, My Lean Baby, White Christmas, Don't Worry About Me, Melody of Love, 12 top numbers sung by the fabulous Sinatra. Also on disc: mono only



56. All the magic of old Vienna! starring Jacqueline Delman, John Larsen, Linden Singers and Sinfonia di London conducted by John Hollingsworth. Also on disc: mono/stereo



33. Beethoven 5th, plus Egmont, Josef Krips and LSO in a titanic interpretation which matches the tremendous power of this celebrated music. Also on disc: mono/stereo



30. Ian Carmichael, Joyce Blair, star cast/orchestra. As Long as He Needs Me, Consider Yourself, all the hit numbers from Lionel Bart's great show. Also on disc: mono/stereo



32. Great ballet conductor John Hollingsworth and the Sinfonia di London in a sparklingly fresh interpretation of Tchaikovsky's famous Ballet. Also on disc: mono/stereo



20. Answer Me, Nature Boy, Ruby and the Pearl, these plus 8 more favourites sung especially for you by the unique Nat King Cole. Also on disc: mono only



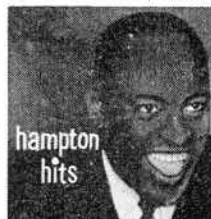
40. Superb singing by Bruna Rizzoli and Giuseppe Savio with the chorus of the Teatro Nuovo di Milano and orchestra conducted by Napoleone Annovazzi. Also on disc: mono only



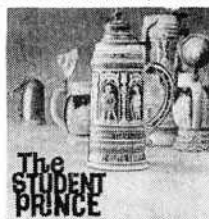
29. Me and My Shadow, Among My Souvenirs, Mean to Me, How About Me... the fabulous Judy Garland sings 11 of her greatest songs. Also on disc: mono only



25. Ian Wallace, Joyce Blair and chorus. Some Enchanted Evening, I'm In Love With a Wonderful Guy, and all the unforgettable songs from this great musical. Also on disc: mono/stereo



34. Stardust, How High the Moon, Nearness of You, 'Round Midnight, King David—eight numbers by the vibraphone genius, Lionel Hampton. Also on disc: mono/stereo



46. Deep in My Heart, Drinking Song, Serenade—all the old favourites—fresher than ever with Marion Grimaldi, Linden Singers and Orchestra. Also on disc: mono/stereo



37. Revolutionary Study, Polonaises A and A flat, Fantaisie-Impromptu—12 favourites in all played by the pianist of Dirk Bogarde's 'Song Without End'. Also on disc: mono only



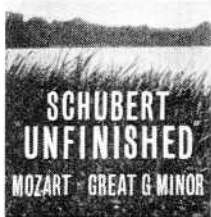
22. 12th St. Rag, Isle of Capri, Smile, Blue Moon, Bunny Hop Mambo, Satin Doll, 12 top numbers played in characteristic style by the Duke and his band. Also on disc: mono only



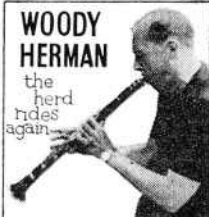
2. Grieg Piano Concerto. Alexander Jenner in an electrifying performance with the Bavarian State Radio Orchestra conducted by Odd Gruner-Hegge. Also on disc: mono only



35. Ol' Man River, Bill, Make Believe, many more well-loved numbers from this famous musical memorably sung and played by full star cast. Also on disc: mono/stereo



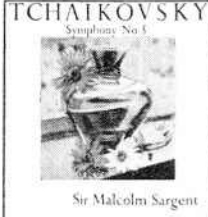
44. Leopold Ludwig and LSO combine brilliantly in an exciting 'double': two of the world's greatest symphonies receive vivid new interpretations. Also on disc: mono/stereo



45. Crazy Rhythm, Bijou, I Cover the Waterfront, North-west Passage, Blowin' Up a Storm, etc. The master clarinetist plays 12 numbers in great style. Also on disc: mono/stereo



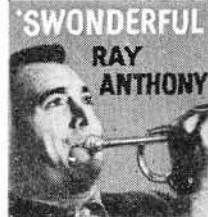
38. Hervey Alan, Ian Wallace, Marion Grimaldi and chorus sing the immortal favourites: Cobbler's Song, 'Robbers' Chorus, Chu Chin Chow, etc. Also on disc: mono/stereo



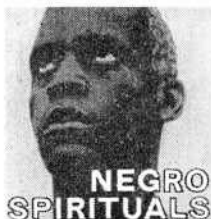
14. Tchaikovsky: Symphony No. 5. Sir Malcolm Sargent and LSO combine to give this famous symphony a dramatic and colourful rendering. Also on disc: mono/stereo



43. Andy Cole, Barbara Leigh, Mike Sammes sing: High Society, Three Coins, Harry Lime, Gigi, The High and the Mighty, 11 top film hits. Also on disc: mono/stereo



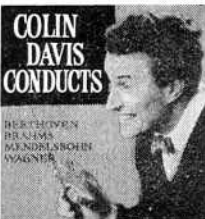
41. Night and Day, King Porter Stomp, Pennies from Heaven, Christopher Columbus, Don't Be That Way, with the top American bandleader/trumpeter. Also on disc: mono only



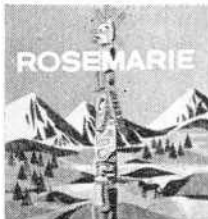
42. Jericho, Swing Low, Shadrak... 12 of the best loved Negro Spirituals movingly sung by George Browne, Isabelle Lucas and Linden Singers. Also on disc: mono/stereo



26. Beale Street Blues, After You've Gone, The Sheik of Araby, My Kind of Love, 12 tremendous hits by one of the world's greatest jazz trombonists. Also on disc: mono only



49. Beethoven's Fidelio Overture, Brahms' St. Anthony Vars, Mendelssohn's Hebrides, Wagner's Siegfried Idyll. All under Britain's greatest young conductor. Also on disc: mono/stereo



50. David Hughes, Barbara Leigh, Andy Cole and chorus sing Indian Love Call, Rose Marie, and all the other tunes from Friml's well-loved musical. Also on disc: mono/stereo



47. Brahms Violin Concerto. Superb playing by Endre Wolf and Sinfonia di London under the baton of Anthony Collins makes this a truly memorable performance. Also on disc: mono/stereo



46. Elizabeth Lerner, Andy Cole, Peter Knight singers. Exciting 'double' featuring highlights from two famous shows by Frederick Loewe and Cole Porter. Also on disc: mono/stereo



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Here is the greatest World Record Club introductory offer ever made . . . a unique offer never before matched by any record club or company anywhere in the world!

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Now you have the opportunity to play any WRC release on your tape recorder. Each of these 'tape records' runs at 3½ ips, mono, on 5" spools and can be played on either 2 or 4 track recorders. New electronic techniques of tape-to-tape transfer give these 3½ ips WRC pre-recorded tapes a standard of reproduction unattainable previously at less than 7½ ips.

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Choose now, any three of the superb 3½ ips pre-recorded tapes shown here, for only 10/- each and number them on the attached coupon. (If you wish, of course, you can choose 12" LPs instead. Both disc and tape are the same price.) Please send no money until after you have received, played and approved them. We want you to prove to yourself, before paying, that our tapes are equal to the world's best.

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The WRC plan offers you an exciting and varied annual repertoire of more than 60 selected tape releases, covering classics, jazz, shows, ballet music, light music and 'pops'. Every one is a superlatively recorded 3½ ips mono tape (or 12" LP—mono and stereo). Each is offered to you at the

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#### 4. FREE MONTHLY MAGAZINE.

A monthly magazine, packed with fascinating musical articles, reviews, news and pictures, is issued free to all members.

#### 5. SPECIAL CONCERT PRICE CONCESSIONS.

Many concert halls and theatres throughout the country (including the Royal Festival Hall) allow special concession rates to club members for many performances.

#### 6. FREE BONUS TAPES.

The more you buy, the more you save! After fulfilling the minimum membership obligations, you earn another tape of your own choice free for every extra three you buy!

#### 7. EXCLUSIVE EXTRA RELEASES.

In addition to the regular monthly selections, the club offers members exclusive extra tapes at the standard Club price.

World Record Club is unique—the first and greatest Record and Tape Club in Britain, with the largest show catalogue (on tape and mono/stereo disc) in the world. No other method of tape—or record-buying offers you so many additional benefits, so much freedom and variety of choice, with no 'high-pressure' selling. And, of course, there are no subscriptions or membership fees of any kind—only a small deposit of £1 (later refundable) when you become a tape member.

Don't miss this great opportunity. Send off the coupon today, for your 3 introductory selections for only 30/-



... AND IF YOU OWN A  
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hear the fantastic reproduction of  
**STEREO 21**  
THE NEWEST,  
TRUEST SOUND  
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Revolutionary new STEREO 21 pre-recorded tapes (7½ ips twin-track) are issued exclusively by World Record Club. But they are offered *without membership commitments of any kind*. The first list of all new STEREO 21 releases is now available. It features 30 superb stereophonic tapes ranging from Beethoven's *Eroica* with Josef Krips conducting the LSO, to a lavish full-cast production of *Oklahoma*.

As always, WRC prices present unparalleled value—all STEREO 21 releases cost either 50/- or 60/- depending on playing time (up to 50 minutes). STEREO 21 tapes are now obtainable through leading retailers or direct by post from World Record Club. Send for full catalogue now—STEREO 21 must be heard to be believed!

## 7-DAY FREE TRIAL OFFER—POST TODAY!

## STEREO 21 FREE BROCHURE

To WORLD RECORD CLUB (Dept. ATR3) Box 11  
PARKBRIDGE HOUSE, RICHMOND, SURREY.

SEND NO MONEY NOW

3½ ips pre-recorded tapes	12" LPs
---------------------------------	---------

Tick which you want

Please send me, without obligation, on 7-day free trial, the three selections indicated. (Your 3 selections must be either all tape or all disc.) If satisfied, I will pay you 30/- plus 3/- postage, packing and insurance. Only at that stage may you enrol me as a full member of World Record Club, entitled to all the benefits described. My only obligation as a member would be to agree to purchase 4 more top quality 3½ ips tapes (or 12" LPs) over a 12-month period at the special club price of 29/- each. If I am not completely satisfied with my 3 selections, I will return them to you within 7 days, in good condition, and owe you nothing.

NOTE I understand I will be asked to pay £1 deposit when I become a tape member (this does not apply to disc members). This deposit is refundable.

Signed.....  
this offer applies in G1, Britain and N. Ireland only.

### MY 3- SELECTION 'PACKAGE' COMPRISES

Choice No. 1 Choice No. 2 Choice No. 3



(place tape/disc key numbers only in the circles)

Tick here if stereo 12" LPs are required where available

Mr/Mrs/Miss .....  
(BLOCK CAPITALS PLEASE)

ADDRESS .....

To WORLD RECORD CLUB (Dept. ATR3)  
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Amateur Tape Recording & Hi-Fi



# AMATEUR

# Tape Recording & Hi-Fi

## MAGAZINE

## THE SOUND MONTHLY

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### British made

Seventy-nine firms have now taken space in this year's Audio Festival. Twenty of these are foreign—a quarter of the total exhibition. The most notable aspect of this overseas entry is that, although more than half are American or German, the remaining eight represent eight different countries—Austria, Belgium, Canada, Denmark, France, Japan, Sweden, and Switzerland. They may well be the trail blazers for these countries.

The British manufacturers whose names are missing from the list of exhibitors should give this fact some serious thought. Do they want the year's star audio event to become an Import Fair? All the indications are that this will happen if it does not receive maximum home support.

Increased competition may not help the manufacturer but it helps the consumer by creating lower prices. He can and should buy where he gets the best equipment for his money. It is up to the British manufacturers to ensure that a British product fits the bill.

#### BILL OF FAIR

Now, more than ever before, the Audio Festival is a tape show. Three-quarters of the

exhibits will be of direct interest to tape recordists. In last year's Radio Show there was a sharp decline in tape recording participation. The increase in the Festival which has followed indicates that the two major shows are developing, on the audio front, into disc and tape events, respectively.

This is the most significant development for years. Tape will now have the tremendous advantage of a show in which it reigns supreme. Disc, on the other hand, will have to battle for the public's attention against the rival attractions of television and radio. Tape is moving ahead again!

#### FESTIVAL INVITATIONS

Last year, thirty-five thousand people visited the Festival to see and hear the latest in Audio. This year's attendance promises to be even greater. Admission is by ticket only, so be sure to obtain your free ticket, now, from your local Tape, Record or Radio dealer. If in difficulty, send a stamped addressed envelope to A.T.R., Festival Invitations, Room 530, Ulster Chambers, 168 Regent Street, London, W.1.

APRIL, 1962  
VOL. 3 NO. 9

#### EDITORIAL OFFICE

Ulster Chambers,  
168 Regent Street,  
London, W.1.  
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**THURS APRIL**

**26th 4.0 pm 9.0 pm**

**FRI & SAT APRIL**

**27th 28th 11.0 am 9.0 pm**

**SUNDAY APRIL**

**29th 11.0 am 8.0 pm**

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*Your own local Audio, Record or Radio Stockist will gladly supply you with free tickets on request; if any difficulty, please send stamped and addressed envelope to*

FESTIVAL DIRECTOR,  
 42 Manchester Street, London, W.1.



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**AMPEX RECORD ORBITS**

**A**S Colonel John Glenn became the first American to orbit the Earth, high performance Ampex magnetic tape systems were recording the telemetered information received from the capsule during its flight. These machines, manufactured by Ampex Corporation, Redwood City, California, and Ampex Electronics Ltd., Reading, England, were installed at each of the communication links. Telemetered data was displayed at each of the fourteen sites and was also recorded on tape. From this data American scientists will obtain new knowledge of the phenomena in space.

Some indication of the complexity of the recording problem can be gained from the fact that 91 data channels were placed on the fourteen tracks on each recorder as well as receiver strengths, ground to spacecraft voice communications and a Greenwich time-of-day code.

The world-wide interest in Colonel Glenn's flight gave rise to the biggest radio, television and press coverage of any event in the United States. Television recordings made on Ampex Videotape recorders were flown to London Airport, with the result that viewers were able to see pictures of the take-off a matter of hours after it had taken place.

**AUDIO FESTIVAL NEWS**

The date of the Audio Festival is rapidly approaching and all the exhibitors, including A.T.R., are busily preparing for this 'Show-of-the-Year'.

A completely assembled ATRECORD, A.T.R.'s make-



it-yourself recorder will be on display at our own Audio Festival stand, which will be No. 41.

Our Technical Editor's invention, Chromasonics, will be featured by B.A.S.F. This will be the first public performance of his new technique for screening colourful impressions of sound, and is sure to attract considerable attention, so visitors should make it an early event in their tour round the Festival.

The Robinson Family have discovered another interesting item which should not be missed (see page 31). But to be sure that you do not miss any of the highlights of the Show you must get the special Audio Festival preview in next month's A.T.R. on sale from April 19th.

## ELECTRONIC MUSIC COMPOSER AWARDED GULBENKIAN GRANT

Miss Daphne Oram, composer of Electronic Music for many films, TV plays and documentations, has been awarded a grant of £3,550 from the Gulbenkian Trust Fund.

The grant is for further research into Electronic Music techniques and Miss Oram will be devoting much of it to the development of a device for converting drawn symbols into sound. This will probably be an electronic system, selecting and recording the sounds for a complete composition by reading the special symbols used for electronic music scoring.

Next month we feature an exclusive interview with Miss Oram and a visit to her studio of Electronic Music (Oramics Limited) in Kent.

ATR



Daphne Oram stop-watches electronic sounds.

April, 1962



The kits you enjoy building

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



EQUIPMENT CABINETS  
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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.

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TA-1M



S-88



USC-1

**HI-FI STEREO 16W. AMPLIFIER, Model S-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. £26.12.6.

**HI-FI STEREO 6W. AMPLIFIER, Model S-33.** Only 0.3% distortion at 2½w/chl. £12.8.6.

**HI-FI 12W. POWER AMPLIFIER, Model MA-12.** Generous auxiliary power supply (single channel) £10.19.6.

**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. £18.18.6.



SSU-1

**Our Hi-Fi Speaker Systems do justice to the finest programme source—All delivered complete with speakers etc. Parts pre-cut for easy assembly; left "in the white" for finish to taste.**

The **"COTSWOLD"**, acoustically designed enclosure (26" x 23" x 15½") with 120° polar distribution, freq. resp.: 30-20,000 c/s. £21.19.0.

The **Model SSU-1**, ideal where space is limited; freq. resp.: 40-16,000 c/s. (with legs) £11.18.6. £10.17.6.

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



The "COTSWOLD"

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I have frequently commented on the improvement in reproduction which can be achieved by using a Hi-Fi loudspeaker in conjunction with a tape recorder. Many recordists who consider adding this to their equipment stop when faced with this question. What is a Hi-Fi loudspeaker?

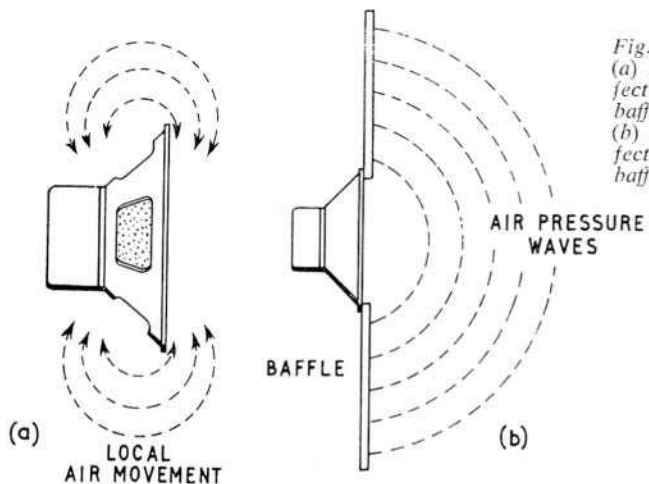
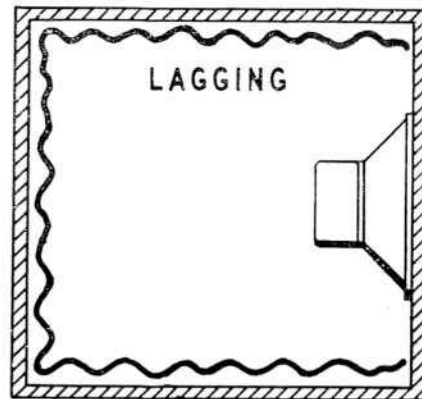


Fig. 1.—  
(a) Speaker effect without a baffle.  
(b) Speaker effect with a baffle.

Fig. 3.—  
Method of completely enclosing the loudspeaker unit.



any good quality loudspeaker housed in a reasonably well designed cabinet will enhance the reproduction of even the poorest tape recorder. There is also the problem of how much power is necessary to produce the Hi-Fi. Does the loudspeaker have to be large, need it be costly, and so on? It helps if you understand something of the basic principles of the loudspeaker and why, for example, a properly designed cabinet is necessary.

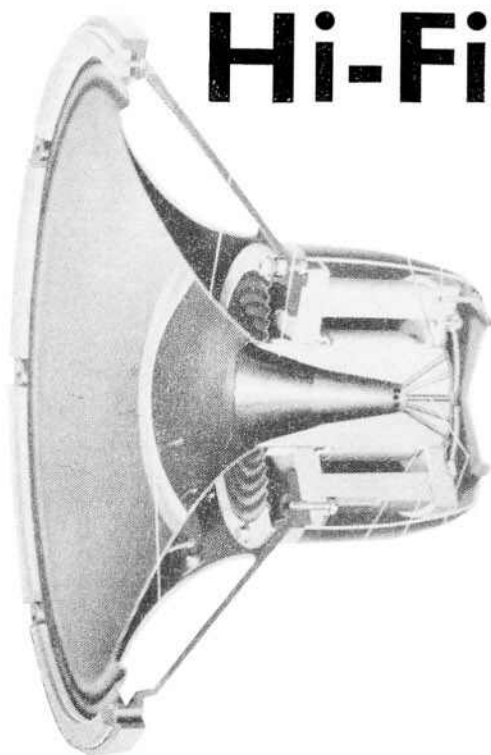
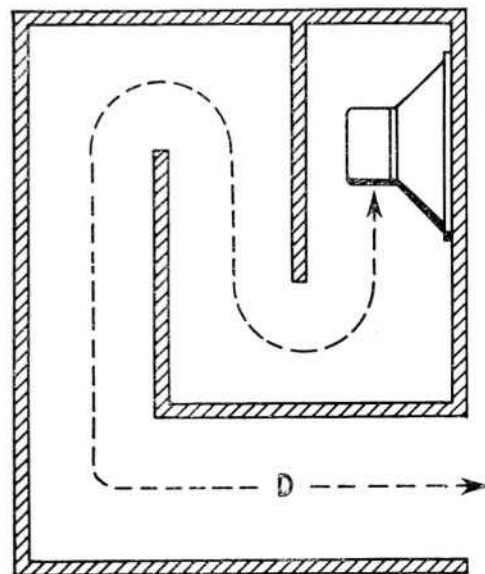


Fig. 2.—The Tannoy Monitor (a dual concentric loudspeaker unit).

# Hi-Fi Loudspeakers

A chain is as strong as its weakest link, and in tape reproduction this is usually the recorder's internal loudspeaker. Add a Hi-Fi speaker, says F. C. JUDD, and increase the efficiency of your audio set-up.

Fig. 4.—The Labyrinth enclosure. The air pressure waves have to travel from the loudspeaker unit along the distance (D) before reaching the front of the cone. The object is to make the air pressure from behind the cone reach those in front—in phase—and so reinforce the forward air pressure.

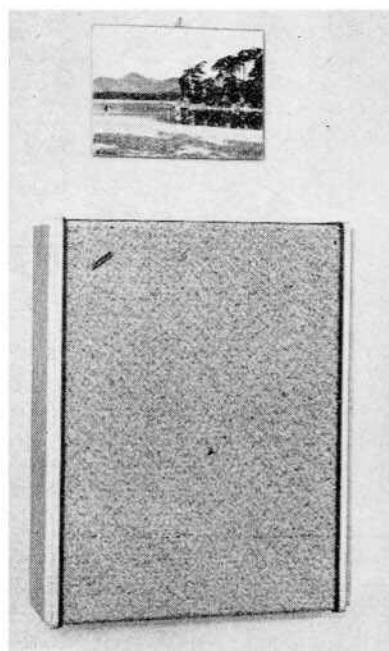


**W**HAT is a Hi-Fi loudspeaker? Advertisements tell us that a loudspeaker (and this includes the all important cabinet or enclosure) can be bought as a kit of parts from around £8 to £10 or as a complete 'ready to use' assembly at prices ranging from £12 to £100 or more.

Most of the advertisers label these loudspeakers 'Hi-Fi' but no loudspeaker system, however good, will produce the 'Hi-Fi' unless the signals fed into it also comply with this much abused classification of sound reproduction. On the other hand



Fig. 5.—  
The Wharfedale  
'Slimline 2' (can  
be mounted/hung/  
suspended on the  
wall.)



So, firstly, how does the loudspeaker work and why must it have a box or a baffle?

### The Basic Loudspeaker System

The modern loudspeaker unit consists of a large permanent magnet, and a cone or diaphragm on which is mounted a coil of wire. The coil of wire is suspended in the field of the magnet, but both the cone and coil are free to move backward or forward. When speech currents from the amplifier circulate in the coil, a magnetic field is created in opposition to the steady field of the permanent magnet. This causes the coil to move, and the cone with it. Since the speech currents from the amplifier are alternating, i.e., of constantly changing polarity, the coil and cone will follow the alternations and in doing so will create air pressure variations in front, and behind the cone.

Without a cabinet or baffle the air movement in front of the cone would simply travel round to the back and cancel the movement of air created there. (Fig. 1a). This effect is more pronounced at low frequencies and in theory no sound would be produced. One way of overcoming this effect is to mount the loudspeaker on a 'baffle board' as in Fig. 1b. The 'baffle' prevents the air pressure waves in front of the cone from reaching those at the back.

Now another problem arises. The rigidity of the cone, the weight of both the cone and speech coil, and the freedom of movement, all of which influence the response and efficiency of the speaker at the middle and high frequencies. To overcome this, cone and coil assemblies of aluminium are sometimes used, together with foam suspension systems, separate diaphragms for the high frequencies, built-in h.f. (high frequency) resonators and so on, but by and large the speaker still remains a comparatively inefficient device. When the speaker unit is mounted in a cabinet the inefficiencies are at least spread fairly evenly over the audio frequency range.

### The Cabinet

Without a cabinet or baffle the loudspeaker unit will provide little or no bass. The simplest way of overcoming this is to use a baffle board as large as circumstances will allow, but if efficient reproduction down to, say 40 cps. is required the baffle would need to be some 14 feet square!

The next and most practical step is to wrap the baffle around the speaker in the form of a box, and for a reasonably good low frequency response a box of about 5 cubic feet would be necessary. The speaker should be totally enclosed, i.e. the back covered in, and the box should be lined with sound absorbing material such as thick felt as in Fig. 3. This is not an entirely efficient system because there will still be some loss at the low frequencies.

### Drainpipes and Bricks or?

But the loudspeaker designers have other ideas to offer, for example the 'acoustic labyrinth' (Fig. 4) 'horn loading' bass reflex cabinets, and so on. Then there are Hi-Fi loudspeakers enclosed in 'drain pipes', in brick-built enclosures, sand-filled baffles etc., and whilst these may be ultra efficient they may need replacing when the floor caves in!

So we must look for the happy medium; a compact enclosure with a *reasonably efficient speaker unit*. Manufacturers have indeed been producing designs that meet this requirement and many of them will be on show at the next Audio Festival and Fair.

### Power Handling

Then there is the problem of *how much power* the loudspeaker will be required to handle. The Hi-Fi enthusiast as distinct from the tape recording enthusiast has to consider how much power he requires for what he considers faithful reproduction and his choice of loudspeaker depends primarily on the power output of his amplifier.

The tape recordist, with only the tape recorder itself as both the reproducing and amplifying medium has only to consider the power output from the tape recorder, which on an average is about 3 to 4 watts (peak). He therefore does not require an enormous speaker assembly weighing about half a ton and capable of handling about 30 or 40 watts of peak power.

A small loudspeaker can deliver almost as much Hi-Fi as a large one, it simply does not reproduce the sounds 'life size'. Anyway who wants the equivalent power of a full orchestra in a room about 10ft.  $\times$  15ft.? (Estimated peak power of a full orchestra during loud passages is about 120 watts!)



Fig. 6.—The Stentorian Clumber—the ideal external loudspeaker for a tape recorder.

# 6 "Technically Luxurious" HI-FI TAPE UNITS



- **Model PD86**  
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Standard 4-Track  
£46 . 0 . 0
- **Model PD85**  
Professional 4-Track  
£52 . 10 . 0
- **Model PD87**  
Stereo Half-Track  
£63 . 0 . 0

The most economical way to add tape to your existing system. These units consist of a "Series 80" Deck with pre-amp and recording amplifier, push-pull erase bias oscillator and power supply, all mounted in an attractive plinth. Easy connection to mains and hi-fi amplifier, radiogram or even good-class radio. Precision engineered by Truvox—the ideal add-on unit. Write for full technical details of these units, complete Tape Recorders and Tape Decks.

## TRUVOX 80

SERIES

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

### Personal Choice

At the risk of being accused of favouritism may I mention the loudspeakers I use personally and others I have used on various special occasions, because invariably readers write asking me what equipment I recommend, or use myself. For all my tape recording activity I have a Wharfedale W2 and the smaller Wharfedale enclosure known as the PST/8 fitted with an 8in. Bronze FS/AL speaker unit. This latter combination is an ideal one as the extra speaker for a tape re-

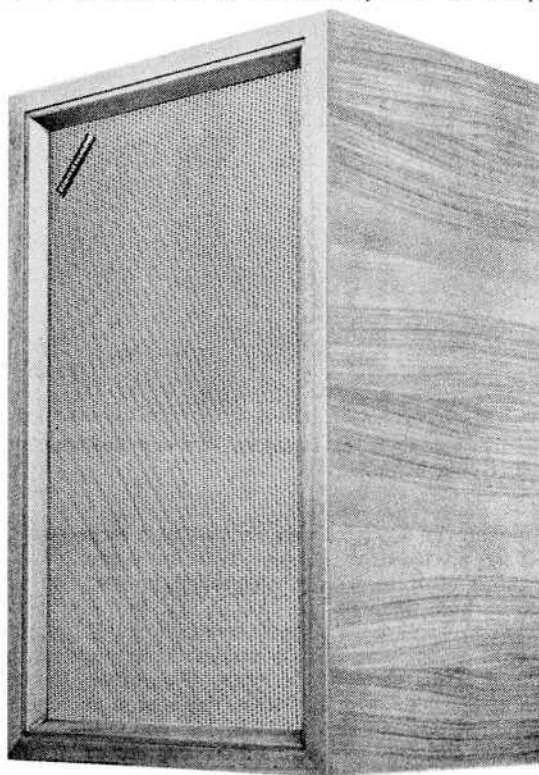


Fig. 7.—The Goodmans AL120 Loudspeaker. (Impedance 15 ohm. Power handling capacity 15 watts.)

recorder, but note that Wharfedale have just introduced a new 'Slimline' speaker that should be on show at the Audio Festival (Fig. 5). For monitoring or as an extra speaker for a tape recorder, I use a Stentorian Clumber Type 912C which is a compact speaker and not too costly (Fig. 6). This loudspeaker has been designed as a complete system of unit and cabinet. It employs a single specially designed 9in. unit which is fitted with a graded cone and an aluminium speech coil. Acoustic treatment of the cabinet is by absorption filters at the rear of the loudspeaker.

For those who like making loudspeakers there are the Heathkit 'Cotswold' outfits, comprising all mechanical and finished sections for the cabinet. On occasions I have used the Goodmans AL120 speakers and these are ideal for those who are operating the tape recorder into a Hi-Fi amplifier and where a little more power is required. Same comments apply to the Wharfedale W2.

Finally and in all fairness to the tape recorder manufacturers, most recorders are fitted with a small but usually efficient elliptical loudspeaker. The efficiency, however, is impaired by the necessarily small baffle area offered by the tape recorder cabinet; and is why the majority of tape recorders have an acoustically poor bass response. An external speaker will show you how good your tape recorder really is. **ATR**

# the experts' choice



**F. C. JUDD**  
Technical Editor  
*Amateur Tape Recording*  
and *Hi-Fi Magazine*



**PERCY WILSON**  
Technical Editor  
*'The Gramophone'*



**MILES HENSLow**  
Editor  
*'Hi-Fi News'*

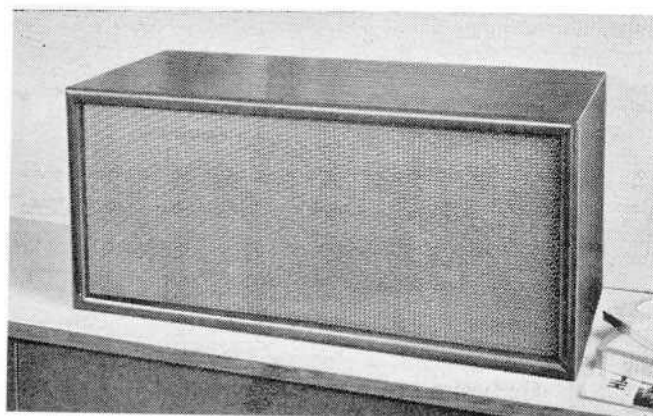


**JOHN GILBERT**  
Technical Editor  
*'Music Trade Review'*



**DONALD ALDOUS**  
Technical Editor  
*'Audio & Record Review'*

**See us at the AUDIO FAIR**  
**Booth 33-Demonstration Room 322**



## *Stentorian* 'CLUMBER'

### Loudspeaker system type 912C

This loudspeaker has been designed as a complete system of unit and cabinet and employs a single specially designed unit which is fitted with a graded cone, an aluminium voice coil and with a suspension system designed to take advantage of the small volume of the enclosure. The rigid coupling between the coil and cone together with acoustic treatment of the cone material ensures an extended treble response.

The unit is mounted in a substantially constructed vented enclosure of the bass reflex type. Acoustic treatment of the cabinet is by absorption filters at the rear of the loudspeaker, and a similar filter at the remote end of the enclosure provides end termination and correction. This ensures a response free from distracting resonances. The complete loudspeaker provides a balanced response over the audio spectrum and may be mounted horizontally or vertically.

*Measures 25 ins. wide x 11 ins. high x 11½ ins. deep and incorporates a 9 in. speaker, giving a flux density of 12,000 gauss and an impedance of 15 ohms.*

**price of complete unit £15 1 6 (inc. tax)**

#### Other Stentorian Speakers ➤

#### CROSSOVER NETWORKS:

CX3,000 £1.11.6  
CX1,500 £2.0.0  
CX500 £1.7.3

Type	Flux Density	Price	Type	Flux Density	Price
10" H.F.1016*	16,000 gauss	£8 4 0	T359 tweeter	9,000 gauss	£1 15 10
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8" H.F.812*	12,000 gauss	£4 5 6	T12 tweeter	16,000 gauss	£13 4 6
8" H.F.810	10,000 gauss	£3 3 6	T10 tweeter	14,000 gauss	£4 8 3

\* These three speakers incorporate a universal impedance speech coil.



**WHITELEY ELECTRICAL RADIO CO. LTD.**

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London Office: 109 Kingsway, London W.C.2.



Tapes are now appearing to suit all tastes, which pleases our reviewers, for this month Stan White's speciality, organ music, is well-represented and so are Peter Redfern's classical favourites.

# tape parade

**Sir Malcolm Sargent, Coleman Hawkins, and The London Symphony Orchestra are some of the top musicians now on tape.**

**"Jazz Giant". Coleman Hawkins. Saga STG 8062.** 3½ i.p.s. Two-track. Mono.

This tape presents one of the most famous jazz tenor sax stars of all time, Coleman Hawkins. This is 'mainstream jazz', and Hawkins sounds great on all the numbers. He also has some great support from his backing group. They really go to town on "I'll Never Be The Same", "Blue Room", "When Your Lover Has Gone", "Running Wild".

There you have it, Coleman Hawkins himself, jazz enthusiasts need no more words from me to encourage them to try this one.

**"Caesar Plays". Caesar Giovannini at two Steinway pianofortes. Saga STE 3054.** Two-track Stereo 7½ i.p.s. Two-track mono 3½ i.p.s.

Giovannini is an excellent pianist, and the performances on this recording are first class. A multi recording technique had to be employed to obtain these recordings, and the whole thing is a great success technically and musically. I have heard the mono and stereo versions of this recording, and both are excellent in their own sphere. For me the stereo recording is the choice, as the pianist's moves from one instrument to the other in the arrangements are highlighted by the stereo. Titles include: "Canadian Capers", "Dizzy Fingers", "Stardust".

**"Re-Percussion". The Percussive Art Ensemble, directed by Dick Schory. Saga STE 3051.** Two-track stereo 7½ i.p.s. Two-track mono 3½ i.p.s.

Both the stereo and mono versions of this tape reproduce excellently. Again, stereo gives the performances added sparkle, and it is obvious that this recording was tailored for stereo. The line-up features all percussion instruments, and the performances vary between deafening bursts of brilliantly recorded sound, and soft tropical-flavoured melodies. An unusual recording which should go down very well with all tape record

collectors, and especially stereo enthusiasts. You'll just love the group beating out the old jazz classic "That's a Plenty".

**"I Love". Jackie Brown at the Mighty Wurlitzer. Esoteric (Tape Of The Month Club).**

The first recording by Jackie Brown on this label, "Sentimental Journey", proved to be so popular that two other releases have followed. Fourteen of the best known songs dating back to the twenties, are played here by Jackie Brown, on one of the best remaining Wurlitzer theatre organs. Titles include "Sweet and Lovely", "Always", "Granada".

**"Intermission". Jackie Brown at the Mighty Wurlitzer organ, with audience. Esoteric (Tape Of The Month Club).**

On this tape, Jackie plays through a selection of the most popular tunes of all time, with the added effect of an appreciative audience. Titles include "Folks Who Live On The Hill", "Autumn Leaves", "Toy Trumpet".

**"Merry-Go-Round" Volume 2. Esoteric (Tape Of The Month Club).** Two-track mono. 27s. 6d.

This recording features the Pierre-mont Caliope organ of Amsterdam. It is a fair-ground type of organ, and was recorded out-of-doors. The sound is non-resonant, but none the less attractive. The titles are all Continental, but upon playing this tape you will find many familiar tunes. This is a must for all mechanical organ enthusiasts.

**"A Watcher By The Dead" by Ambrose Bridge. Read by Elise Caunna. Esoteric (Tape Of The Month Club).** 3½ i.p.s. Two-track mono. 17s. 6d.

Here is an interesting spine-chilling type of story read extremely well. An interesting hour's entertainment for a very modest outlay.

Esoteric (Tape Of The Month Club) also have the following new releases available. I have listened to each tape and find the material to be excellent value for such a small outlay. Unfortunately space does not allow me to review each tape, but take it from me that if any of the titles interest you, it is a safe bet that you will be satisfied with the recordings:

**Esoteric (Tape Of The Month Club).** 3½ i.p.s. Two-track mono.

**"Nutcracker Suite".** 17s. 6d.

**"Ballet Music" Faust (Gounod), Damnation of Faust (Berlioz).** 17s. 6d.

**"Swan Lake" Ballet Suite (Tchaikovsky).** 17s. 6d.

**"Echoes Of Vienna".** 19s. 6d.



*Our regular reviewer, Stan White, with a favourite tape.*

**"Pop Concert No. 1".** Light classics. 19s. 6d.

**"Pop Concert No. 2".** Light classics. 19s. 6d.

**"Pop Concert No. 3".** Light classics. 19s. 6d.

CONTINUED ON PAGE 38



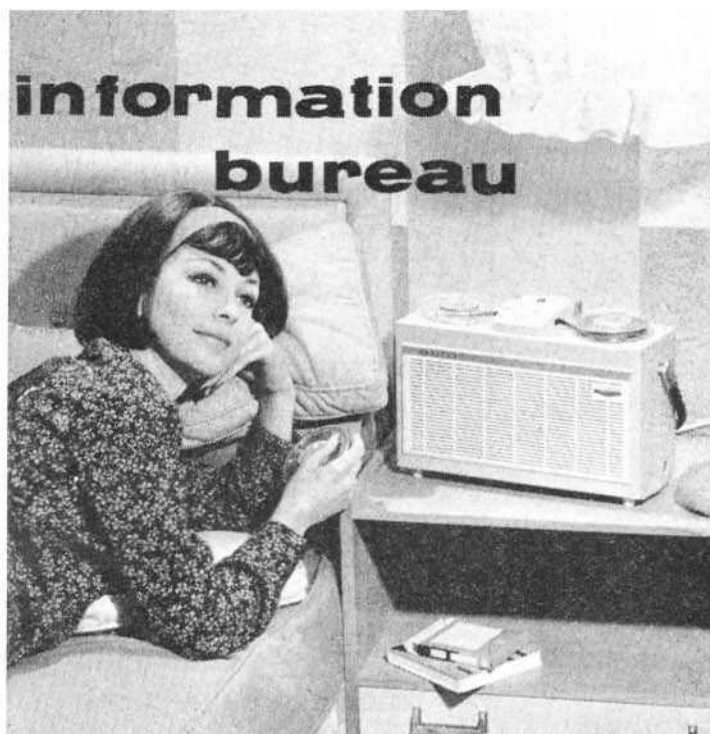
April

spools



This month's Information Bureau illustrates a new trend in tape recorders—the vertical look

The Philips Starmaker and the Wyndor 'International' show two different ways to achieve this.



*The Philips Starmaker.*

#### TECHNICAL SPECIFICATION PANEL

Tape speed  $3\frac{1}{2}$  ips.  
 Frequency response 80 to 10,000 cps.  
 Suitable for Long-playing and Double-play tape on 3, 4 and 5in. spools.  
 Four sound tracks, monaural.  
 Maximum playing time  $4 \times 1$  hour 5-inch spool, L.P. tape).  
 Output 1.5 watts.  
 Built-in 7in. loudspeaker.  
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 Can be adapted for 117 volts, 60 cps. by the dealer.  
 Power consumption 60 watts.  
 Signal-to-noise ratio: better than 40 dB.  
 Wow and flutter (peak to peak): less than 1%.  
 Four input channels:  
 microphone, radio (diode), gramophone (round plug), gramophone (flat plug).  
 Two output channels:  
 external loudspeaker: 3-7 ohms, 1.5 watts.  
 radio (diode)/amplifier.

**T**HE STARMAKER is a 'handy size' four-track single-speed ( $3\frac{1}{2}$  i.p.s.) recorder of rather novel design. It has a 'slimline' appearance because the tape deck is narrow and mounted at the top of the case. The size and appearance of the STARMAKER is not unlike a table radio set. The design is certainly a departure from the more usual (flat) arrangement which has been popular for some years now. I wonder why other manufacturers have not attempted something new on the 'slimline' theme? The STARMAKER should prove a popular model because apart from being compact, it also weighs very little, has a 'punchy' output and is mains operated. It is capable of good quality reproduction from microphone or radio recordings and the comprehensive little instruction book shows all the necessary connections etc., for doing this, in clear, non-technical diagrams.

#### Construction and Technical Details

The recorder case is of grey and white plastic and has a strong detachable carrying handle. The deck, which is really an integral part of the whole assembly, has a separate and completely removable clear plastic cover.

A microphone, plugs and leads, tape and spools are provided as well as a neat container for the microphones etc., which can be fitted 'pannier' fashion to the carrying handle.

Track selection, record, playback and rewind operation is entirely push button and the 4in. spool loaded with L.P. tape will provide a continuous playing time of  $22\frac{1}{2}$  minutes for a single track or  $1\frac{1}{2}$  hours for all four tracks. Without the deck cover, 5in. diameter spools can be accommodated so that with double-play tape a total playing time of four hours is available (1 hour per track). Sockets are provided for microphone, radio, pick-up and extension loudspeaker.

(A number of extra accessories are available from the makers. These include a telephone adaptor, connecting box for two microphones, spare spools, leads and plugs.)

#### Performance

The technical specification panel gives the maker's own facts and figures concerning the STARMAKER and there is little for me to comment upon so far as this is concerned. The record/playback amplifier is a combination of transistors and valves which seems to be popular now especially since the introduction of the AC.107 transistor for use as a tape head amplifier. This certainly helps to overcome the hum problem and the remaining noise level is as low as one could reasonably expect. The frequency response of 80 to 10,000 cps. is maintained as far as the tape head and amplifier are concerned but one cannot expect full power from the loudspeaker at 80 cps. or so, although as I have said the output is 'punchy' without being distorted.

I was intrigued by the wow and flutter percentage of less than 1% peak to peak quoted by the makers (see specification panel). It is in fact a *good deal* less and the drive mechanism speaks well for itself in this respect.

The interior of the recorder (chassis, deck mechanism etc.) is very accessible for servicing etc., because both halves of the plastic case can be completely removed. Detachable tape head covers provide access to the heads for cleaning and alignment.

A small magic eye recording-level indicator has been included



and provision is made for speed adjustment when the STARMAKER is used on 60 cps. mains supplies.

Because of its 'practical' design, adequate performance and nice appearance the STARMAKER should appeal to all members of the family and is ideal for recording those favourite radio programmes, records and of course the 'special events' which are always worth recording and keeping.

The STARMAKER EL.3514 is supplied complete with moving coil microphone, 4in. spool of L.P. tape, leads and plugs etc., and is reasonably priced at 27 guineas. Makers: Philips Electrical Limited, Century House, Shaftesbury Avenue, London, W.C.2.

#### A.T.R. awards Star Points for:

- \* Good quality reproduction and general performance.
  - \* Economy of tape—4-track operation.
  - \* Ease of operation.
  - \* Nice finish and appearance.
  - \* Accessibility for servicing, cleaning etc.
  - \* Compactness and light weight.
- (These merits are outstanding in view of the low price of the STARMAKER).



Wyndor 'International'.

The 'INTERNATIONAL' is an ingenious new Wyndor portable designed to operate with its deck on a vertical plane. The result of this is a minimal working area and a highly efficient form of convection ventilation which prevents overheating. Another advantage of this vertical layout is the unusual feature of incorporating the speaker facing away from the operator—so that a lecturer, say, can operate the machine with the sound directed at the audience.

The 'International' has four tracks, two speeds (7½, 3½); independent bass and treble controls; 8in. diameter speaker facing rear; recording-level meter, three inputs; three outputs and output stereo; monitoring through speakers; pilot lights; temporary or lock down pause control; tape position indicator and ribbon microphone.

The 'International' can be easily accommodated on a rack or shelf. Allowance is made for storing the microphone and six spools.

Further details can be obtained from the manufacturers, Wyndor Recording Co. Ltd., Wyndor Works, 2 Bellevue Road, Friern Barnet, London, N.11.

ATR



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GRUNDIG TK 35 with pocket	63/-
GRUNDIG TK 50 with pocket	60/-
GRUNDIG TK 55 with pocket	63/-
GRUNDIG TK 60 no pocket	75/-
GRUNDIG Cub with pocket	35/-
TELEFUNKEN 85 without pocket	60/-
TELEFUNKEN 85 with pocket	65/-
TELEFUNKEN 75/15 with pocket	55/-
TELEFUNKEN 76K with pocket	55/-
TELEFUNKEN 77K with pocket	57/6
PHILIPS 8108 with pocket	57/6
PHILIPS EL3538 with pocket	63/-
PHILIPS EL3542 with pocket	63/-
PHILIPS EL3536 without pocket	70/-
PHILIPS EL3515 with pocket	57/6
PHILIPS EL3541/15 with pocket	57/6
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SABA with pocket	63/-
MOBILE 2 with pocket	—
WYNDOR VISCOUNT without pocket	55/-

WYNDOR VICTOR without pocket	60/-
ELIZABETHAN PRINCESS with pocket	60/-
ELIZABETHAN AVON with pocket	60/-
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MINIVOX B	69/-
MINIVOX C	—

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# charlie drake talks on tape

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**Charlie Drake, whose 'non-returnable boomerang' is currently riding high in the American record charts, talks about his life as T.V. Clown-Prince.**

*Helio, my darlings.* I have been asked to have a chat with you on this tape. So are you settled comfortably? Right—then I'll begin. I had my first professional show when I was eight, and have been on and off the stage ever since. On it when employed and off it when not.

Off it is safer, because as a slapstick comedian I have had practically everything happen to me, including a broken leg and a recent case of concussion you may have heard about. Even though we plan to the inch, things still go wrong—and because we work at such a pace, someone usually gets hurt—me!

How did my voice and catch-phrase start? Well, the voice is me. It is usually down low, but when I get excited or emotional it goes up high. My catch-phrase started when I said it on the spur of the moment to a very tall showgirl. I came off stage, and the chorus were all mimicking the voice and expression, so I left it in and it's been there ever since.

Making people laugh is a difficult business, but I think I have got better at it since I started. Probably because I wasn't very good in the first place. I've worked hard to create new comedy plots and it's been a slow process of putting them to the box-office test. If the people don't pay to come in then I know I'm doing something wrong and I change it. If they pay and laugh, O.K. People always laugh at good quality comedy, so you accept their judgement.

## Recorders and Me

Now I have a confession to make. I am no good with a tape recorder; I have tried to use tape recorders for rehearsing, but once I switch on I can't stop. If there is an hour-long tape on the recorder, I talk for an hour. I imagine I have got to get something on it and just talk instead of think. But we still have a house full of them, so who knows?

When I can get a break from show-biz, I play golf, hunt, shoot and fish. The shoot'n and fish'n is mainly in Cumberland, but I occasionally fish at Weybridge on a Sunday. I never work on a Sunday. I like to spend it at home with the wife and babes, but they usually wear me out by two o'clock, so there is no fishing then.

When I say babes, I have three sons, aged seven, five and two. One already looks as though he will be going into show business, whether we like it or not. If he does I hope he plays comedy, because to me it is the most important branch

of the theatre. Laughter is worth more than tears—and so is music.

## My Kind of Music

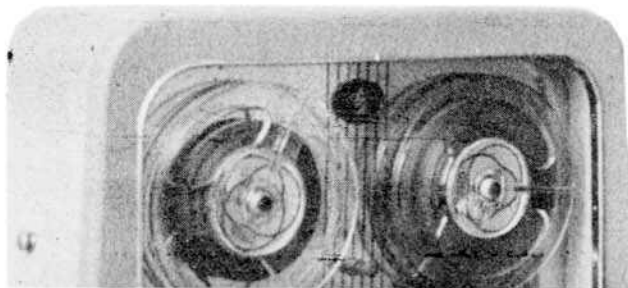
I like pretty well every type of music that's good in its class. Rock 'n' roll, the blues, ballet. I can even listen to good chamber music.

I think our present pop stars are very good. All this talk about becoming a star with no talent is nonsense, because the public won't stand for it. They have something to offer, they do very well with it, and good luck to them. I wish I could do it as well.

My greatest favourites were Al Jolson and Fats Waller. The early Inkspots and the Mills Brothers were two old groups who could really put over songs.

"Little Old King Cole" at the Palladium is the nearest I have got to a musical so far. I'd like to do a musical now. I may do in '63, but it will have to be a home-grown one, written by British writers for the British market. I don't say this in a Rule Britannia way. You can run a British musical for two years in the West End and then take it to Broadway for another two years. The other way round you can only use it for two years.

Still, that's all in the future. So for now, I'll say Goodbye, my darlings and Happy taping. **ATR**



In Part Three of A.T.R.'s regular series for beginners A. LESTER RANDS explains the electrical functions of a tape recorder.

# TAPE WITHOUT TEARS

The complications of the electrical side of the tape recorder arise because various parts of the amplifier circuits etc., are 'switched' during recording or playback, as the case may be. To explain this in the simplest possible terms, I have included the block diagrams (Figs. 1 to 4), each of which shows a different function; for instance, Fig. 1 illustrates the path of a sound from the microphone to the tape.

## Recording

THE amplifiers A1 and A2 are used to boost the weak signals from the microphone and you will see that the 'bias oscillator' is connected to the erase and recording head. The strength of the signals from the microphone are controlled by the 'volume control' which can be adjusted so that they reach the recording head at the correct level. The remaining amplifier A3 and the loudspeaker are usually switched off, but many tape recorders have provision for bringing them into operation during recording in order to 'monitor' the sound going on to the tape. During recording the erase head automatically erases any previous recording and leaves the tape clean for the new recording.

## Playback

Now look at Fig. 2. Here the microphone is disconnected and the recording head (which now functions as a playback head) is connected to the first amplifier (A1). The weak signals from the head are amplified to sufficient strength (by A1, A2 and A3) to operate the loudspeaker. Loudness is controlled by the same volume control and this time the 'tone control' comes into operation in conjunction with A3.

**Note.** The arrangement for record and replay as described is a typical one. Some recorders may not have a tone control, others may have two, one for bass and one for treble.

## Superimposing

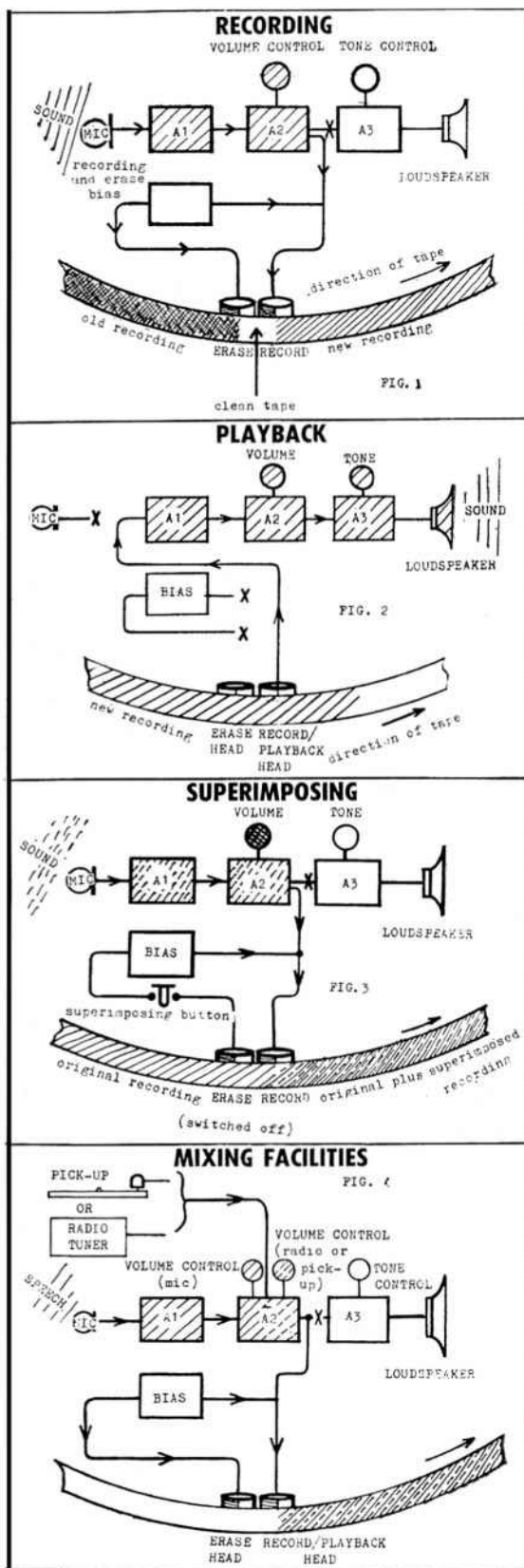
The majority of modern tape recorders have a 'superimposing' or 'trick' button which allows one recording to be superimposed on another. Imagine you have made a recording of music and wish to superimpose speech. The tape is first rewound to the part where you wish to superimpose. Then the recorder is switched to record and the superimposing button depressed. The block diagram of Fig. 3 shows that when the superimposing button is operated, the 'erase bias' is disconnected from the erase head. This prevents the original recording from being erased. The recording bias must be maintained at the record head in order to make the superimposed recording.

The quality of superimposed recordings is usually slightly affected and the method does not allow very accurate timing because the original recording cannot be heard whilst the new one is being superimposed.

## Mixing Facilities

Mixing means that two sources of sound, say speech and music, can be recorded simultaneously and the introduction of either can be accurately timed. The arrangement for doing this is shown by Fig. 4, which utilizes two volume controls, one for the microphone (after amplification by A1) and one in conjunction with the extra signal source, e.g., radio tuner or gramophone pick-up. Each volume control can be operated independently so that either signal source can be faded in or out as required.

Next month: Record level indicators.







edited by Terry Nurse

**Thornton Heath** get their Hospital Programmes going with a swing provided by Frankie Vaughan and capture the April prize. Carlisle engage in a varied programme which makes them a close second.

Remember only the news that wins its way into print counts in the Club League. At the end of the year all the monthly results are combined to find the Champion Club, which will receive a special A.T.R. award.

#### African Waltz

**P**IETERMARITZBURG Tape Recording Club of SOUTH AFRICA recently held a Dinner Dance and those who attended had a very good time indeed, in spite of the hot curry.

#### Blackwood Starters

V. C. Penaluna, 39 Markham Crescent, Oakdale, Blackwood, Monmouth, proposes forming a club in Oakdale. He hopes to have enough members to help record the annual 'Rose Queen' Festival for it is intended to replay the recording for the local hospital. Mr. Penaluna works at the local cinema and could arrange to record school concerts there, also for playback to the local hospitals.

(Many new clubs start off with a hospital service which does keep the members occupied and provides others less fortunate, with entertainment.)

#### Brixton-Aden Link

Membership is spreading far and wide, and a warm welcome was recently extended to Peter Rodgers, one time Secretary of the R.A.F. Tape Club now serving in Aden.

#### Boston-Lincs.

Philip P. Towell, Tressillian, 107 Spilsby Road, Boston, Lincs., formerly of the British Forces Network in Germany, proposes forming a club in Boston, in conjunction with the Pilgrim College Adult Education Centre. Readers interested, contact Mr. Towell at the above address. First meeting will be in April.

#### Carlisle Re-united

Secretary of the recently formed Carlisle Tape Recording Club is now Mr. J. E. Francis, 29 Dalton Avenue, Carlisle.

## THORNTON HEATH TOP

Since their new start member activity has included a stereo demonstration, a Round Robin with the Bedford and Hove Tape Clubs and the production of a tape at the local "Evergreen Club".

#### Cornwall Expands

Anyone interested in forming a tape club in the Truro, Redruth district? Contact David Freeman, Seacroft, Chapel Porth, St. Agnes.

#### Crawley Disc-master

Crawley & Sussex Club Secretary, R. C. Watson, recently visited the International Broadcasting Company in London, where he saw how a master disc recording was made. He noticed that each instrument of the band has its own microphone in close proximity.

#### Devon

Chairman Gordon Furneaux recently gave a lecture on 'Sound' to the South Devon Tape Recording Club. His talk was illustrated with film strip and tape recordings specially prepared for the purpose.

#### Friern Barnet Boys

John Pitcher of the Friern Barnet Tape Recording Club made another attempt at getting the perfect recording of "The Thoughts of a Schoolboy". (We did not know that 'thought' recorders had been invented.)

#### Gospel Tape Aid Service

Last month we mentioned a new 'specialist-interest' club for religious recording activity. Mr. Donald Noble, 14 Melbourne Court, Welwyn Garden City, Herts, wants to form a similar club to be called "The Gospel Tape Aid Services". The club would be for Christians throughout the country who want to do Christian work with their tape recorders for the benefit of prisoners and hospital inmates. Further particulars from Mr. Noble.

#### Halesowen's Lucky Third

After two failures, a tape club has finally been formed in Halesowen, Staffs. One object of the club is the formation of a hospital request service. Members are enthusiastic and between them have an array of a dozen or more tape recorders. Representatives of the local press were also present at the last club meeting.

#### Hove-To

Four members of the Hove & District Tape Recording Group each took a recorder and demonstrated its uses to

members of the 'Brighton & Hove Coffee Pot' ('Coffee Pots' are social clubs for College Graduates and members of the professions). Recordings from the Group's library were played during the evening and the 75-minute demonstration created lively interest.

#### Hyde Away

Mr. E. Kane, 16 Millwood View, Stalybridge, Cheshire, reports the club no longer exists. He intends to start a new club in that area.

#### Ilford Pressgang

The Ilford & District Club recently gained valuable press publicity concerning their extensive Hospital Service which has now been formed into a self-supporting section with its own committee.

#### I.T.F. Contacts

Despite bad weather the I.T.F. Chester Branch have held a meeting each Sunday for discussions on tape recording and to listen to recordings made by the members. Plans for the summer months are being made, including a trip to the Dee and a visit to Chester Zoo.

International Tape Fellowship has made contact on tape with the Bielefelder Amateur Tonstudio in Germany, the Brentwood Club and the Cambridge Club. Miss Delicia Baker of 54 Vincent Gardens, Dollis Hill, London, N.W.2, is official representative for ladies who would like to join I.T.F.

#### Liverpool Spinners

Liverpool & District Tape Recording Society recently visited the Spinners Folk Club in London Road, to record the Spinners vocal group.

#### Nelson Touch

W. Bearsworth, 309 Barkerhouse Road, Nelson, Lancs, is forming a club for Nelson and District. From local press

# THORNTON HEATH TOP

publicity he has managed to get a number of prospective members. For the past two years, Mr. Bearsworth and his wife have been making recordings of local events for residents of the Nelson Home for Blind people and they would like to extend their service to cover the local hospitals, infirm and elderly people. An active club will enable them to do this. Rally round, Lancashire.

## Newport

Mr. M. Knight, 220 Ringland Circle, Newport, Monmouth, is forming a club in this area and would welcome new members from thereabouts.

## South Birmingham Create

At a recent South Birmingham Tape Club meeting, every member was requested to develop his creative interest in tape recording by producing a five-minute 'actuality' tape. The result was a highly entertaining evening. The best tape was one made by Tony Allwood who interviewed ladies whilst they were shopping in a Birmingham suburb.



Frankie Vaughan was perhaps sending an indirect 'thank you' to his London Clinic nurses when he contributed to Thornton Heath's hospital tape.

## Swansea Cup Winners

In a competition for the most unusual tape of the year, held by Swansea & District Recording Society three silver cups, donated by the Vice-President,

George E. Shaw, were awarded to Mr. Edgar Lewis (1st), Mr. Lyn Evans (2nd) and Mr. Bob Wright (3rd). Mr. Lewis produced a verse composition entitled "A Journey into the Sub-Conscious". Mr. Evans produced "Journey into the Future" and Mr. Wright a "Journey Round the World". In addition to this annual competition, contests are being arranged every three months and the subject for April is "Country Life".

gramme for the blind people. (There's interest, scope and a friendly welcome at this club. Contact Chairman E. Bashford, 4 Dunheved Road North, Thornton Heath, Surrey, for details.)

## Watford Want

Mr. R. G. Eggleston, 5 Farmers Close, Watford, Kent, and some of his colleagues at the Watford Post Office want

## TOP TEN CLUBS

- |                   |                     |
|-------------------|---------------------|
| 1. THORNTON HEATH | 6. LIVERPOOL        |
| 2. CARLISLE       | 7. SOUTH BIRMINGHAM |
| 3. WHITSTABLE     | 8. WEST MIDDLESEX   |
| 4. SWANSEA        | 9. ILFORD           |
| 5. SOUTH DEVON    | 10. HALESOWEN       |

## Thornton Heath All-Stars

The former Recordiums Club is now known as Thornton Heath Tape Recording Club and Secretary is B. Marlow, 89a Ecclesbourne Road, Thornton Heath, Surrey. Their latest project is a hospital request programme. They have obtained their recording and copying licence and are now affiliated to the Guild of Social Service. The first pro-

to form a tape club in Watford. (Anyone interested?)

## West Middlesex Thespians

West Middlesex Tape Club are making special recordings for the Teddington Theatre Club production "Rape of the Belt".

## Whitstable Service

Whitstable & District Tape Recording Club plans recorded entertainment for a local association of blind people and they are starting monthly tape productions featuring sounds of the district, news items and other local events. Members have arranged to visit blind persons and record messages for their relations overseas.

The Committee were surprised to learn that some members with tape recorders never use a microphone. As a consequence they have devoted one or two meetings to microphone technique. (We should hope so!)

## World Wide Tape Talk



The World Wide Tape Talk emblem is incorporated on new-style badges now available to members.

Britain's newest tape exchange organization known as World Wide Tape Talk, formed only six months ago, already has a membership of over 200, covering 22 different countries. Subscription is only 10s. per year and badges are available to all members. Readers wishing to learn more about W.W.T.T. should write to Chas. Towers, 35 The Gardens, West Harrow, Middlesex. **ATR**

## ATR'S TAPE CLUB GUIDE

(January 1962)

### ADD

**Cwmaman & Aberdare Recording Group:** Dyfrig Roberts, 1 Aman Street, Cwmaman, Aberdare, Glam. (re-formed).  
**Halesowen & District Tape & Hi-Fi Club:** Roy Finch, 37 High Street, Halesowen, Birmingham.  
**Medway & District Recording Society:** Chas. A. Brown, 23 Edwards Close, Rainham, Kent (re-formed after A.T.R. publicity created new interest!).  
**Ordnance Survey Cine & Tape Club:** Ron Carey, 74 Kennedy Road, Maybush, Southampton.  
**Wendover Tape Recording Club:** c/o Wendover Sports Supporters Club, R. W. Jones, "Sunnymead", 3 Manor Crescent, Wendover, Bucks.  
**West Cornwall Tape & Cine 8mm. Club:** I. Fleming, 16 High Street, Falmouth.

### AMEND

**Bath:** Sound Recording Society. Secretary's address is now "Fistral", 45 Fairfield Avenue, Fairfield Park Road, Bath.  
**Blackburn:** Meetings each week at Blackburn Y.M.C.A.  
**Carlisle Tape Recording Club:** Secretary now J. E. Francis, 29 Dalton Avenue, Carlisle.  
**Hazells:** Secretary's address is now St. Chads, Vale Road, Aylesbury, Bucks.  
**Huddersfield:** Secretary now J. D. Iredale, 9 Ingfield Avenue, Dalton, Huddersfield.  
**Liverpool & District Tape Recording Society:** E. Durkin, 103 Ritson Street, Lodge Lane, Liverpool 8. (Change of name from "Central" to "& District").  
**Maidstone:** Secretary now Reg Preston, 4 Queens Road, Maidstone.  
**Northampton:** Secretary now R. C. Foster, 117 Shakespeare Road, Northampton.  
**Tape Writers Circle:** Secretary now R. S. Lowsley, 78 Gladstone Street, Loughborough, Leics.  
**Tewkesbury Tape Recording Club:** Mary Woolley, 8 Gravel Walk, Tewkesbury, Glos. (change of address).  
**Thornton Heath Tape Recording Club:** Secretary is B. Marlow, 98a Ecclesbourne Road, Thornton Heath, Surrey (formerly "The Recordiums").

### DELETE

**Hyde Tape Recording Club.**  
**Wakefield & District Tape Recording Club:** Officially disbanded 19th January, but continuing to meet as an informal group in former members' homes for the time being. Secretary's address still applies under this arrangement, so far as contacting the group is concerned, but he is no longer secretary, merely Group Leader.

## Readers' Requests

Calling All Tapespondents! **Norm Pugh** has had a fire which destroyed all his tape recording records, so he can't return the tapes not carrying their owner's name. He has a 7in. 'Flying Doctor' tape, a few 3in. tapes and at least one 5in. tape, so will all tape-pals owed a tape, please air-mail their addresses to him at 73 Boundary Road, Epping, Sydney, Australia.

Alec Alexander, former Secretary of the B.R.C., has requested that club mail should not now be sent to his home address.

Correspondence concerning the Club, which has now ceased to function, should be addressed to Mr. Morris, 8 Fulwood Place, London, W.C.1.

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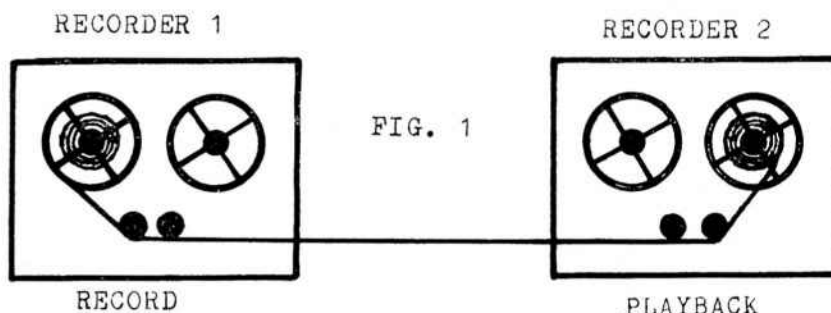
Each month, 'Tape Guides' will present useful tape recording hints and tips contributed by A.T.R.'s Technical Staff and A.T.R. readers. All readers' hints published win a guinea.

# TAPE GUIDES

## Have Fun with Two Recorders

**H**ERE is an easy way to obtain a delayed monitoring system or make echoes with long intervals. The general scheme is to place two recorders side by side (decks same height). Record in the usual way on one machine, but instead of allowing tape to wind up on the receiving spool take it over to the second machine, across the playback head and then to the wind up spool as in Fig. 1. Set both machines running at some speed and record on No. 1. Hear the recording  $x$  seconds later on No. 2.  $x$  can be worked out from the distance between the heads of the two recorders. Example: at  $7\frac{1}{2}$  i.p.s. with distance of 30 inches between heads, time delay will be  $30/7.5$  or 4 seconds.

reel was supplied free of charge, but this was also returned with the same complaint. We then investigated and the reader, much to his surprise, learnt that the fault was in his recorder; hardened pressure pads in this case. So before



## Noisy Recordings

Noisy recordings may be due to a poor bias oscillator or a magnetized head. Fluctuation in the recording level may be the result of worn pressure pads or a head clogged with tape dust. An A.T.R. reader recently claimed that a new reel of tape was of poor quality and recordings showed a loss of top, excessive noise and low output. We examined the recorder and found the tape head almost covered with hardened tape dust and highly magnetized. The recorder had been used very extensively for two years **without any attention whatsoever.**

## Squeaks

Another reader returned a new tape of a well-known brand to its distributor explaining that it 'squeaked'. A new

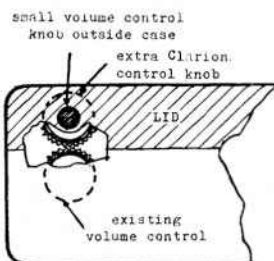


FIG. 2

you condemn that new spool of tape, check up on your recorder.

## Another Clarion Modification

This is a refinement of Mr. R. Coote's suggestion, which appeared in the December, 1960, issue of A.T.R. It saves cutting away the lid, as suggested in Mr. Coote's modification, in order to get at the volume control knob. First obtain a duplicate Clarion control knob (costing 2/-) from the Service Agents, G.B.C. Electronic Industries Limited, 121 Edgware Road, London, W.2, and a 4BA cheese head screw  $\frac{1}{4}$  in. long, miniature control knob (available at most Radio Surplus Stores) and a spacing washer  $\frac{3}{16}$  in. thick and drilled  $\frac{9}{64}$  in.

Drill the lid  $\frac{7}{16}$  in. from the lip at a point vertically in line with the main volume control, using a  $\frac{9}{64}$  in. drill. Now drill and tap the new Clarion control knob 4BA. Fit the 4BA screw to the new knob, screwing it right home; slide on the spacer and fit this assembly into the inner side of the lid. The miniature control knob can now be fitted to the projecting portion of the 4BA screw on the outside of the case. When the lid is closed the Clarion control knob engages with the existing volume control knob in gear-like fashion, allowing the volume to be adjusted as required.

(Sent in by A.T.R. reader **D. Campbell**, 30b Prince of Wales Mansions, Battersea, London, S.W.11.)

## Adding a Fade

The amateur tape recordist wanting to fade in or out signals already on a tape has up to now been faced with the task of making an erase fading control or having one fitted.

The Secretary of the Bromley Tape Club has devised a simple technique which does not require a special control.

This new fading technique relies on the fact that the high frequency oscillations which are fed to the erase head take a second or two to build up or die down when the amplifier is switched on or off. It can be employed by most tape

recorder owners, depending on the make of the machine, without additional equipment.

For fading in an item the procedure is as follows: tape positioned for start of fade in. Record control switched on. A fraction of a second later the amplifier is switched off. The flywheel continues to spin under its own weight pulling the tape past the heads while the erase effect dies away, thus apparently fading in the signal which was already on the tape. It may be necessary to turn the take-up spool by hand to avoid tape spillage.

In order to fade out a passage the amplifier must be switched off for about a quarter to half a minute to allow the capacitors to discharge and valves to cool. The machine is set to record, then the amplifier is switched on. After 5-10 seconds the erase oscillation builds up thus fading out whatever was on the tape. This 5-10 second period must, of course, be accurately timed so that the tape can be set sufficiently far ahead for the fade to occur at the desired position.

The use of pause control, if provided, simplifies the operation.

Depending on oscillator circuitry, most machines in which the amplifier and record switches are separate from each other will work satisfactorily. The 'rate' of the fades can be slowed down by running the tape at a higher speed from that at which the recording was made.

(Sent in by **David A. Cornet**, 110 Princes Plain, Bromley, Kent.) **ATR**

**You may have the latest battery portable, or a veteran mains tape recorder, but whatever you own, you can join the hunt for Britain's vanishing sounds.**

**B**ritain is a land alive with sound, from the whisper of gently stirring leaves, to the steady rhythm too often provided by our leaky skies.

These are sounds which the Romans must have heard and which our grandchildren will also come to know. But there are other less enduring sounds whose familiar echoes may be lost for ever unless we amateur recordists join the ranks of the sound preservers.

Trams, horses and steam trains are all racing into the past. Dialects are crumbling before the advancing voice of mass

Pubs are a rich source of material for another branch of this hobby—folk song collecting, which a number of amateurs have already tackled most successfully. For instance, Yorkshire's leading folk-song recording team, Nigel and Mary Hudleston, will have their first record of old Yorkshire songs on public sale shortly.

Although pubs are the best hunting ground, many old timers are shy of singing in public and a folk-song hunter must be prepared to sing a song himself in order to get one in return.

### Local Events

Nowadays, many local events *are* taped. The new Mayor's inauguration, election night, the first diesel express service—all are likely candidates for the professional 'roving mike'. But what of the new shop to be opened by the latest pop

**Capturing  
Britain's vanishing  
sounds**

# SOUND HUNTING

entertainment. Local events occur and then quickly fade into written records.

How, then, can you start hunting?

### Your Home Town

Think about your town or village. What are the sounds that come to mind? Perhaps it is the Boys' Brigade band on a Sunday morning, the evening clatter of the bread-cart horses as they arrive in the bakery's cobbled forecourt, the twang of the oldest inhabitants' voices as they yarn over a pint at the local. All these can be captured on tape, before they disappear. Some may last for years, but others will vanish overnight under the onslaught of noise abatement societies, electric carts and the arrival of a new generation of 'oldest inhabitants'.

### Where To Hunt

Has your area an old people's home? They welcome visitors and have many residents who will be happy to talk about the old ways and days.



*Our intrepid sound hunter is determined to capture that steam train (visible in extreme distance) even if it means an involuntary steam bath.*

star? Most owners will be happy to provide you with an electric point for your recorder and a vantage point for your microphone in exchange for a dubbed copy of the result. They get a souvenir and you get a grandstand view of the event.

Your town will provide many similar occasions where the offer of a dubbed copy will provide an open sesame. But please edit the recording or dubbing before presenting it. Remember it is the impact which matters, not the length.

The few shillings which these recordings would cost may well prove an investment, for with local radio round the corner, they could prove to be the only sound records of much local history.

If local radio does start, it will consume recorded material at a phenomenal rate and any reasonable recordings you have made will stand an excellent chance of being used.

### Street Sounds

Our cover girl is determined to record the street cries of London before they are all supermarketed out of existence. This is one sphere in which the battery portable excels, and a very colourful collection can be made of street traders, ranging from the flower sellers who are still quite plentiful to the more elusive knife grinders, onion sellers and spoons buskers.

Some station-masters will permit train recordings to be made at their station, even to permitting recorders to be plugged into mains supplies. But this permission is usually reserved for small groups rather than individuals, which makes it a possible club activity.

The steam-train hunter in our photograph has solved this problem by using a battery portable, but even without such machines, historic recordings can be made. The task is often harder with a mains recorder, but the quality of the results can be greater.

### More Flexibility

If you have a car you can increase the flexibility of your mains recorder with a converter which will run it from the car battery. Converters can cost as little as £6 10s. 0d., which is a small outlay for almost doubling your recorder's uses. But make sure you have a car first!

### Recording Technique

If you wish to improve your recording technique, the tapes marketed by Emitape under the title "Emiguides" will help. Of particular use to the prospective sound hunter are No. 2—Microphone technique, which demonstrates how to get the best results on speech and music in different acoustic surroundings, and No. 4—Outdoor recording.

**ATR**

# 'HELLO, HARRY'

By BILL RAWLE

tapesponding's easy once you're married. . .

"Hello, Harry, today is the 2nd of August and it's good to be talking to you again. I must apologise for the delay in replying but I'm sure you'll understand the reason when I tell you that I got married on 15th July and of course there's WHAT, DEAR? THE WHAT? YES, IN THE KITCHEN CABINET, THE LEFT-HAND DRAWER. Sorry about that Harry, the little woman y'know, ha-ha, I seem to be under-recording a bit, Harry, I'll just turn the volume up and WHAT, DEAR? WELL IT WAS IN THE KITCHEN CABINET. WELL TRY THE SIDEBOARD. YES, THE SIDEBOARD. Sorry again, Harry, oh I say, I seem to have over-recorded, hope your eardrums are still intact, ha-ha, well, Harry, we've settled down in our new house and now that I'm not gallivanting about doing me courting I hope to have lots of spare time for taping. HELLO, DARLING, COULDN'T YOU FIND IT. WELL IT WAS DEFINITELY DOWNSTAIRS LAST TIME I SAW IT. WELL, ALL RIGHT, I'LL GO AND LOOK FOR IT.

Hello, Harry, well this is five days later and I'm hoping to get this tape off to you in the morning. Now where was I, oh yes, plenty of spare time for taping and I hope to contact a few more people in various parts of the globe. WELL, BANG IT, DEAR. BANG THE CISTERN WITH YOUR FIST AND THE OVERFLOW WILL STOP. WELL HIT IT HARDER, DEAR, HARDER. OH, NEVER MIND, I'LL SEE TO IT.

Hello, Harry, well I hoped to get this tape off to you last week but it's still here and I really must get on with it since I have several more tapes I have to reply to but I really don't mind, the more the merrier. that's what I say, now that I'm married and settled down and plenty of free time for THE WHAT, DEAR, THE DOOR? WELL CAN YOU ANSWER IT BECAUSE I WANT TO FINISH THIS TAPE TO HARRY. YOU'RE WHAT? IN THE BATH! OH, WELL, WHY DIDN'T YOU SAY SO. I'M GOING RIGHT DOWN.

Hello, Harry, well I'm not doing so badly—nearly a quarter the way through track one—and I'd have finished it earlier if it wasn't for my in-laws calling unexpectedly week before last, but now I'm going to finish off this tape and I hope you will pardon me if I don't refer to some of the points you raised since I seem to have lost me notes and WELL, DARLING, YOU DO LOOK PRETTY. GOING SOME PLACE, HA-HA. W/E ARE! TO YOUR MOTHER'S! YES, I KNOW IT'S TUESDAY BUT I CAN'T REMEMBER THAT WE'D . . .

Hello, Harry, I'm gradually making headway with this tape and it will arrive at your address just before the festive season so here's wishing you and Martha a very happy Christmas and YES, I'LL DO IT.

Hello, Harry, well here's hoping that you had a good Christmas and it seems a bit silly to wish you a Happy New Year now it's March, but better late than never, eh, Harry, ha-ha. I'll fill in the rest of the tape with a piece of music and I hope you rush the tape straight back so that I can reply as soon as possible because now I'm married and settled down I'm sure I'll have plenty of time for COMING DEAR, plenty of time for taping, RIGHT AWAY, DARLING, so here's wishing you all the, YES, DEAR. G'bye Harry, don't forget to rush the tape back, G'bye . . ."



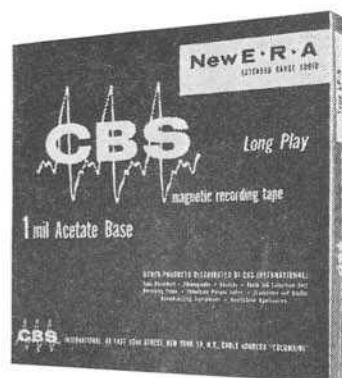
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recorder  
users



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DOUBLE PLAY	½ Mil	1200'	34/-	1800'	45/-	2450'	56/-
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# "ATRECORD"

**The recorder  
"that builds  
itself"**

**SEE PAGE  
30**

Recommended by Mr. F. C. Judd specially for the non-technical enthusiast who wants to build his own recorder. The "Atre-cord" as described in this journal uses professional standard parts designed for putting together easily and with assured success. It saves money too, and everything is complete down to the last screw—even the wire is supplied cut to length.

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ADDRESS

ATR.4 BLOCK LETTERS PLEASE



# Back-Tracking

with Norrie Paramor

*The A to B of a successful disc*

**C**HOOSING material for records is a job that takes plenty of thought. Whether the record is a single, E.P., or L.P., you've got to be just as careful to get the right material for the right artiste with the best possible sound.

Many people, I know, have the impression that, on a single, an A side is recorded with great care and the other side is just plonked on.

Well I can tell you that it's just not true. There is no such thing as an A or B side of a record until AFTER the recording. We record the two tunes or songs and then we discuss which one we think is best and which should be the A side.



There is another illusion which I'll have to shatter—which is that a record is made and then sent out on the market 'hot off the presses'. It ain't necessarily so. After we recorded the Shadows' "Wonderful Land" three months passed before we listened to it again.

When we did we knew something was missing, but we couldn't put our fingers on it. Then Hank said, "How about strings, Norrie?" and Bruce added, "Yes, and a horn or something like that".

We tried this out and found it worked—it gave the record just that bit more and made it a hit.

Making an E.P. and an L.P. is slightly different. There, although the material is just as important, the mood is too. I think of the sort of image I'm trying to create and then look around for the right material. Let you into a secret here—if the E.P. is one of the artiste's pop hits we don't re-record, we just transfer the single on to the record by tape.

## L.P. Singles

As we put singles on an E.P. so we often reverse the process and put L.P. tracks on a single. "Stranger on the Shore", which I didn't make, was originally off an L.P. released only in America by Acker Bilk. We did roughly the same thing with Cliff's "Living Doll".

Although these have both worked successfully I try to avoid doing this as much as possible.

Next month, I'll be having a bash at stereo and tape recordings—hope you'll be tuned in.

**ATR**

# COMPLETE YOUR SET!

'MICROPHONE SURVEY'

(VOL. 3, No. 4)

'AMPLIFIERS & CONTROL UNITS'

(VOL. 2, No. 9)

'REVIEWING EQUIPMENT'

(VOL. 2, No. 3)

'SIMPLE TELEPHONE ADAPTOR'

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(VOL. 3, No. 3)

These are just some of the fascinating and informative articles to be found in back issues of 'A.T.R.'

Limited quantities are available of all issues (except Vol. 1, No. 12, and Vol. 3, No. 2) at 2/6 each, post free; from:

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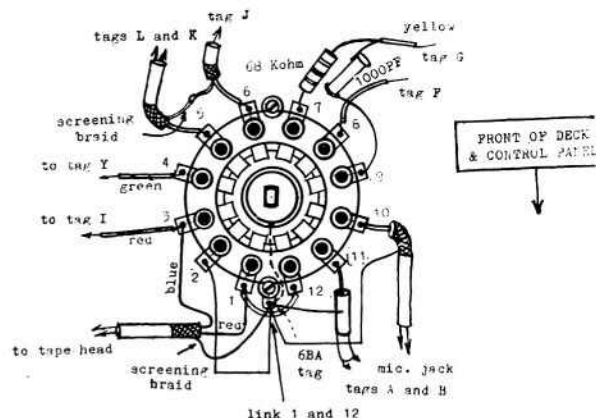


Fig. 1

# The Atrecord Tape Recorder

ATR's MAKE-IT-YOURSELF MACHINE

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

As I write this second part of our exclusive 'build your own tape recorder', the finished ATRECORD in its attractive grey cabinet is actually beside me playing a pre-recorded tape of favourite music, exactly one hour after I commenced the final stage of wiring. It makes a pleasant sound too but there is still a little assembly work left for you to do before commencing the wiring and this includes fitting the mains transformer and the output transformer to the underside of the tape deck.

**P**LACE the deck face downwards, with the front edge nearest you. I advise you to lay the deck on a cloth so that the plastic top and controls do not get scratched. Now align the control panel with the front edge of the deck. Mark the positions of the two holes in the mounting brackets and drill the deck plate with a No. 31 drill. The control panel mounting brackets are secured with two self-tapping screws (refer to photographs in Part I—March A.T.R.).

Next item is the mains transformer which is located at the left-hand corner of the deck about  $\frac{3}{4}$  in. from the front edge, with the solder tags facing to the right. The transformer is mounted vertically with tags 5 and 10 at the top. Mark out the position of three fixing holes, two nearest the front edge and one nearest the motor (do not on any account attempt to drill the fourth hole or you will damage the deck mechanism underneath). Drill the three holes with a No. 31 drill. On some decks the two front holes may already be drilled. Now secure the transformer with self-tapping screws.

Turn the deck round so that the motor is nearest to you. Now place the output transformer, tag panel facing away from you, at the edge of the deck to the left of the motor. Line up the transformer, so that it lies centrally with the spool carrier spindle. Mark out and drill the two fixing holes (No. 31 drill)—one hole may already be drilled. Secure the transformer with self-tapping screws. Place the deck now with the motor nearest you. Locate the record/replay switch spindle which protrudes through the deck and has two bushes, one either side, each fitted with a 6BA screw. Remove the screws and slide the switch wafer over the spindle with the contacts upper-

most. Secure the wafer with the two 6BA screws, but fit a 6BA solder tag under the screw nearest the front edge of the deck.

The two holes for mounting the printed circuit amplifier are already drilled in the deck plate along the edge nearest to the record/replay switch. When the printed circuit is mounted, the ECC83 valve is above the switch. Secure the brackets with the two remaining self-tapping screws.

Now make a final check on the assembly, compare with the photographs and make sure everything is correctly located because now we commence wiring.

## Wiring

First a word about soldering. Use *only* resin cored solder and a pencil bit electric soldering iron. If you have to use a gas heated iron, it must be a small one or you may accidentally burn wires or components on the printed board. Carefully 'tin' each tag before soldering (the wires are already tinned); avoid overheating the tags or the printed board or you may melt the solder at the back. Watch out for dry joints and bits of solder dropping off the iron on to the deck or mechanism.

You may find it easier to release one bracket of the printed circuit and allow the assembly to swing out about an inch or so. Also gently remove the ECC83 valve; this will allow you more room around the record/replay switch.

Have a look at Fig. 1 which shows the switch wafer. The 6BA solder tag is used as a reference to the tags on the wafer which are numbered 1 to 12.

Now commence wiring the switch in the following order:

- Contact 1.** Red inner wire of the grey covered screened cable connected to the record/replay head. (This cable comes up through the deck.)
- Contact 2.** This is joined by a short piece of tinned copper wire to the 6BA solder tag. The screening braid of the tape head cable is also connected to the 6BA tag.
- Contact 3.** The inner blue wire of the tape head cable and the red wire from tag I on the printed board.
- Contact 4.** The green wire from tag Y on the printed board.
- Contact 5.** The inner of the screened wire connected to tags L and K on the printed board.

(above) A.T.R. reader Colin Rands completes the wiring of the ATRECORD.

CONTINUED ON PAGE 34



# TAPE FAMILY ROBINSON

**AT WALTER'S SCHOOL CONCERT**

IT WAS NICE OF THE HEADMASTER TO LET US HAVE THIS ANTE-ROOM. WE'VE GOT A CLEAR VIEW OF THE STAGE

WELL COME ON, DAD, LET US INTO THE BIG SECRET

HERE YOU ARE A MICROPHONE MIXER AND TWO NEW MOVING COIL MICROPHONES

WHAT'S IN THE PARCEL?

SO YOU'RE GOING TO USE TWO MICROPHONES AT ONCE?

WITH THESE NEW MOVING COIL, LOW IMPEDANCE MICROPHONES WE CAN RUN LEADS OF UP TO A HUNDRED FEET OR MORE AND MAKE FULL USE OF THE RECORDER MONITORING SYSTEM

LADIES AND GENTLEMEN, THE FIRST ITEM IN OUR SCHOOL CONCERT IS...

THIS RECORDING IS REALLY EXCELLENT, DAD.

OH ELVIS!

...THE FIRST ITEM IN OUR SCHOOL CONCERT. WALTER ROBINSON SINGS FOR YOU...

THAT'S DUE TO THE NEW MICROPHONES. THEY WERE A GOOD INVESTMENT

GREAT ISN'T IT?

HEY LISTEN TO THAT, DADDY!

IT'S NOW OR NEVER!

MRS JONES WANTS TO KNOW IF YOU CAN TAPE THEIR SON'S WEDDING NEXT MONTH. THE VICAR HAS GIVEN HIS PERMISSION?

WHY OF COURSE WE WILL, DEAR

RECORD PLAYERS

WE SHOULD GET ANOTHER TAPE RECORDER FOR COPYING, DAD

I'VE THOUGHT ABOUT THAT, AND A HI-FI LOUD-SPEAKER FOR THE OTHER MACHINE

WHAT ABOUT GOING TO THE AUDIO FAIR? SEE, THE DATE IS ON THE POSTER THERE

THAT'S A GOOD IDEA, WALTER. GIVE US A CHANCE TO SEE WHAT'S NEW

SAY, DAD, YOU REMEMBER THAT TV PROGRAMME WHERE THEY HAD A MODEL RAILWAY CONTROLLED FROM A TAPE RECORDER?

YES, SON

WHY CAN'T WE DO SOMETHING LIKE THAT? AFTER ALL WE HAVE A TAPE RECORDER

WELL WE COULD MAKE SOME ENQUIRIES

HOW CAN A MODEL RAILWAY BE CONTROLLED FROM A TAPE-RECORDER? VISIT THE AUDIO FESTIVAL NEXT MONTH WITH THE TAPE FAMILY ROBINSON AND YOU WILL SEE FOR YOURSELF

Audio Festival and Fair



# TAPE TALK FOR TEACHERS

## Condensing Broadcast Tapes

**Running a school tape club can be both an education in itself and also a very amusing hobby.**

### Tape Clubs Are Fun

**T**HE latest L.C.C. school to start a tape magazine has appointed a Roving Reporter. This Fifth Form 6-footer, with portable slung over shoulder, stalks round the borough pushing his mike under the noses of local celebrities and citizens asking their opinions on his school, on teen-agers, education, topical subjects and any other matters which, he thinks, may stimulate interesting replies. Some of the replies are so interesting that it would be unwise to include them in the magazine, and keenness to serve on the committee has increased enormously since the boys realized that one committee job is censorship.

An East London school has just interviewed building workers at a great height on a tall block of flats nearing completion: in addition to the noises of the constructional work they recorded the apprentices' reasons for entering the industry and the forman's regrets for having done so!

The magazine editor's task may involve reducing four hours of tape to the ten-minute maximum allowed for the broadcast, and this leads to lively arguments in committee. Jenkins wanted to include the names of the boys who had just gained the police cycling certificates. Newsome thought it would be far more interesting to report the very different achievement of Fookes, who has been charged with breaking and entering a local factory.

Roberts objected that this would be unfair to Fookes, but Wilson thought Fookes would welcome the publicity. Roberts insisted that it would at least be unfair to his family (Roberts being notoriously keen on Fookes' sister). Willis thought it would be bad for the school, and Sayers, over whose editorial head the conflict was raging, guessed that he wouldn't get it past the Old Man anyway—i.e., past the Head, who takes the very necessary precautionary measure of having the tape played to him before it goes on the air over the Public Address system.

### 4A Greets Australia

So many U.K. schools now have overseas tape exchanges that this activity is ceasing to be 'news'. Worthy of mention, however, is Cage Green School, Kent, which has already sent tapes to U.S.A. and Nyasaland, and has this term prepared one for Australia. Why spotlight Cage Green? Because it is not, like the majority of tapespondent schools, a secondary. Cage Green is a primary, and its message to Australia was selected and recorded by Form 4A.

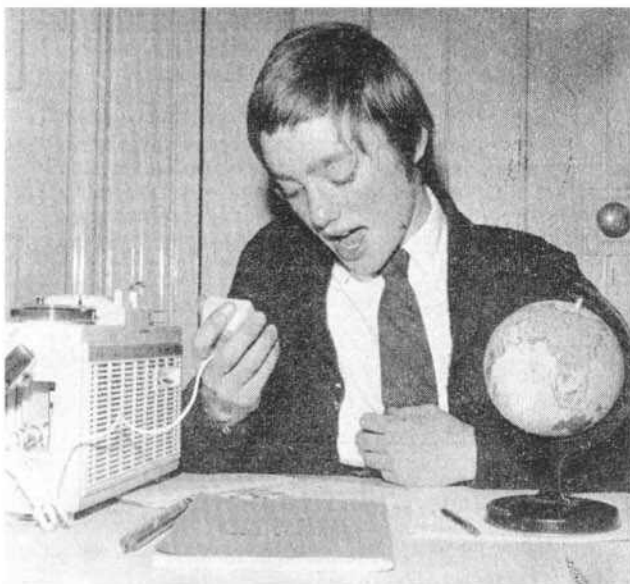
### Why Not You?

Many American schools are anxious for tape exchanges with Britain. Readers wanting to find tape-pals in U.S.A. should write to Scholastic Living Letters Programme, 33 West 42nd Street, New York, 36, N.Y., U.S.A. By this means, they will receive a message from an American school, *together with* a reel of tape long enough for a 15-minute reply. Here's a

chance too good to be missed by any school with a tape club or even a small group of staff and pupils ready to expand their horizon by making new friends abroad. Some of these exchanges have already led to visits both by Britons to friends in U.S.A. and by Americans visiting Britain to homes of tapespondents in British schools.

### Any Suggestions?

Recording in schools involves many difficulties, not the least of which arise from the absence of sound-insulated studios. Efforts in the class-room are liable to be hampered by outside noises from traffic, by games lessons in the yard, by corridor excursions during class-changes, by the class next door in its rendering of "Yeomen of England" during the singing lesson and by the anguished fortissimo of the music master's lurid description of their performance. The tape club may find a quiet class-room after school hours, but not all recordings can



*The spread of domestic recorders enables some pupils to make their tape contributions at home.*

be made then. Taping the choir in the school hall is spoiled by reverberation because the roof is too high, while in the only other room large enough the ceiling is too low. Some teacher-tapists have shown great ingenuity in grappling with this problem, and have provided improvised insulation making possible quite satisfactory tapes. If any readers with suggestions for sound-proofing or for damping reverberation care to send them to this address—The Education Editor, A.T.R., Ulster Chambers, 168 Regent St., London, W.1—we shall be pleased to publish them.

**ATR**

Top honours this month are shared by three alto playing leaders. First *Gigi Gryce* with Quintet, *Saying somethin'* Esquire 32-151. Recorded 11th March '60 with *Richard Williams*, trumpet, *Richard Wyands*, piano, *Reggie Workman*, bass, and *Granville 'Mickey' Roker*, drums.

*Williams* and *Wyands* were both on my last month's rave, "Screamin the Blues" and they both rate a rave again as does



**Russ Allen**, our bearded discuss-er and noted bass player, picks the latest waxings with a Hi-Fi quality.

*Gigi*. Six really fine tracks with plenty to test your bass and tweeter. An excellent recording in every way.

Next comes *Cannonball Adderly* with *Milt Jackson Things are Getting better*. Riverside RLP 12-286. Recorded 28th October '58. With *Wynton Kelly*, piano, *Percy Heath*, bass, *Art Blakey*, drums.

A happy get together this with *Cannonball* and *Bags* both in top form. *Kelly* and the rhythm aid and abet superbly.

Recording is first class with good separation, everything there plus, I regret, a tinge of hiss which shouldn't bother you unless you are the type who wants his neighbours to know.

It's interesting to note how much better *Heath* and *Bags* play away from the M.J.Q. Things don't get much better than this ever.

Thirdly from H.M.V. *The essential Charlie Parker*. CLP 1538. The father of modern alto styles to whom certainly both the foregoing owe much, demonstrating his fertility on ten assorted tracks. The groups range from quartets to a couple of those gorgeous string backed affairs. There's *Miles*, *Dizzy*, *Roach*, *Monk* et al. No dates are given which is criminal, but a compact biography by *Dom Cerulli* forms the bulk of the sleeve notes.

If not essential then certainly an excusable luxury.

#### Moodsville

Two albums from *Prestige*, *Volumes 4 and 5*.

Both carry the name of *Shirley Scott*, electronic organist extraordinary to *Prestige*. Vol. 4 also has *Eddie "Lockjaw"*

*Davis* who kind of hogs along the grooves for his most *Moodsville* tenor on a set of fine old ballads. *Miss Scott* is on piano but gets little chance to shine.

Vol. 5 is *Miss Scott's* trio and she plays organ and piano, by dubbing, both at the same time. To be frank, I detest the sound of electronic organ; to me it sounds like gurgling down a waste pipe. The piano contributions are tasteful and preferable even when backed by the E.C. Again a grand bag of old tunes.

Let's talk about tenors, *Taylor's Tenors*. Esquire 31-149. Recorded 3rd June '59. With *Charlie Rouse* and *Frank Foster*, tenors, *Walter Davis*, piano, *Sam Jones*, bass.

Each side kicks off with a *Monk* original and although the two tenor scene has become somewhat overcrowded, *Taylor* seems to have spurred his men on to some quite exciting music.

Recording is good, particularly, as it should be, of the percussion. *Walter Davis* contributes a lot of intricate piano and all in all it's a good buy for tenor lovers.

*The Great Zoot Sims*. Down Home. Parlophone PMC 1169.

*Dave McKenna*, piano, *George Tucker*, bass, *Dannie Richmond*, drums. *Zoot* was recently playing in London and I heard him with distinct pleasure on several occasions. He is a non pigeon-holeable type who just plays what he feels and sometimes it's 30's and sometimes it's much nearer today. Important thing is, it all sounds good.

This album is typical *Sims*. Everybody gets a chance to solo and *McKenna* shines while *Tucker* leaves too much to our imagination.

*Zoot* crops up again on *The Book Cooks—Booker Ervin*. Parlophone PMC 1170. With *Tommy Turrentine*, trumpet, *Tommy Flanagan*, piano, and the same bass and drums as above. A very friendly set-up. Five of the tracks are *Ervin* compositions and he is a very different player to *Zoot*, who in turn is a very different player from the one on his own album. *Tucker* plays much better. *Turrentine* delights, superbly subtle. The "Largo" track has been snipped off a little too sharply, by hasty E.M.I. scissors.

Bass is recorded "near", while drums, "Distant" can be lost on a non-Hi-Fi set. Separation is good.

*Nicholas in Chicago*. *Albert Nicholas Stompers*. Esquire 32-150. Recorded 30th and 31st July '59. *Nat Truttier*, trumpet, *Floyd O'Brian*, bass trombone, *Art Hodes*, piano, *Marty Grose*, guitar, *Mike Walbridge*, tuba, *Freddy Kohlman*, drums. Splendid period stuff and difficult to believe it was recorded so recently. Everyone is steeped in the idiom and the use of tuba, perfect.

*Creole Love Call* is terrific. *Hodes* and *Nicholas* are the stars, but it's all swinging. (Didn't dig the geetar tho')!

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## The Atrecord CONTINUED FROM PAGE 30

**Contact 6.** The inner of the screened wires connected to tag J on the printed board.

**Note**—The screening braid of these two cables are joined together but must not be connected elsewhere.

**Contact 7.** The free end of the 68K.ohm resistor (R21, blue/grey/orange rings).

**Contact 8.** The black wire connected to tag F on the printed board.

**Contact 9.** The free end of the 1000pF capacitor (C.18). (Trim off surplus wire leaving about one inch for connection.)

**Note**—The junction of the 68K.ohm resistor and the 1000pF capacitor is already connected via a yellow wire to tag G on the printed board.

**Contact 10.** The inner of the screened wire attached to the microphone input jack. The screening braid is connected to the 6BA tag.

**Contact 11.** The inner of the screened wire connected to tags A and B on the printed board. The screening braid is connected to the 6BA tag.

**Contact 12.** Join to contact 1 with a short piece of insulated wire.

Next comes the erase head leads, twisted red and black pair, which are connected to the wire tags at the top of the oscillator coil. These tags are marked S and T. Connect black to S and red to T.

Next month we shall complete the wiring and the ATRECORD will be ready for testing.

ATR

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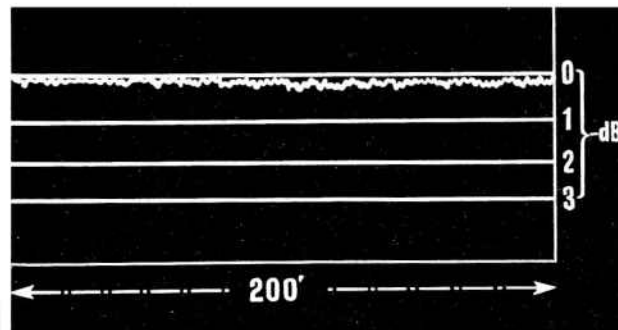
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Mr. Judd's other test findings include:—  
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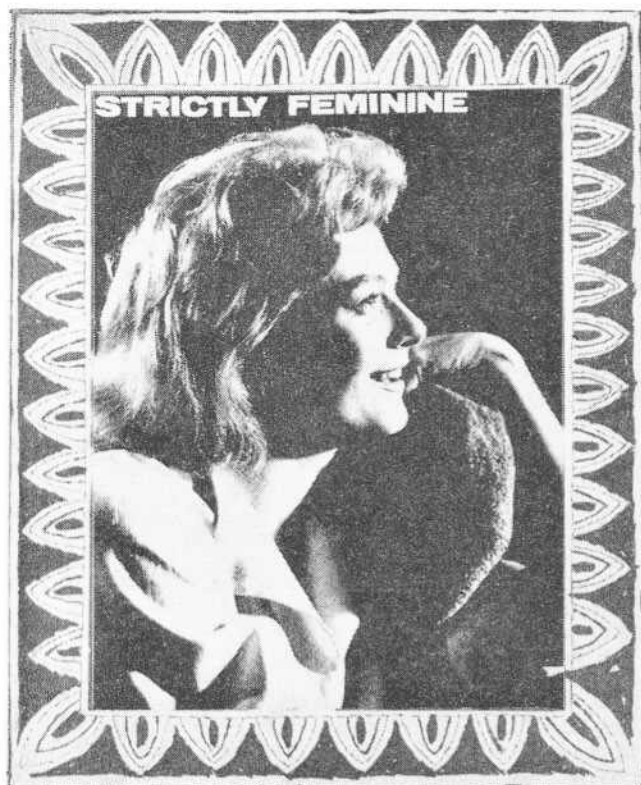
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*Voted the best actress of the year, for her performance of Rosalind in "As You Like It", Vanessa Redgrave is as lovely to listen to as she is to look at. From an early age she was taught to take care of her voice as something precious.*

voice was so beautiful that I arranged to meet her and fell in love with her at first sight." When this person then said to him, "But weren't you disappointed that she wasn't beautiful?", the happy husband replied: "Beauty fades, but a beautiful voice lasts a lifetime."

## YOUR VOICE

What about your voice? Is it shrill or harsh? Is it tinny or squeaky? You will not be able to tell until you record your voice, and the first time you hear your recorded voice will always be a shock. Even people with beautiful voices don't like it when they hear themselves for the first time. In fact, it's like listening to a stranger. But take the plunge and try and decide whether you think your voice is a good one. By this I mean that it should be well modulated, with no grating or sibilant sounds. It should be smooth with a certain musicality about it, and it should never stick to the same note—that's the surest way of sending your listener to sleep.

Your tape recorder can teach you how to make the best of your voice. First of all record something on it that you have read, and then play it back and listen to it carefully. Are there things about it that you don't like? If there are, bear them in mind when you repeat the passage and try and avoid making those mistakes. You may have to do a lot of playing back and recording before you are finally satisfied with what you hear. And then, of course, comes the main problem of remembering always to speak in the same way. It's no good having a nice voice for parties only.

# Woman's Seventh Sense

**BY RACHEL LINDSAY**

**Your tape recorder can turn a social barrier into a social asset**

**H**UMAN beings have five senses. Sight, hearing, taste, smell and touch. Women are also reputed to have a sixth sense—that indefinable something which tells them that Mrs. Jones's diamonds are not real. But every woman also has a seventh sense. At least it is not so much a sense as an asset, but I prefer to call it a sense for she is born with it. The trouble is that although she's born with it, she abandons it completely to look after itself. The poor thing is rarely improved, never used to its full advantage, and sometimes cannot be heard by its owner, although everyone around her can hear it too well.

What am I talking about? The voice. Yes, a woman's voice can be one of her greatest assets. One of the plainest women I know has been happily married to one of the handsomest men around for nearly fifteen years. Recently, when someone asked him what had made him fall in love with his wife, he said: "Her voice. She was the secretary of a business acquaintance and I used to speak to her on the telephone. Her

## SILENCE WAS GOLDEN

I don't remember the silent films, but I do remember people telling me how many of the stars of the silent screen flopped when talkies came in and their voices were heard for the first time. At the best of times beauty is an illusion, and illusions can be very easily broken. Cleopatra would certainly never have succeeded in winning Anthony's love if she had a voice like Zazu Pitts. But with a voice like Elizabeth Taylor . . .

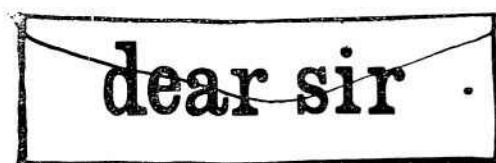
## DARK-ROOM ROBOT

Another winning letter is from Mrs. G. Kerrison of Charington Street, London. She writes:

"My husband is a keen amateur photographer and often develops colour films at home. The procedure for this entails perfect timing and the use of many different solutions. I used to sit beside him reading out the instructions and timing them, which took a long while and was rather boring for me after the first few times.

"One day I read out all the instructions and the timings on to my tape recorder. Now, when my husband wants to develop colour film he takes the recorder into the dark room with him and switches on my tape. I am free to get on with any other chores whilst he listens to my taped instructions.

"I've also made a tape of instructions for doing home perms. This saves me from reading the printed leaflet while water and perm solution are dripping into my eyes. I now press on with the pinning, curling and the washing while my recorded voice tells me what to do next."



## a monthly selection from ATR's postbag

### GOOD OR BAD

R. E. W. Jackson, of Stourbridge, Wores, is puzzled:

"Being a new owner of a tape recorder I must congratulate you on an excellent magazine. I was particularly pleased with the 'Tapes on Trial' article, but I was rather lost when you started quoting the test you had run. I am sure there were other new owners who were similarly puzzled. For instance, is an output fluctuation of 0.5 dB good, bad or medium, and what on earth is drop-out—it sounds like something to do with radioactivity. Do you think it would be possible to explain these mystic facts and figures?"

*Sorry we stumped you, Mr. Jackson. An output fluctuation of 0.5 dB from magnetic tape is about average and may be regarded as satisfactory.*

*Drop-out is the name given to minute blank spots which can, and do, occur on all but specially tested tapes.*

### DUBBING LOSS

R. Briggs, of Kingston-on-Thames, has a query on Dubbing:

"My machines are a Ferrograph 4/AN and a Brenell Mark 5. For some trick effects, musique concrete, etc., it is necessary to dub several times, adding further material each time, and I find a considerable loss of quality after the first transfer. In

articles I have read on this type of work, it seems to be taken for granted that dubbing a number of times is usual, but I have never seen any reference to this loss of quality and how to avoid it."

*You should be able to re-record material once, or even twice, without loss of quality. You may be losing through mismatch between the two recorders, or overloading the input of the copying machine.*

*You should remember that a twice copied recording may lack the brilliance of the original because of unavoidable losses at the higher frequencies. It is often necessary to use frequency correction and boosting techniques when making special recordings for Musique Concrete.*

### VERDIK SPARES

R. P. Baldry, of Union Road, London, S.W.8, sends us some useful gen for Verdik owners:

"The servicing of, and the spares for the Verdik S.I. can be obtained from Lorlin Electronics, 15 Pearcelfield Avenue, Forest Hill, London, S.E.23. I believe that the manager of Lorlin was connected with the design of the S.I. They were very helpful and fixed me up with replacement record and playback heads of the latest type, fitted together with my existing erase head, on a new mounting plate, in two days."

### A RECORDING DEN

Tom Robinson, of 17a St. Anne's Road, Whitstable, Kent, says:

"I am seriously considering having a small recording 'den' built at the end of my garden. The maximum width will be 6ft. and I can have it as long as 12ft.

"Have you or any readers attempted a similar project? I shall be very grateful for any advice, in particular on the most satisfactory methods of construction, i.e. timber, brick, concrete, etc.; types of most suitable flooring and internal wall finishes, the best method of sound insulation at a reasonable price etc., and suggested layouts of equipment. My main rig-out, i.e. gramophone, stereo amplifiers, tape deck, speakers etc. will still be in my living-room indoors, and I am thinking of another recorder, FM/TV tuner, mixers, fairly good speaker, turntable and pick-up with all the normal amateur studio facilities—in other words, a little private studio where I can disappear from the overpowering competition of children and television to do a little peaceful tapesponding, documentary, copying, and all the other recording jobs which require a little peace and quiet."

*We can only advise that your "recording den" is reasonably sound proof for recording and the neighbours' peace-of-mind.*

*This suggests something of brick or concrete construction lined with acoustic tiles. The window should be of double thickness (two sheets of glass with air in between). The door should be padded with felt. Having made a sound proof and by now "airtight" den, all you need is ventilation or an oxygen supply.*

*It is difficult to recommend equipment, as there are many excellent makes to choose from.*

*Perhaps A.T.R. readers who have set up a den of this nature might like to write to Mr. Robinson and pass on some hints.*

**ATR**



H. Higham, of Lanes High Fidelity Ltd., writes:

"Each month I read the various letters printed in your Magazine sent from Tape Recording enthusiasts with regard to queries, either to the purchase, or servicing or best use of Tape Recorders.

"I am constantly amazed at the fact that none of these people seem to have used the facility of a specialist Tape Recorder retailer to assist them in their requirements, as most of the queries could be answered by any really capable Tape Recording Engineer. The firm with which I am associated provide constant advisory facilities for any customers purchasing recorders from them, and full stocks of spares and service facilities are always available.

"I have particularly noted a letter from a Mr. Davies of Chorlton-on-Medlock (February 'Dear Sir') and whose address is not very far from our Tape Recorder show-rooms. He mentions various difficulties with regard to the supply of a new Tape Recorder; he mentions some named agent who apparently cannot obtain deliveries for him—again surely the correct procedure would be to go to a proper Tape Recorder Shop, who like ourselves can offer most machines either from stock as a result of ordering in advance, or with a delay of at the most a few days. It seems a little unfair to criticise the Manufacturers if the gentleman concerned does not use the normal retail distribution facilities arranged by the Manufacturers.

"Any of your readers requiring a new Tape Recorder, backed by service and advisory facilities can safely be recommended to come along to the Home Music Centre, No. 8 Deansgate, Manchester 3, where he will receive every assistance."



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#### TAPE PARADE CONTINUED FROM PAGE 16

"Overture 1812" and "Capriccio Italien" (Tchaikovsky). 19s. 6d.  
"Overtures, Vol. 2". 19s. 6d.

Each tape offers 30 to 40 minutes of music.

Tape Of The Month Club, 22 Coastal Chambers, Buckingham Palace Road, London, S.W.1; or from Teletape Ltd.

**Reviewer's note.** Regarding my comments about the poor quality of reproduction on the Esoteric tape, "Top Brass" some three months ago. A further copy of this tape has now reached me, which gives a much higher standard of reproduction. Apparently a sub-master tape was at fault. **Stan White**

In my February reviews of World Record Club tapes I mentioned the price of 30s. for three tapes. I should make it clear that this is the price for the first three selected; subsequent tapes would be slightly dearer than this, but still represent excellent value for money if carefully selected to suit the individual's taste.

Gilbert and Sullivan operas are not everyone's favourites, but now that they are completely out of copyright, everyone will be hearing much more of them.

First come **The Pirates of Penzance, World Record Club TT125**. 3½ i.p.s. Two-track mono.

The chorus sings lustily as befits Pirates and the soloists, bless them, enunciate with such care that not a word of Gilbert's catchy lyrics is lost. Yet they remain melodious—pop singers take note!

Not being a G.S. fan, I had that pleasant surprise of the familiar melody hiding behind an unfamiliar title. Do you recognise the "Poor Wandering One" and "With Cat-like Tread"? If you do you will certainly want this tape, and if you don't I can recommend it.

**The Gondoliers** are **World Record Club's** second Gilbert and Sullivan tape. **TT129**. 3½ i.p.s. Two-track mono. Nine solo singers are featured, five of whom also appear on the 'Pirates' tape. They are well-supported by the Westminster Symphony Orchestra and the Linden Singers, conducted by Alexander Faris.

Another first-class recording—but I prefer the 'Pirates'.

**Dance Along With Russ Morgan** follows the 'Pirates' in numerical sequence by one and in style by about thirty years. **World Record Club. TT126**. 3½ i.p.s. Two-track mono. Bags of "wa-wa" music and not a 'twister' in sight. Included are "The Banjo Tango" and "Goodnight Little Angel". Quaint.

If you are planning a classics collection, a fine tape to start with is **W.R.C. TTP76**. On it, Sir Malcolm Sargent conducts the London Symphony Orchestra in a performance of **Tchaikovsky's Symphony No. 5 in E Minor**. It is gratifying to see these major performers beginning to appear on tape.

#### STEREO 21

Under the above title, **World Record Club** are issuing their first stereo tapes. These are on 7in. reels, and play at 7½ i.p.s. on two-track stereo recorders only. The boxes are strikingly decorated with pictures of modern sculpture, and each contains a checker's slip! Cost per tape is 50s. or 60s. depending on playing time.

Our first review is of **Sibelius' Second Symphony** on **STT33**. This is performed by Sinfonia of London, conducted by Tauno Hannikainen, and is music in the classic form composed by the young Sibelius.

When alternative versions of the Second Symphony appear on tape, I may criticize this. Until then, I accept it gratefully, appreciatively and stereophonically.

More Stereo 21's next month.

**Peter Redfern**

**Emiguide No. 4—Outdoor Recording**, is now available priced 8s. 6d. and in this John Borwick deals with Outdoor Recording.

The tape contains some excellent examples of recording at the fairground, a football match, the zoo, etc. **ATR**

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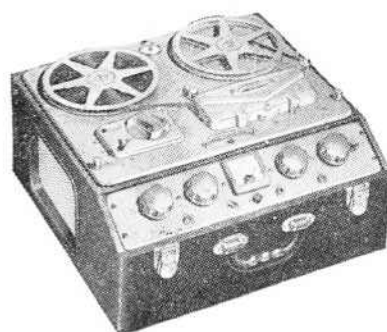
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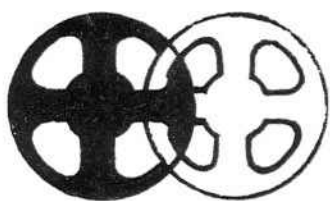
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# Inter-tape directory

## YOUTH CLUBS

The St. Mary's Youth Club, 'Tape Section', c/o Club Leader, A. E. Doughty, 8 The Park, Romney Street, Nr. Seven-oaks, Kent.

We wish to make contact with similar clubs in any part of the world.

Our interests are varied, and include all sports, judo, boxing, collecting, music of all types, etc. We use a Brenell Mk.4, a Brenell Mk.5M, and 2 Philips tape recorders.

Spools up to 8½ in. can be accommodated, but should be kept small, speeds 1½, 3½, 7½ and 15 i.p.s., but 7½ is preferred for music.

Some of our club members are employed, and occupations include shop assistants, hair stylists, gas fitters, motor mechanics, farmers, gardeners, and accountants, but the majority are still at school.

We wish to contact any part of the world speaking English, French, or Spanish, some Latin and very little Russian is spoken also.

## CYPRUS

PETER ABEL, age 30, A.T.C.C., R.A.F. Nicosia, B.F.P.O. 53. R.A.F. General. All types. Philips (4-track), 7in. 3½. **England**, would prefer female tape-spont, but will answer all tapes.

23706971 SPR. QUINN, E. W., age 23, H.Q. Troop, 33 Indep. FD. TP. RE., B.F.P.O. 53. Soldier. Photography (35 mm.). S.W.L. recording. Except opera. Philips 3542, up to 7in. 1½, 3½, 7½. **U.S.A., Australia, Africa.**

## SCOTLAND

ROBERT ARMSTRONG, age 33, fish merchant, 140 Quarry Street, New Stevenston, Motherwell, Lanarkshire. Evangelical work, sound engineering. Hymns, organ, sacred recordings. Brenell 3 Star, 7in. 1½, 3½, 7½. **America, Canada, any English-speaking country.**

## WALES

ERIC LEAH, age 39, market gardener, Ty-Rhos, Neveyn, Nr. Newport, Pembrokeshire. Occultism, Buddhism, E.S.P., organic gardening, the country. Light and classical, Gilbert and Sullivan. Cossor CR1602 (4-track), up to 7in. 3½. **Anywhere English speaking.**

DON WILLIAMS, age 36, herbalist, 13 Holborn Terrace, Tonypany, Glam. Play-writing, general. Operatic and pops. Sound "Studio", up to 5½ in. 1½, 3½, 7½. **Anywhere.**

## BERKSHIRE

MAURICE EDWARD LOUCH, age 45, lab. mechanic, Air Survey Research, 8 Shepherds Close, Hurley, Nr. Maidenhead. Many, photography, painting, fishing, motoring, boating, arts, filming. All modern, light classics. Elizabethan FT3 (4-track), up to 7in., 1½, 3½, 7½. **Anywhere especially Australia, America, Las Vegas.**

## BUCKINGHAMSHIRE

P. G. DENTON, age 30, medical rep., 7 Green End, Granborough, Nr. Bletchley. Motor racing All. Dynatron, up to 7in. 1½, 3½, 7½. **New Zealand, Australia, U.S.A., Malaya, Canada.**

L. W. KENYON, age 49, estates manager, Melville Farm, Shenley Road, Bletchley. General music, recording. General. Stuzzi, Stella, 5½ in. 1½, 3½. **Anywhere, male or female, English-speaking.**

## DEVON

MICHAEL G. SIBLEY, age 27, textile percher, 68 Fole Street, Buckfastleigh. Anything audio. Pops through to classics. Grundig TK20, 3½ in. 3½. **Anywhere in U.K.**

## ESSEX

DAVID R. M. GILLBEE, age 20, traffic officer, 27 Oaken Grange Drive, Southend-on-Sea: Aviation, radio, photography. Jazz to classics. Robuk RK3, 7in. 1½, 3½, 7½. **U.S.A., Canada, Commonwealth, all English-speaking.**

BOB HAMILTON, age 26, TV engineer, 94 Salisbury Avenue, Barking. Photography (B. & W.). Singing the Gospel. Gospel records and light classical. Vortexion, 7in. 3½, 7½. **Anywhere English-speaking. Either sex.**

## HAMPSHIRE

JOHN STONEAGE, age 40, electrical inspector, 13 Lower Saint Helens Road, Hedge End, Southampton. Railways, mechanical sports. Country and Western. Grundig TK9, 5½ in. 3½. **Anywhere English-speaking.**

## HERTFORDSHIRE

RON BARRINGTON, age 46, technical clerk in motor industry, 9 Pickford Hill, Harpenden. Tape, Hi-Fi, discs, humour, motoring, general. Latin-American, mod. jazz, instrumentals, good vocals. Home-built Hi-Fi with Collaro Studio, Spectone 161, up to 7in. 3½, 7½. **English-speaking, no need to write—all tapes welcome.**

BILL SIMPSON, age 25, projectionist, c/o Broadway Cinema, Letchworth. Films, tapesponding. Classical, pops.

Grundig TK14, 5½ in. 3½. **Female, English-speaking, anywhere.** Don't write, tapes promptly answered.

## KENT

2352814 L/CPL. BETHELL, age 19, RHQ Troop, 36 C.E.R., Invicta Lines, Maidstone. Firearms, photography, tape recording. Pop, shows, ballads. Elizabethan FT1, up to 5½ in. 3½. **U.S.A., Canada, Australia, English girls.**

JIM ELEY, age 39, civil airline pilot, "Lynstead", Kit Hill Avenue, Chatham. Mechanical, electrical, house maintenance, colour photography, motoring, travel, in fact anything. Pops, light, show music. Vogue, 7in. 1½, 3½, 7½. **Europe, Beirut, Delhi, Singapore, Hong Kong.**

ALAN JORDAN, age 22, teletype operator, F/O, 10 High Street, Crayford, Dartford. Varied, all-embracing. Philips, 7in. 1½, 3½, 7½. **Mainly U.S.A. and Canada, also Far East.**

PETER J. MORGAN, age 24, site clerk, 9 Lydia Road, Deal. Languages, women, humour, travel. Modern jazz. Cossor CR1601, up to 7in. 1½, 3½, 7½. **France, Germany, Sweden, Switzerland, U.K.**

## LANCASHIRE

ALAN BAILEY, age 15, trainee salesman, 68 Bonscale Crescent, Langley, Middleton, M/C. Most sports. Pop. Grundig TK20, all up to 5½ in. 3½. **Anywhere in U.K.**

ALEC HARVEY, age 20, driver's mate, 92 Bracknell Avenue, Southdene, Kirkby, Nr. Liverpool. Radio, photography. Pop music, rock, big beat. Philips (4-track), 7in. 3½. **Any place outside British Isles.**

MAX SELBY, age 38, waiter, 7 St. Albans Street, Rochdale. Conversation. Classical music, songs, etc. Philips, 7in. 1½, 3½, 7½. **Italy, Yugoslavia, France, Germany.**

## LEICESTERSHIRE

JOHN ATKINS, age 41, motor engineer, 161 Coleman Road, Leicester. Active Scouting (swap ideas for training purposes), motoring. Choral, popular classics, not pop! Magnavox, up to 7in. 1½, 3½, 7½. **Anywhere.**

## LONDON

SIDNEY J. BUTTERIDGE, age 35, labourer, 16 Lorne Gardens, W.11. Photography. Classical music, sacred songs. Philips AG8108G, 7in. 1½, 3½, 7½. **Anywhere in London (English-speaking).** A young single lady perhaps.

CYRIL JOHN CARRINGTON, age 38, toolmaker, 82 Fleeming Road, Walthamstow, E.17. 8mm. cine-photography. Latin-American and ballroom dancing.

general. Light and Latin-American. Ferragraph 4A/N, 3in. to 8½in. 3½, 7½. Any part (not British Isles) providing correspondents are English-speaking).

ALAN D. COOPER, age 21, manager of grocers, 98 Greek Road, Deptford, S.E.8. 35mm. colour photography, walking, cycling, reading. Olde tyme. Swiss mountain music, bagpipes, Viennese waltzes, Crazy Otto, accordion music. Grundig TK55, 7in. 1½, 3½, 7½. Channel Isles, Scandinavia, U.S.A., New Zealand, Australia, Canada. Would like to tapespond with young lady about 18-22. No need to write first, just send. All tapes answered.

PAUL and VALERIE HORTON, ages 31 and 29 respectively, compositor, housewife, 190 Dudden Hill Lane, Neasden, N.W.10. Philately, reading, knitting, do-it-yourself, walking, bringing-up children. Pops, light classic, trad. jazz. Stella (4-track), 7in. 3½. Anywhere, especially Australia, only English spoken.

### MIDDLESEX

RON ELLIOTT, age 35, film studio projectionist, 11 The Grove, Greenford. Films, recording, Hi-Fi systems. Ballads, trad. jazz, pops. Telefunken, 5½in. 3½. Anywhere English please, pref. Holland.

ALAN GRIFFIN, age 31, prototype engineer, 90B London Road, Enfield. Youth work, still and cine photography. Any music except classics, opera. Telefunken 85KL, 7in. 3½, 7½. Anywhere English-speaking. All tapes answered.

DEREK LYONS, age 28, journalist, 30 Trowlock Island, Teddington. Travel, trad., life. All except jazz. TK1, 3in. 3½. Continental countries or anywhere. Female preferred.

### NORFOLK

WALTER W. GRIMMER, age 41, local government officer, transport cashier, 39 Queensway, Caister-on-Sea, Nr. Gt. Yarmouth, Continental films. All except heavy music. Grundig TK5, 5½in. 3½. Anywhere in Europe—English-speaking only please.

### NORTHUMBERLAND

D. J. SMITH, age 35, civil servant, 11 West Parade, Newcastle-on-Tyne 4. All aspects of Scouting. Regarding this, Camp Fire songs, Troop show items, etc. Philips Transistor Portable, Ferragraph, 3in.-4in.-8½in. 1½, 3½, 7½. U.K. Initially Scout contacts anywhere could certainly register their interest for passing over to other U.K. tapespondents.

### OXFORDSHIRE

A. W. RADFORD, age 30, test driver, 19 Freeldans Road, Iffley Road. Motoring, 35mm., sport. Trad. jazz, piano concertos, flamencos. Brenell Mk5, any, 1½, 3½, 7½, 15. Spain (Valladolid especially), any country where English or Spanish is spoken, U.S.A., S. America, New Zealand.

### SOMERSET

JAMES C. PALMER, age 19, pharmacy student, 26 Taunton Road,

Bridgwater. Photography, humour, science fiction. Pop, rock 'n' roll, rhythm and blues. Gramdeck, 5½in. All tapes between 3 and 7½ may be played on my adapted Gramdeck. Anywhere, but especially Japan, Holland, S. Africa. Only English spoken. No need to write first. All tapes answered directly.

### STAFFORDSHIRE

PHILLIP BENSON, age 14, schoolboy, 17 Welford Road, Tamworth. TV, radio, cycling, books, making sound effects, all sports, recording of all kinds. Instrumental, pop, lighter classical, jazz (not modern). Sound Riviera (2-track), up to 5½in. 3½. U.S.A., English girls in Canada.

### SUSSEX

HUGH THOMAS RITSON, age 17, scholar, 8 Parchment Square, Chichester. Science, ballroom dancing. Most except heavy operas. Ferguson, 5½in. 3½. Anywhere English-speaking.

### WARWICKSHIRE

NORMAN H. PEAKE, age 27, accounts inspector, 286 Wheeler Street, Lozells, Birmingham 19. Fishing, motor-ing, general. Popular (Miller). Cossor (4-track), 3in. to 7in. 3½. Germany, Con-tinent, U.S.A., English-speaking.

### YORKSHIRE

BARRY N. COLLINS, age 32, medical lab. technician, 102 Thorpe House Avenue, Sheffield 8. Railways, railway photography. All except heavy classical. Philips EL3541, up to 7in. 3½. Anywhere English spoken.

MALCOLM COWSILL, age 15, elec-trician, 583 Huddersfield Road, Ravens-thorpe, Dewsbury. Model-making, do-it-yourself, chess. Not classical, all others. Elizabethan Popular (4-track), 5½in. 3½. Should like to contact anyone in London with the same recorder.

TOM FIELDHOUSE, engineer inspec-tor, 524 Stanningley Road, Stanningley, Pudsey. Writing, recording and listening to humorous stories, sketches, etc. Elec-tronic organ music, unusual items from foreign radio. Sound effects. Brenell, 7in. 3½, 7½. Anywhere English-speaking, Americas O.K. Don't write—3in. tape first.

RONALD MADDISON, age 25, driver-salesman, 64 Victoria Road, Mid-dlesbrough. Films, reading. Pop music. Elizabethan Popular, Walter, 7in. 3½, 7½. France, or any English-speaking country.

JAMES CONOR SINCLAIR, age 27, police officer, 4 Police House, Wheatley Street, Denagy Main, Doncaster. Taping, police history, everything. Trad. jazz, Irish music, folk music. Stellaphone, 5in. 3½. Australia, New Zealand, U.S., Canada. ATR

For ease of reading, particulars of Tapespondents are printed in the following order—name, age, occupa-tion, address, interests, taste in music, type of machine and area of Tape-sponding.

## Spool Talk

Thomas Cameron of 101 Wall Street, Camelon, Falkirk, Stirlingshire, tells us of an intriguing stunt which readers can try, providing they can reverse the tape direction on their recorders: "We use a recorder for rehearsing our vocal trio and one night we wrote a 16-bar commercial jingle in three-part harmony and then rewrote both the words and music back-wards. We learnt this backwards version, both musically and phonetically and re-corded it with the tape running the opposite way to usual on our Truvox.

On our end product played the correct way, words like "soap flakes" sounded as if a foreigner was making his first attempt at English—with his mouth full of soap flakes!

Why not give your tape pal a surprise by trying this stunt on his name and starting your next tape with it? Nor-rer-mac Sam-ot.

Is your tapespondence dull and un-interesting? Are your tapes becoming filled with music and excuses about taking so long to answer? Well here's a club that will get you out of the rut. The Tapewriters Circle welcomes the re-fugee from dull tapesponding and shows its members how to become 'creative', with topics like "Do your believe in ghosts?"—"Should we have a Con-tinental Sunday?"—"Is Christmas too commercialized?" There's nothing like a good argument to keep tapes moving.

Members choose their own topics so if you think you have something origi-nal, interesting or entertaining, you're welcome as a member of "The Circle". The subscription is only 5s. per annum. Full details can be obtained from R. S. Lowsley, 78 Gladstone Street, Lough-borough, Leicester. ATR

## Tapesponding Form

Readers of 'ATR' who would like their tapespond entries to appear in the Inter-Tape Directory are requested to complete the form below and send it to:

INTER-TAPE DIRECTORY, ROOM 530, ULSTER CHAMBERS, 168 REGENT STREET, LONDON, W.1.

I would like to tapespond and agree to my name and address being published. I also agree to acknowledge all replies I receive in response to my entry in the Directory.

Name .....  
Age ..... Occupation .....  
Address .....

BLOCK LETTERS PLEASE

Interests .....  
Taste in music .....  
Type of recorder used.....  
Tape speed(s)..... Spool size.....  
Which part of the world do you wish to contact? .....

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Advertisements should be addressed to the Advertisement Manager, 'Amateur Tape Recording & Hi-Fi Magazine', 145 Fleet Street, London, E.C.4.

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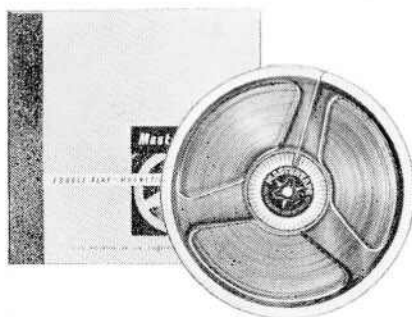




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