

# TAPE

RECORDING MAGAZINE

NOVEMBER 1962

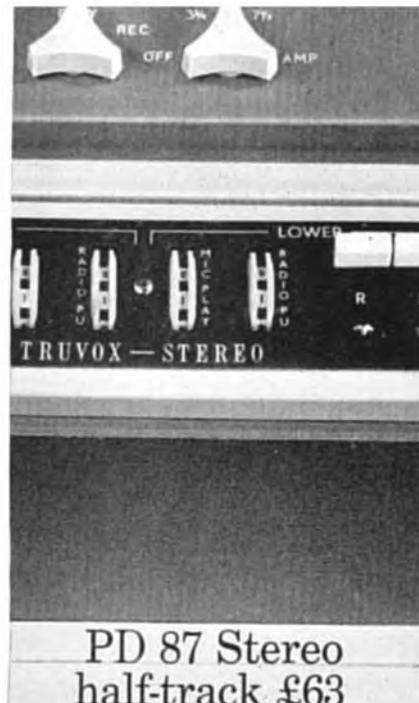
1/6



**FIRST AND FOREMOST IN THIS FIELD**

**BUILD YOUR  
OWN PARABOLIC  
REFLECTOR**

Special feature, page 21



## six variations on a Hi-Fi theme

'SERIES 80' TAPE UNITS BY TRUVOX ■ The heart of this series is the Truvox 80 tape deck—fast becoming recognised as a classic of modern audio engineering. Smooth, silent and certain in operation. Crisply precise and alert to the touch. Ruggedly built for a long, tough and active life. And as reliable as Big Ben. ■ Truvox tape units offer—in all six variations—a fine array of features. A hysteresis capstan motor by Papst provides three speeds ( $7\frac{1}{2}$ ,  $3\frac{3}{4}$  and  $1\frac{5}{8}$  ips) constant to within  $\pm 1\%$ , and changeable while running, with two independent motors to ensure a 60-second

fast rewind for a full 7" reel. The braking is positive and efficient and the autostop operates both at the tape end or in case of tape breakage (no foil required!). All versions are self-powered and housed in an attractive wooden plinth ready for easy connection to existing hi-fi installations. (No matching problems!) ■ Inspect the Series 80 at your Truvox Dealer. When you see, hear and handle these fine instruments for yourself you'll recognise, too, what we mean by the Truvox Touch—the extra, *subjective* factor, beyond the specification, that is engineered into every Truvox tape recorder.

Send now for leaflets showing *all* the tape recording equipment with The Truvox Touch:—  
TRUVOX LTD. Neasden Lane, London, N.W.10  
T.R.G.

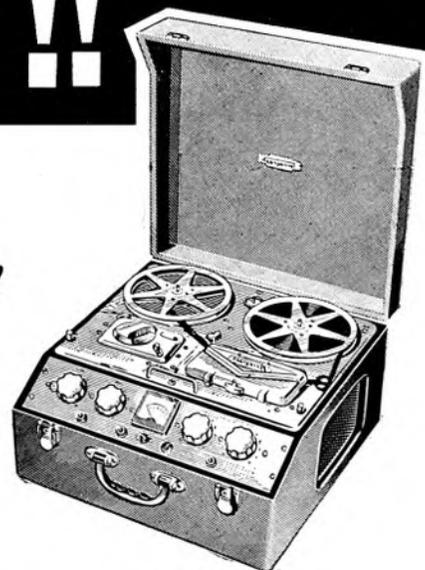
## THE TRUVOX TOUCH

*starts where the specification leaves off*

# 2 YEARS FREE SERVICING!!

**FREE GIFTS, FREE TAPES,  
COMMISSION & DISCOUNTS!!!**

If that's what you want when you buy a tape recorder then you most certainly will not come to us to purchase one. We cannot and will not give you these things for our reputation as Britain's leading tape recorder specialist company is not built on sales gimmicks but on SERVICE. What we do give you is two whole years of worry-free, trouble-free and above all cost-free servicing. Every new tape recorder over £35 carries our unique and exclusive two years' absolutely FREE SERVICING GUARANTEE, that many thousands of more than satisfied customers have found to be the best obtainable anywhere. Make your choice when buying that new tape recorder. Gimmicks or superlative free servicing by a company specialising in nothing but recorders and servicing.

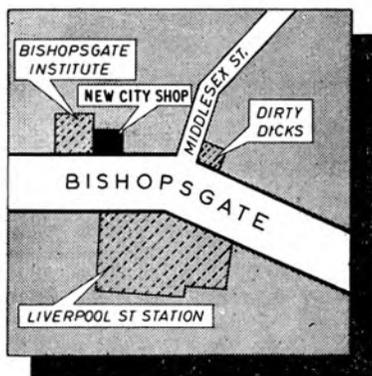


**Specialists in**

FERROGRAPH . VORTEXION  
BRENELL . REFLECTOGRAPH  
GRUNDIG . REPS . ETC

- ★ OVER 250 NEW AND LOW PRICED SECOND-HAND RECORDERS ON DISPLAY ★
- ★ GENEROUS PART EXCHANGES ★ CASH & H.P. TERMS OVER 9-24 MONTHS ★
- ★ FREE HOME DEMONSTRATIONS ★ FREE DELIVERY ★ FREE PAMPHLETS, Etc. ★

## SHOWROOMS:



### ◀ CITY:

228 BISHOPSGATE, E.C.2 (Opp. Liverpool St. Station). BIS 2609  
OPEN MON. to FRI. 9 to 6 p.m. CLOSED SATS. OPEN SUN. 9 to 2-30 p.m.

### STRATFORD:

2 MARYLAND STATION, LONDON, E.15 (Adj. Maryland Station)  
(EAST HAM & STRATFORD OPEN ALL DAY SAT.) MAR 5879

### EAST HAM:

205 HIGH ST. NORTH, E.6 (Opp. East Ham Station). GRA 6543

# CITY & ESSEX TAPE RECORDER CENTRES



**connoisseurs  
say**

# SIMON



... the connoisseur with an eye for a bargain chooses the **SIMON SP5** because no other tape recorder in the price range gives him so much at professional standards!

Unrivalled facilities of the **SIMON SP5** include uni-directional twin track recording, two speeds, 7-inch spools, dual channel mixing, master fader, monitoring through loudspeaker and level setting, controlled echo, track to track recording, controlled bias, recording level meter.

\* You can buy the **SIMON SP5** as a stereo recorder, or in a monaural version ready wired and fitted for easy conversion to stereo.



**SIMON SP5**  
Price from 95 gns  
*"Tape recording in the new age"*



... the connoisseur with an ear for performance chooses the **SIMON Cadenza Ribbon Microphone** because he gets studio class results in the middle price range.

The **SIMON Cadenza Ribbon Microphone** is a popular and successful conception of ribbon and magnet arrangement... output is flat to close limits over the very wide range 50-12,000 c.p.s., new shell design eliminates resonant peaks and troughs—especially the "bass hump". Can be used in LZ or HZ condition... though the ribbon area is four times the normal size, dynamic impedance is negligible.



**SIMON Cadenza  
Ribbon Microphone**  
Price 10 gns  
*"Makes a piano sound like a piano"*

For full technical details of SIMON tape recorders and microphones, consult your dealer. In case of difficulty please write to:

**SIMON EQUIPMENT LIMITED**  
48 GEORGE STREET LONDON W.1

# Magnetic Recording Tapes



on pre-stressed Polyester base. Excellent mechanical properties and outstanding electro-magnetic characteristics.

Distortion free. Maximum tensile strength.

Unaffected by variations in temperature.

Anti-static qualities ensure perfect sound reproduction.

- PE 31 LONG PLAY
- PE 41 DOUBLE PLAY
- PE 65 TRIPLE PLAY

	Length feet	Spool diameter ins.	Playing Time Double track at 9.5 cm/sec. 3½ ins./sec. Mins.	Price
Agfa PE 31	210	3	2 x 11	9.0.
Long play tape	900	5	2 x 45	£1. 8.0.
	1200	5½	2 x 60	£1.15.0.
	1800	7	2 x 90	£2.10.0.
Agfa PE 41	300	3	2 x 15	13.9.
Double play tape	1800	5½	2 x 90	£2.17.6.
	2400	7	2 x 120	£3.16.6.
Agfa PE 65	450	3	2 x 23	£1. 2.6.
Triple play tape	900	4	2 x 45	£1.19.0.
	1800	5	2 x 90	£3. 6.3.

AGFA LIMITED • 27 REGENT STREET • LONDON SW1 • PHONE REGent 8581/4

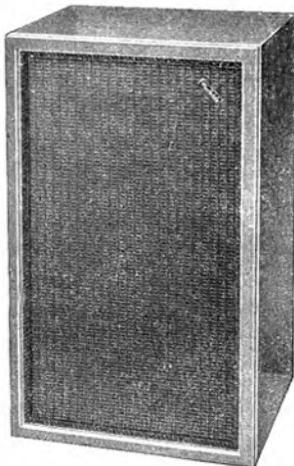
\*Regd. Trademark

# Pure Bass

in  
small  
space

## MODEL W2

A really compact loudspeaker system giving full range performance on mono and stereo.



**SIZE:**

23 1/2" x 14" x 12"

**WEIGHT:**

37 lb. complete.

**FREQUENCY RANGE:**

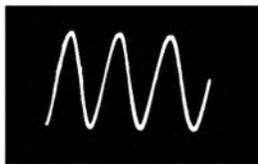
30—17,000 c/s.

**MAX. POWER:**

15 watts.

**IMPEDANCE:**

15 ohms.



£27.10.0 in whitewood,  
£29.10.0 fully finished  
with a choice of oak,  
walnut or mahogany  
veneers.

As the waveform shows, the enclosure gives distortion-free performance down to 30 c/s with 4 watts input.

**LEAFLET ON  
CABINET MODELS  
ON REQUEST**



**IDLE BRADFORD** Yorkshire

Telephone: Idle 1235/6

Telegrams: 'Wharfedel' Idle Bradford

## SOUTH LONDON TAPE RECORDER and HI-FI CENTRE

The Largest Selection of Highest Quality Recording and Reproducing Equipment on Show. 200 Machines Displayed.

FERROGRAPH 4AN	... 81 gns.
FERROGRAPH Stereo 422U	110 gns.
BRENELL Mk. V "M"	... 88 gns.
PHILIPS Stereo	... 92 gns.
REFLECTOGRAPH Type 'A'	105 gns.
REPS. R.10. 4 Track	... 69 gns.
SIMON S.P.5	... 93 gns.
TANDBERG Stereo 6	... 110 gns.
TRUVOX Twin Track	... 82 gns.
VORTEXION WVA	... £93.13.0
SONY Stereo 521	... 124 gns.
AMPEX 971 Stereo	... 225 gns.



**AMPLIFIERS BY**

LEAK	ROGERS	QUAD
ARMSTRONG	DULCI	JASON

**TUNERS**

DULCI	LEAK	QUAD FM and AM
ARMSTRONG		ROGERS

**MICROPHONES**

GRAMPHAN DP4	RESLO
FILM INDUSTRIES	CADENZA

**SPEAKERS**

LEAK SANDWICH	QUAD ELECTRO-	
STATIC	LOWTHER	GOODMANS
WHARFEDALE		

Large stock of shop-soiled and used Tape Recorders at bargain prices.

**THE LEADING TAPE-RECORDER AND HI-FI MAIL SPECIALISTS**

- No interest terms on tape recorders over 12 months (18-24 months available).
- Generous allowance on your Tape-recorder, Hi-Fi equipment.
- Immediate delivery (normally waiting time on above machines is 12-16 weeks).
- Tape recorders for hire from 45/- weekly.

CALL IN PERSON OR WRITE TO OUR MAIL ORDER DEPT. FOR IMMEDIATE ATTENTION

**REW EARLSFIELD LTD.** TELEPHONE: BALHAM 7710

266, UPPER TOOTING ROAD, LONDON, S.W.17

## tape accessories IN A PRESENTATION GIFT SET



**Klenzatape**

The approved method for cleaning, playing and erase heads.  
Klenzatape Kit 12/6 Fluid Refills 3/11 Tape Refills 5/-

**Metro-Splicer**

For both recording tape and 8mm cine film.  
Splicing Kit 15/- Spare Cutting Units 2/6 Spare Film Emulsion Scraper 1/-

**Metro-Tabs**

For quick, positive identification of recorded passages.  
Price per set 3/11 including Index.

**Metro-Brush**

For cleaning, tape decks and cine equipment.  
Price 2/6



ALL THE ABOVE, PLUS MANY SPARES, CAN NOW BE OBTAINED IN THE METRO-SOUND TAPE ACCESSORIES GIFT SET (AS ILLUSTRATED) PRICE £2 2s 0d COMPLETE

NEW!

**METRO-STOP**

Used as normal stopfoil. Easy to apply and remove.

Available all leading dealers, if any difficulty write to:



**METRO-SOUND MFG. CO.LTD.**

19a, Buckingham Road, London, N.1.

Tel: CLIssold 85017

**Every man his own quintet...**

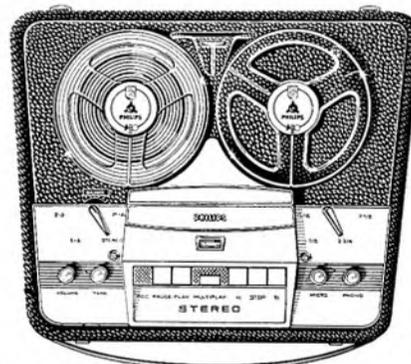


**Press the MULTIPLAY button and you're great five\* different ways — ON ONE SOUNDTRACK!**

New Philips de luxe stereo tape recorder has a brilliant exclusive—multiplay—the feature that lets you record as many times as you like—and play all the sounds back together! (You listen to your previous recording on stereo headphones while adding each new sound.) Other exciting new features include: all-transistor amplifiers that eliminate warm-up time; and four tape speeds—including  $\frac{1}{8}$  ips that permits 32 hours' recording on one 7" reel of DP tape, 4 hours' on a 3" reel. All this, plus brilliant four-track stereo and mono recording and reproduction and two big speakers—one in fully detachable lid! What a list! What a tape recorder! Hear it today.

\* Five isn't the maximum number by any means. But how else do you describe a quintet?

**MODEL EL3534 92 gns.** Complete with stereo microphone, 7" reel of LP tape, empty take-up spool & connecting leads.



MADE IN HOLLAND



**PHILIPS NEW DE-LUXE STEREO TAPE RECORDER with MULTIPLAY**

PHILIPS ELECTRICAL LIMITED, ELECTRO ACOUSTICS DIVISION, CENTURY HOUSE, SHAFTESBURY AVENUE, LONDON, W.C.2

**FAULTY RECORDING**  
**INCOMPLETE ERASURE**

## THE ONLY REALLY SAFE SCIENTIFIC CLEANING METHOD!

Recommended by leading manufacturers  
Many tape recording faults are due to oxide deposits from the tape on the record and erase heads.  
You can overcome these by using...

# KLENZATAPE

A completely safe cleaning method developed by sound engineers, to clean delicate and inaccessible surfaces. You merely play through the KLENZATAPE (supplied on two spools) using the special KLENZATAPE cleaning fluid.

IT'S QUICK—IT'S EASY—IT'S KLENZATAPE!  
Available at leading dealers. If you have any difficulty, write to...



**METRO-SOUND**  
METRO-SOUND MFG. CO. LTD.  
194 BUCKINGHAM ROAD,  
LONDON, N.1.  
Telephone: CLIssold 8506/7

Look for the bright red pack with the polythene storage wallet. Price 12/6d

**NOISY PLAYBACK**  
**DISTORTION**  
**DEPOSITS**  
**DIRT**

## TAPE RECORDER COVERS



Smart, waterproof cover to give complete protection to your tape recorder. Made from rubberised canvas in navy, wine, tan, grey and bottle green with white contrasting pipings, reinforced base, handy zip microphone pocket and name panel.

Cosmor 1602	...	...	57/6
"    1601	...	...	63/-
Stella ST455	...	...	63/-
"    ST454	...	...	57/6
Saja Mk.5	...	...	57/6
Scuzzi Tricorder	...	...	58/-
Saba	...	...	63/-
Wyndor Viscount	...	...	55/-*
"    Victor	...	...	60/-*
Elizabethan Princess	...	...	60/-
"    Avon	...	...	60/-
"    Escort	...	...	57/6*
"    Major	...	...	63/-
"    FT.1	...	...	66/-
"    FT.3	...	...	↑
Fi-Cord	...	...	52/6
Korting (4 track stereo)	...	...	63/-
Harting Stereo	...	...	66/-
Fidelity Argyle	...	...	55/-*
Walter 101	...	...	55/-
Simon SP4	...	...	63/-*
Clarion (complete with strap)	...	...	52/6
Brenell Mk.5	...	...	77/-
"    3 star	...	...	69/-
Minivox	...	...	↑

\* Without pocket  
↑ Price to be announced

**A. BROWN & SONS LTD.**  
24-28, GEORGE STREET, HULL      Tel: 25413, 25412

### 18 Months to Pay

	Deposit		18 Monthly Cash Payments			
	£	s. d.	£	s. d.	£	Gns.
<b>MAINS 2-TRACK</b>						
Truvox R82...	5	15 6	2	17 9	55	
Brenell 3 Star	6	2 0	3	0 11	58	
Reps. R.10	6	4 0	3	2 0	59	
Brenell Mk. 5	7	2 0	3	6 10	64	
Grundig TK41	8	0 0	3	18 8	75	
Telefunken 85 De Luxe	8	15 0	4	7 2	83	
Ferrograph 5A/N	8	19 0	4	13 11	85	
Brenell 5 Type "M"	9	5 0	4	12 5	88	
Veritone 16...	9	13 0	4	15 6	91	
Simon SP/5	9	16 0	4	17 8	93	
Reflectograph "A"...	11	5 0	5	10 0	105	
<b>4-TRACK MONAURAL</b>						
Grundig TK23	4	15 0	2	7 3	45	
Brenell 3 Star	6	2 0	3	0 11	58	
Truvox R.84	6	4 0	3	2 0	59	
Philips EL3549	6	12 0	3	5 0	62	
Reps. R.10	7	5 0	3	12 6	69	
Grundig TK40	8	0 0	3	18 8	75	
<b>4-TRACK STEREO/MONAURAL</b>						
Philips EL3534	9	16 0	4	16 6	92	
Philips EL3536	9	16 0	4	16 6	92	
Telefunken 97	10	0 0	4	19 9	95	
Grundig TK46	10	12 0	5	3 9	99	
Akai M.6	13	13 0	6	16 6	130	

### THE RECORDER CO. presents a NEW MODEL PHILIPS EL 3534 de Luxe Stereo



PRICE **92** Gns.

Up to 32 hours Mono Recording on one tape. All transistor amplifier. Four speeds 15/16, 1 1/2, 3 1/2 and 7 1/2 i.p.s. Complete with Stereo Microphone and two 5in. x 7in. loudspeakers.

We will be pleased to demonstrate this remarkable model, send for full details.

- ★ INTEREST FREE terms
- ★ FREE INSURANCE COVERING YOUR PAYMENTS IN THE EVENT OF SICKNESS OR UNEMPLOYMENT
- ★ FREE DELIVERY      ★ PART EXCHANGES

### 12 Months to Pay

	Deposit		12 Monthly Cash Payments			
	£	s. d.	£	s. d.	£	Gns.
<b>MAINS TWIN-TRACK</b>						
Elizabethan LZ30	3	7 3	2	10 5	32	
Grundig TK14	3	13 6	2	15 2	35	
Reps. R.10	6	3 11	4	13 0	59	
Telefunken 95	6	3 11	4	13 0	59	
<b>4-TRACK</b>						
Philips "Star Maker"	2	16 9	2	2 7	27	
Philips EL3541	3	15 8	2	16 9	36	
Elizabethan LZ29	3	15 8	2	16 9	36	
Truvox R64...	4	2 0	3	1 5	39	
Grundig TK23	4	15 0	3	10 10	45	
<b>BATTERY</b>						
Grundig TK1	2	13 0	1	15 0	23	
Philips EL3585	2	10 5	1	17 10	24	
Stella ST470...	2	15 0	1	19 2	25	
Optacord 412 Battery/ Mains	4	15 0	3	10 10	45	
Stuzzi Magnette	6	4 0	4	12 11	59	
Butoba MT5...	7	0 0	5	3 10	66	
Ficord 202	7	0 0	5	3 10	66	
<b>TRUVOX HI-FI TAPE UNITS</b>						
<b>TWIN-TRACK</b>						
PD.82 Standard	4	4 0	3	3 0	£42	
PD.87 Stereo	6	6 0	4	14 6	£63	
<b>4-TRACK</b>						
PD.84 Standard	4	12 0	3	9 0	£46	
PD.86 Stereo	6	6 0	4	14 6	£63	

Open all day Saturday—Friday 6.30 p.m.

# THE RECORDER CO.

If unable to call, write for free brochure or send deposit now for quick delivery.

(Dept. T) 188, WEST END LANE, WEST HAMPSTEAD, LONDON, N.W.6. Telephone: SWI 4977

the  
originators  
of  
tape recording  
-top their  
new range



with the fabulous **85** de luxe

Magnetophon 85 de luxe (shown above). New styling, new 'magic-eye' recording level indicator. New mixing facilities. Speeds: 7½ ips: 3½ ips. Frequency response 30-20,000 cps ± 3dB; 30-15,000 cps; DC heated pre-amplifier valves. 83 G.I.S (excl. microphone)

# TELEFUNKEN

Hear this! The signal to noise ratio achieved in the magnificent new Magnetophon 85 de luxe is  $\geq 50$ dB! And this remains constant throughout its life, unaffected by ageing valves! This is a remarkable achievement in a domestic tape recorder. An achievement in keeping with all the other outstanding advances of technique and design that have kept the name Telefunken Magnetophon in the fore-front of tape recording since the first tape recorder in the world carried the name, way back in 1935!

Now—a Telefunken to suit every tape recording need! Ask your dealer for a demonstration.



**Magnetophon 95**

Twin-Track—Speeds 7½, 3½, 1½ ips 7" spool. Frequency response 30-18,000; 30-16,000; 30-9,000 cps. Facilities for superimposition and "straight through" amplifier. 59 GNS (excl. microphone)



**Magnetophon 96**

Four-Track—Speeds, spool size and frequency response as Magnetophon 95. Superimposing intertrack transcription and straight through amplifier facilities. Ideal recorder for cine enthusiasts. 69 GNS (excl. microphone)

GET THIS **NEW**  
**TELEFUNKEN**  
BROCHURE **FREE**



**Magnetophon 97**

For the stereo enthusiast, Four-Track—full stereo recording and playback as well as all the unique features of the Magnetophon 96. Extra speaker in lid for Stereo playback.

95 GNS (excl. microphone)



**Magnetophon 'Automatic'**

The world's first Automatic Tape Recorder. Eliminates almost all controls. You merely switch on and press recording button. Running time 3 hours with 5½" DP tape.

50 GNS (excl. microphone)



**Magnetophon 75K-15**

Tape Speeds 3½ ips and 1½ ips with frequency response of 60-16,000 cps and 60-9,000 cps. Playing time of 6 hours on 5½" DP tape. Tone control. Extension speaker socket.

50 GNS (excl. microphone)

(Write now) to Dept TMI Welmecc Corporation Ltd, 147/8 Strand, London WC2

# GET ALL MAKES - ANYWHERE

ORDER BY MAIL WITH COMPLETE CONFIDENCE - ANYWHERE IN THE WORLD

The Tape Recorder Centre Ltd - leading international specialists in Tape Recording and Hi-Fi - supply all makes, by mail, wherever you are.

## Free Carriage and Insurance in Great Britain

All despatches in England, Scotland and Wales entirely FREE, at the pound sterling prices listed here. All despatches by return.

## Unequalled World-Wide Export Facilities

For buyers outside Great Britain, anywhere in the world, all equipment is supplied at Export Prices, which exclude purchase tax where applicable, listed here as Dollar prices. All carriage and insurance charged at cost. Goods are suitably packed and shipped immediately. Please send your remittance by Bank Transfer or Money Order, in pounds sterling or dollars.

## Personal Export Service

For overseas buyers visiting Great Britain, The Tape Recorder Centre operates the personal export system, providing equipment at UK prices but excluding all purchase tax.

## Unsurpassed Range of Equipment

The Tape Recorder Centre offers the greatest choice of all Tape Recorders and Hi-Fi equipments anywhere. Even the list here can only show a part of the complete range carried by The Tape Recorder Centre.

## Specialist Know-How and Advice

The specialist experience of the Tape Recorder Centre Technical Departments is freely at your disposal to make sure you choose exactly what suits your needs and your pocket. The different units used for Hi-Fi equipment have to be carefully selected to work well together. You can rely on The Tape Recorder Centre to ensure that all units are carefully selected and matched to give you top performance and top value. Enquiries are welcome. Reliable advice and keen quotations always gladly supplied.

## HIRE PURCHASE TERMS PART EXCHANGES RANGE OF CABINETS

SPEAKERS	£	s. d.	\$	
Goodmans ARU172 or 180	3	5	6	9.15
Goodmans Axiote 8	5	10	0	11.40
Goodmans Axiom 300 12"	11	5	9	31.80
Goodmans AL10	6	2	6	12.65
Goodmans AL120...	29	10	0	82.90
Goodmans Trebas 5K/20XL	7	0	0	19.70
Goodmans Triaxiom 12/20	25	0	0	70.25
Kelly Ribbon HF Mk. II	10	10	0	29.50
Leak "Sandwich" Speaker	39	18	0	112.15
Lowther Acousta	38	17	0	111.00
Lowther Acousta/Twin	72	16	0	208.00
Lowther Acousta/Super Twin	95	0	0	272.00
Lowther Audiovector	98	0	0	280.00
Lowther TPI	98	0	0	280.00
Lowther PM6	18	18	0	53.10
Mordaunt "Arundel" Speaker	42	0	0	120.00
Quad Electrostatic Speaker	52	0	0	146.10
Tannoy 12" Monitor	30	15	0	88.00
Tannoy 15" Monitor	37	10	0	108.00
T.S.L. Tweeter LPH65	1	18	7	4.00
W.B. Stentorian "Clumber" 912C	15	1	6	41.25
W.B. Stentorian 8" HF812	4	5	6	8.78
W.B. Stentorian 8" HF816	7	0	9	14.42
W.B. Stentorian HF912	4	10	6	9.27
W.B. Stentorian 10" HF1012	5	2	6	10.50
W.B. Stentorian 10" HF1016	8	4	0	16.85
W.B. Tweeter T10	4	8	3	12.40
W.B. Tweeter T359	1	15	9	3.70
Wharfedale 8/145	7	3	5	14.75
Wharfedale Bronze 10FSB	5	3	3	11.40
Wharfedale Coaxial 12	25	0	0	70.25
Wharfedale Golden 10FSB	8	15	5	19.30
Wharfedale RS12DD	12	10	0	33.00
Wharfedale SFB/3 3 speaker	39	10	0	111.00
Wharfedale Slimline 2	22	10	0	63.20
Wharfedale Super 12 RS/DD	17	10	0	49.20
Wharfedale Super 8FS/AL	7	3	5	14.75
Wharfedale Super 3	6	9	11	14.30
Wharfedale W2 Speaker System	29	10	0	82.90
Wharfedale W3 Speaker System	39	10	0	111.00

### Most Makes of Cross-Over Units in Stock

### CABINETS (Speaker and Equipment)

A.D. Equipment Cabinets from	17	10	0	50.00
A.D. Speaker Enclosures from	10	10	0	30.00
Record Grieg Equipment Cabinet	25	4	0	72.00
Record Liszt Equipment Cabinet	11	19	6	34.00
Record Nordyk Equipment Cabinet	6	19	6	20.00
Record Viking Corner Enclosure	10	10	0	30.00

## TUNERS

	£	s. d.	\$	
Armstrong ST3 Mark II AM/FM	27	16	0	58.20
Armstrong T4B Tuner	21	18	0	47.80
Chapman FM91 Unpowered	22	15	10	50.00
Chapman FM91 (AM/FM)	26	8	3	58.00
Chapman FM95 Powered	26	13	4	57.00
Chapman FM95 Powered	30	6	2	66.00
Leak Mark II Troughline	33	15	0	70.25
Quad FM	28	1	9	59.00
Quad AM Tuner L/M/S	32	2	0	67.44
Rogers Variable FM (S/P) in case	30	17	6	62.75
Rogers Variable FM (S/P) chassis	26	9	6	57.20
Rogers Switched FM Unit	15	11	1	34.00

## AM/FM RADIOGRAM CHASSIS

Armstrong AF208	22	18	0	49.20
Armstrong Jubilee Mk. II Tun/Amp	30	12	0	65.95
Armstrong Stereo 12 Mk. II Tun/Amp	43	10	0	93.00
Armstrong Stereo 55 Tun/Amp	32	15	0	70.15

## AMPLIFIERS

Leak TL12 Plus and 'Point One' Pre-Amplifier	31	10	0	88.50
Leak TL12 Plus and 'Varislope' Mark III Pre-Amplifier	34	13	0	97.35
Quad II Control Unit and Quad II Amplifier	42	0	0	118.00
Quad II Amp and 22 Pre-Amp	47	10	0	133.45
Rogers Cadet MK2	12	0	0	35.00
Rogers RC Cadet MK2 Control Unit	11	0	0	32.00

### All Non-Integrated and Pre-Amplifiers Available Separately

## STEREO AMPLIFIERS

Archon	49	19	6	143.00
Armstrong PCU27 Control Unit	28	10	0	82.00
Armstrong A20 Amp and PCU25 Pre-Amplifier	44	12	6	127.50
Chapman 305 Stereo	39	18	0	114.00
HMV Integrated Stereo	72	9	0	207.00
Leak Stereo 50 Amp with Varislope Stereo Pre-Amplifier	67	0	0	188.30
Leak Stereo 20 Amp with Varislope Stereo Pre-Amplifier	55	9	0	155.80
Leak Stereo 20 Amp with Point One Stereo Pre-Amplifier	51	9	0	144.60
Lowther Stereo	87	0	0	249.00
Quad 22 Control Unit with two Mark II Amplifiers	70	0	0	196.70
Rogers Cadet MK2 Complete	25	10	0	73.00
Rogers HG88 Mk. II Integrated Stereo Amplifier (in case £43.10.0)	40	0	0	113.50
Rogers Junior III Stereo Control	22	10	0	63.20
Rogers Master Stereo Control	35	0	0	98.35
Rogers 'Junior' Stereo Amp	27	5	0	78.00
Walgain Stereo Pre-Amplifier	7	10	0	21.20

## TAPE RECORDERS AND DECKS

Ampex—Prices on Application.				
Armstrong PA303 Tape Osc. Pre-Amp. (Power Unit £2.19.6)	16	16	0	47.20
Brenell Mark V	67	4	0	188.80
Brenell Mark V, Type M	92	8	0	259.60
Brenell 3 Star (2 or 4 track)	60	18	0	171.20
Brenell Mark V deck	29	8	0	82.65
Brenell Play/Record Amp	24	0	0	67.45
Butoba MTS (Battery)	66	gns.		198.00
Coscor 1601 TT	59	gns.		177.00
Coscor 1602 TT	37	gns.		111.00
Coscor 1603 TT	28	gns.		84.00
Elizabethan RT3 TT	45	gns.		135.00
Elizabethan TT3 TT	39	gns.		117.00
Elizabethan FT1 TT	34	gns.		102.00
Ferroglyph Series 420	115	10	0	324.00
Ferroglyph 4 A/N	85	1	0	239.00
Ficord 202 (Battery)	66	gns.		198.00
Grundig TK40 TT	75	gns.		225.00
Loewe Optacord 403 TT	43	gns.		129.00
Loewe Optacord 404 TT	53	gns.		159.00
Loewe Optacord 412 TT (Battery)	45	gns.		135.00
Philips EL 3585 (Battery)	24	gns.		72.00
Philips EL 3514	27	gns.		81.00
Philips EL 3541	36	gns.		108.00
Philips EL 3542	59	gns.		177.00
Reflectograph Mod. A TT	105	gns.		315.00

Reflectograph Mod. B TT	115	gns.		345.00
Simon SP5 TT	93	gns.		279.00
Sony 521 (Stereo)	124	gns.		372.00
Sony 777 (Professional Mono)	190	gns.		570.00
Stella ST454 TT	59	gns.		177.00
Stella ST454 TT	37	gns.		111.00
Stella ST470 (Battery)	25	gns.		75.00
Stella ST456 TT	25	gns.		84.00
Stuzzi Magnette (Battery)	59	gns.		177.00
Tandberg Model 3B	76	gns.		228.00
Tandberg Series 6	110	gns.		330.00
Telefunken 75-15 TT	47	gns.		141.00
Telefunken 85KL TT	79	gns.		237.00
Telefunken 95 TT	59	gns.		177.00
Telefunken 96 TT	69	gns.		207.00
Telefunken 97 TT	95	gns.		285.00
Truvox R7 TT	82	gns.		246.00
Truvox PD86 TT	63	0	0	180.00
Truvox PD87 TT	63	0	0	180.00
Veritone 16 TT	91	gns.		273.00
Vortexion WVA	93	13	0	263.15
Vortexion WVB	110	3	0	309.25
Wearite 4A deck (other available)	42	0	0	117.00

## MOTORS

Connoisseur 'Craftsman' 2-speed	18	5	0	39.35
Connoisseur 3-speed	24	8	8	53.00
Garrard Autoslim	8	14	6	20.00
Autoslim Deluxe Complete	12	14	8	28.00
Garrard Lab/A/Auto unit/GC8	21	18	11	62.00
Garrard Lab/A/Auto unit/EV26A	22	17	0	64.00
Garrard 301	23	5	0	50.00
Garrard 301 with Strobo	24	10	3	54.00
Garrard 4HF/GC8 on base	22	0	2	49.00
Garrard 4HF/EV26A Stereo-Mono	22	18	4	44.00
Lenco GL58 (Cartridge extra)	17	15	5	44.25
Lenco GL70 (Cartridge extra)	29	1	8	63.20
Philips AG1016 Motor and P.U.	14	4	3	30.40

## PICK-UPS AND CARTRIDGES

Auriol Pick-up Control	3	9	9	7.70
Acos Hi-Light Stereo pick-up	18	5	8	39.00
Bang & Olufsen ST/L Stereo pick-up	17	11	6	38.00
Decca Daram cartridge	21	0	0	44.85
Decca L.P. head	4	4	0	8.70
EMI EPU/100 Stereo pick-up	10	10	0	23.25
EMI EPU/100 Stereo pick-up	22	12	3	47.80
Garrard EV26A Stereo/Mono cartridge	2	5	11	5.00
Garrard GC8 Mono/10 cartridge	1	7	10	3.00
Garrard SPC3 Stylus press gauge	1	19	9	2.20
Garrard TPA12 pick-up arm shell	4	11	10	9.00
Goldring G60 pick-up arm only	3	17	7	8.45
Goldring L70 pick-up arm	8	2	10	18.00
Goldring MX1/D mono cartridge	2	8	6	5.30
Goldring SX10/D stereo cartridge	2	18	2	6.36
Goldring 580 t/o cartridge	5	8	7	12.00
Goldring 600 t/o cartridge	10	17	2	24.00
Goldring 700 Mk. II Stereo cartridge	9	10	0	21.00
Leak L.P. Pick-up complete	12	18	7	29.00
Ortofon CG Mono Head	18	0	11	40.00
Ortofon Pick-up arm SKG212 (inc. trans.)	6	2	6	12.50
Ortofon Pick-up arm SMG212	12	17	9	28.75
Ortofon Pick-up arm RKG309	21	18	2	48.50
Ortofon Pick-up arm RMG309	27	1	4	60.00
Ortofon Replacement Diamond Stylus	6	8	11	14.00
Ortofon Replacement Sapphire Stylus	2	1	11	6.00
Ortofon Stereo Head SPU/G	23	4	0	51.50
Ortofon Stereo Head SPU/GT (inc. trans.)	25	15	6	57.00
Ortofon Transformers	2	7	6	7.25
Philips AG3016 mono pick-up head	1	0	0	2.25
Philips AG3063 Stereo pick-up head	1	10	0	3.25
Q-Max 'Stylouev' (Batteries 9d.)	1	6	6	3.00
S.M.E. Arm Model 3009	24	14	6	52.70
S.M.E. Arm Model 3012	27	4	0	58.20
Tannoy Vari-Twin Mark II Stereo	13	3	8	27.96
Watts "Dust Bug"	1	2	9	2.45

Also "A.D.C.", "Pickering" and "Shure" models.

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# TAPE

RECORDING  
MAGAZINE

Vol. 6

No. 11

November 1962

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*COVER PHOTOGRAPH: In making "Plain Sailing", a sailing instructional film, Blake's (Norfolk Broads Holidays) Ltd. found the portability of the Grundig TK1 tape recorder very suitable for their needs in recording effects and "wild" (i.e., not synchronised) sound tracks.*

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### EDITORIAL

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### ADVERTISING

Advertisement Manager,  
MISS PAMELA DURHAM

# THE EDITORIAL VIEW

**I**N the first of the new series of BBC "Sound" programmes there was a discussion of the quality of the work which is now being produced by amateur recording enthusiasts in this country. It arose from a comment which appeared in this column three months ago that the development of creative recording has not made the progress in the past two years that we might have hoped for.

Introducing the radio discussion on a deliberately provocative note, I said, more specifically, that I was disappointed with the tapes entered in the 1962 British Amateur Tape Recording Contest.

Now it occurs to me that this declaration could be misinterpreted and I should like, therefore, to amplify it.

The winning tapes in this year's Contest were very good. Some of them were as good as the best comparable efforts in previous years. The question I am raising is whether it is fair to expect them to have been better.

Amateur recording has now been practised for sufficient years for there to be a good deal of accumulated practical experience. The quality of popularly-priced recorders has improved. The amount of guidance available, in the form of radio programmes, tapes and the printed word, is vastly greater than it was for the early pioneers.

During the first three years of the British Contest there was a perceptible

improvement, year by year, in the average standard of the entries. In the past couple of years, it seems to me, the quality has levelled off.

And it is not the case that we have reached the point where there is no further room for improvement. There is no reason why the amateur should not achieve professional standards and of very, very few of the entries in the Contest can this be said to be true.

\* \* \*

**T**HE discussion in the "Sound" programme cheered me up a little, however, for Tim Eckersley and John Borwick, two of the Contest judges who discussed the subject, were insistent that quite a lot of amateur work these days *does* achieve professional quality. The point seems to be that the amateurs who make the break-through stop entering tapes in the Contest and find other outlets for their talent.

Mr. Eckersley particularly mentioned the very high standard of some amateur recordings of music, effects and natural history subjects.

In the course of the programme, I think we established that the field in which there is most room for improvement is that of taped documentaries, dramatic compositions and feature material generally. This is not surprising, for technical recording quality is only one of the elements involved here.

The creative imagination comes into play, often there is need for literary

ability, a cast may have to be gathered and directed and, after all this, there is the recording to be made.

Few people who have not tried it recognise how much effort is involved. I gather that the intention is to include in forthcoming "Sound" programmes talks giving practical advice by professionals on how they approach this type of activity.

\* \* \*

**T**HE second of the "Sound" programmes featured highlights of the winning tapes in this year's British Contest and in the third programme (on October 28) I hope to give a full report, with some extracts from winning tapes, on the International Contest, which is to be judged in Strasbourg.

Alan Stableford and Roger Aslin, of the Federation of British Tape Recording Clubs, and Mike Avel and one of his collaborators on this year's British "Tape of the Year" will be travelling to Strasbourg with me.

Appropriately, in view of the fact that it was a Motor Cycle Club that produced our best British effort, the two representatives will be driving to Strasbourg on their machines! I shall NOT be riding pillion.

\* \* \*

**I** REPORTED a few months ago that a leading figure in the industry was interested in providing a new tape service for the blind. As a result, contact was established between him and Mr. Charles H. Standen, who has, as readers will know, been operating such a service for a long time.

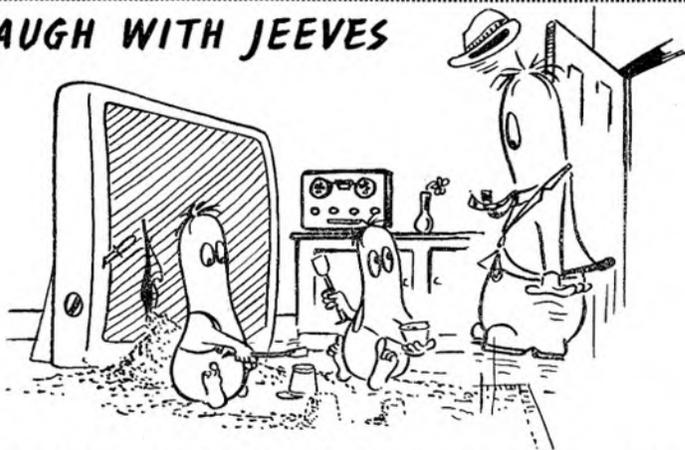
I am delighted to hear that a co-ordinated effort is to result. Mr. Standen is to continue with his service of monthly tapes covering audio matters, including extracts from the audio journals.

His new collaborator is organising a series of tapes to be prepared by inventors, engineers and other experts employed by the leading audio equipment manufacturers. It is hoped that about 20 firms will be taking part in the scheme.

It is hoped that Mr. Standen's organisation, Tape Reading Service for the Blind, will be ready to start circulating new tapes in the very near future.

**THE EDITOR**

## LAUGH WITH JEEVES



A man delivered this sand-filled enclosure while you were out, so we opened it for you.

# A READER QUIZ

## ARE YOU AN AVERAGE TAPE RECORDING ENTHUSIAST?

1. What tape recorders do you have?  
A mains model ..... A battery portable ..... None .....
2. Did your recorder(s) cost?  
Under £30 ..... £30 to £60 .....  
£60 to £90 ..... Over £90.....
3. Do you have stereo facilities?  
Tape record and replay ..... Tape replay only ..... Disc only .....
4. Do you possess any of the following?  
Disc-player ..... Additional microphone(s) ..... Tuner ..... Extension speaker ..... Mixer ..... Splicer .....
5. Do you use the microphone supplied with your recorder?  
Yes ..... No .....
6. Are you satisfied with your existing equipment?  
Yes ..... No .....
7. Do you contemplate buying an additional microphone during the coming year? If so, which type?  
Crystal ..... Ribbon ..... Condenser ..... Moving Coil ..... Carbon .....
8. Do you use a powered or unpowered mixer unit?  
Powered ..... Unpowered .....
9. Do you use an "automatic-type" tape splicer or an editing block?  
Automatic ..... Editing block .....
10. Have any of your friends, during the past year, asked for your advice or recommendations before buying equipment?  
Yes ..... No .....
11. How old are you?  
Under 20 ..... 20 to 30 ..... 30 to 40 ..... Over 40 .....
12. What sex?  
Male ..... Female .....
13. Are you—  
Single? ..... Married? ..... A parent? .....
14. Where do you live?  
Big town or city ..... Country town or village ..... Overseas .....
15. Which income bracket are you in?  
Under £600 .....£600 to £850 .....  
£850 to £1,200 ..... £1,200 to £1,500 .....  
Over £1,500 .....
16. Do you belong to a club?  
Local ..... National ..... International ..... No club .....
17. Do you "tape-spond" by exchanging messages with friends?  
In Britain ..... Overseas ..... Not at all .....
18. How long have you been a reader of *TAPE Recording Magazine*?  
Since first issue ..... Over a year .....  
Less than a year .....
19. How do you get your copy?  
Newsagents ..... Postal subscription .....  
Club or Library copy ..... Any other source .....

**WE** have great respect for our readers—and we should like to know you better. Do you think you are yourself a typical tape recording enthusiast—or are you a strictly individual type? We invite you to join with us in an interesting experiment which will provide the answer.

If you will fill in the form below and post it to us—it need not take long, as all but two of the questions can be answered by marking a cross in the space provided—we will make a detailed analysis and print in due course a special portrait of "the average reader."

You will be interested to compare this image with the person you are yourself. You will be giving us valuable practical assistance in our task of producing a magazine that will meet your needs.

As you will see, the information you give is confidential—we shall have no means of identifying which readers have filled in individual forms.

When you have completed the quiz, tear out the whole page, fold as shown overleaf, and post it to us. No stamp is required; we will pay the postage.

20. Do you read any other tape recording magazine?  
Yes ..... No .....
21. How long have you been interested in tape recording and/or hi-fi?  
Less than six months ..... six months to two years ..... Over two years .....  
Over four years .....
22. How much have you spent in 1962 on tape recording and hi-fi, including equipment, records, tapes, reading matter?  
Less than £5 ..... £5 to £25 .....  
£25 to £50 ..... £50 to £75 .....  
Over £75 .....
23. Do you contemplate buying a new tape recorder during 1963?  
Yes ..... No .....
24. Are you thinking of improving your set-up by buying any of the following?  
New speaker(s) ..... Tuner .....  
Mixer ..... Splicer ..... Amplifier(s) .....  
Any other accessories .....
25. Have you built any of your own equipment? If so, what kind?  
Stereo/mono recorder ..... Mixer .....  
Amplifier ..... Speaker .....  
Any other .....
26. Was the design your own or taken from a tape magazine?  
Own ..... Journal .....
27. Have you bought tape for recording use during the last six months?  
Yes ..... No .....
28. What type do you favour?  
Standard ..... Long-play .....  
Double-play ..... Triple-play .....
29. Of which size reel do you have most at present?  
3 in. .... 5 in. .... 5½ in. ....  
7 in. or bigger .....
30. Will you buy more or less tape during the next six months?  
More ..... Less .....
31. Have you bought any tape records  
Yes ..... No .....
32. Are you guided in your selection by reviews in tape magazines?  
Yes ..... No ..... Sometimes .....
33. Will you buy any during the coming year?  
Yes ..... No ..... Don't know .....
34. Have you ever attended an Audio Fair or similar exhibition of tape and hi-fi equipment?  
Yes ..... No .....
35. Do you read all the contents of *TAPE Recording Magazine*, or are you selective?  
Editorial: all ..... some .....  
Advertising: all ..... some .....
36. Which editorial features do you find most interesting or useful (you can number these in order of preference, if you wish)?  
Editorial view .....  
Test reviews of equipment .....  
News of new products .....  
Club news .....  
Stereo notes .....  
Build-it-yourself articles .....  
Travel-with-a-recorder articles.....  
Reviews of tape records .....  
Cartoons .....  
Humorous articles .....  
Technical articles .....  
Sound effects .....  
Articles about the use of tape for music, dramatics, education, scientific research, etc. ....  
Articles about combining tape recording and photography .....  
News Digest reports .....  
Letters to the Editor .....  
Tape Exchanges .....
35. Have you any special ideas for improving *TAPE Recording Magazine*?  
.....  
.....  
.....  
.....  
.....

# HARRIS' FLYING COMMENTARY

**First, the safety strap came undone . . .  
which led to Harris' undoing**



Our hero as he really is

"So there it is, old lad," said Harris finally. "Me and my faithful portable are going up in the air." "Helped along by a couple of sticks of dynamite, I trust!" I remarked sarcastically. He ignored the witticism. "Sailing among the fleecy clouds, gazing down upon nature's patchwork of fields, woods and rivers, and speaking inspired words of poetic commentary which will be captured on tape for posterity to marvel and wonder at." I made a rude noise. "Don't like your attitude, old lad," said Harris. "It savours of sour-grapes, not to mention complete disinterest." "On the contrary," I replied. "I'm interested in the identity of the poor, misguided soul who has apparently agreed to your being turned loose within a mile of a £1,000 aeroplane!" Harris breathed on his fingernails and polished them airily on the lapel of his coat. "Old R.A.F. chum of mine, if

you must know," he announced loftily. "Has his own 'crate,' private income, a profound interest in the finer applications of the tape recording medium, and unbounded faith in the Harris tradition of intellectual inventiveness, bulldog determination and rock-like ability to keep calm in a crisis." "Which asylum's he in, did you say?" I asked. He ignored this one, too. "Kindly have the car ready at two-o'clock sharp tomorrow, and see the boot's empty: there's quite a bit of kit to take." I held my hand out. "Ten bob." "What for?" said Harris. "Petrol" I reminded him, "improves a car's performance no end! Fill up before we start out—I know your little tricks!" "I think money's disgusting!" retorted Harris, coughing up. "Ruins friendships!" It occurred to me—although I didn't say anything—that tomorrow's little experiment stood more than a fair chance of sabotaging yet another one! "Imagine," said Harris rapturously, "up there, free as a bird, just me and the Fi-Cord alone with the wind!" "Very likely!" I muttered.

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FLAP B

FIRST FOLD ALONG THIS LINE

Fold along lines as indicated and then tuck Flap A into Flap B.

## A BRIGHT NEW SERIES

by Alan Edward Beeby



**D**EREK and I watched the small blue-and-white aircraft as it bumped gently across the runway and finally came to a halt. The pilot got out first and, from the way he stamped off in the direction of the flying club buildings, he seemed annoyed about something. As yet, there was no sign of Harris. Then, above the edge of the rear cockpit, a head slowly appeared, gazed round as if making sure the coast was clear, then the owner stood up and climbed shakily down to the ground. I nudged Derek. "Come on, let's go and find out what's gone wrong this time!"

As we approached, Harris, looking as green as grass, held up his hand. "One moment, my good men," he murmured weakly, and disappeared behind the 'plane for a few seconds, then came out again, looking greener than ever!

"Righto, Lindbergh!" said Derek. "Where's the Masterpiece?" Harris flopped down on to the grass, gulped and blinked owlishly at us. "That man," he began, indicating the pilot's seat, "is stark raving bonkers!" He held up a tatty-looking object which appeared to consist of an assortment of multi-coloured wires tangled around a small metal tube. "What's that?" I asked. "Microphone," he said sadly. "How come it's in that state?" gasped Derek. "And where's the outer-casing gone?" "Well," said Harris, "it's a long story. You see . . ."

**H**ARRIS'S two-year period of service with the Royal Air Force had been spent mainly in offices, signing equipment-chits; in pubs, and in various "glass-houses" up and down the country: certainly not in training for the harassing experience he had undergone that afternoon!

They had, apparently, only been airborne for about two minutes when Harris discovered that his portable recorder, which he carried on a shoulder-strap, was partly trapped beneath the safety-belt that was clamped across his

lap. He undid the belt, freed the recorder, then found that the slide-clip which determined the tension of the belt had somehow readjusted itself and refused to fit tightly any more. It was this factor which was largely responsible for the succession of unnerving events that followed.

Deciding to do without the safety-belt (not that he had a choice!) Harris took the microphone from its box and plugged it into the portable. He was just about to switch to "record" when he noticed that the securing-screw was missing from the mic's casing, allowing the insert to slide up and down inside its sheath. Knowing full well that to try to record under these circumstances would merely result in his voice being drowned by a welter of vastly-amplified scraping sounds from the loose insert, Harris leaned carefully forward in his seat and began to search around the floor for the wayward screw.

It was inevitable, of course, that the pilot should have chosen this particular moment to swing the 'plane to the right in a sort of banking manoeuvre, and Harris lost his balance and sat down rather heavily on the floor! This sudden list of the 'plane to the right was followed, almost immediately, by an equally-sudden one to the left, and the luckless passenger rolled, like a tennis-ball, over to the opposite side of the compartment!

Somehow, he managed to get back on to his seat, then decided to try and make the pilot understand what was going on, and to request him, as Harris put it: ". . . to drive the damn thing straight for a bit, till I'd sorted myself out!" So, clutching the sides of the cockpit for all he was worth, he stood upright . . . and the lashing air-stream promptly whipped his cap off! "Oi! I say! Laurence!" yelled Harris at the top of his voice. The pilot didn't answer, but eased back on the joy-stick, sending the 'plane upwards and Harris backwards into his seat once more!

Determined to obtain a reply from friend Laurence, Harris's eye fell on the microphone-box. He picked it up, took careful aim and, mentally noting the strength of the air-stream, threw the thing hard over the pilot's head. Unfortunately, the wind forced the box downwards before the intended point-of-return was reached, and it clouted Laurence in the back of the neck! Swinging round in his seat, he ignored the nervous smile of relief which his passenger bestowed upon him, and inquired, in no uncertain terms, just what the sanguinary place of fiery torment Harris thought he was playing at!

"The score, so far, is one cap and one microphone-box," prompted Derek. "Did you do any recording at all?" Harris hiccupped violently and patted his middle. "Funny you should ask that," he said. I gave Derek a knowing look. "Because," he went on, "that's exactly what I did do." (Surprise!)

Having been forced to the conclusion that Laurence wasn't in the least interested in his little troubles, Harris slid the loose mic's casing off completely and tried to record without it. Then, just as he was about to begin commentating, he felt a disturbing, yet familiar sensation in the region of his stomach.

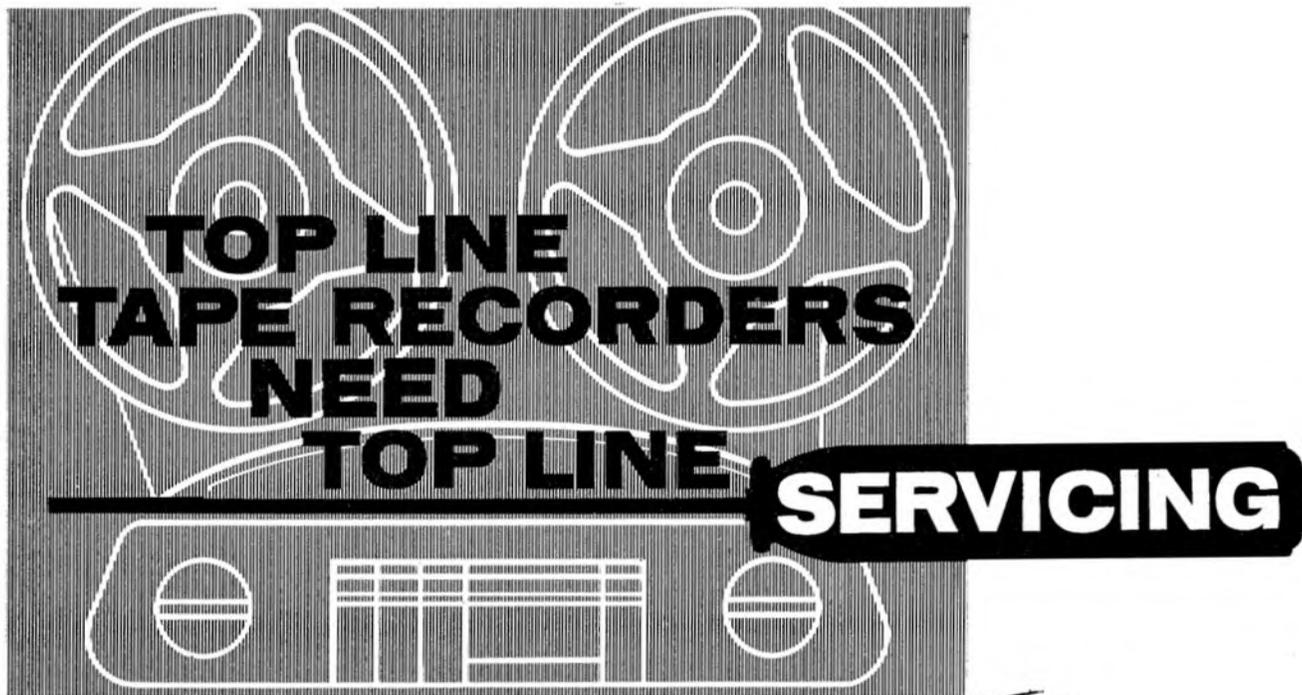
"Not in the cockpit, surely!" I appealed to him. Harris spread his hands helplessly. "Where else?" "Over the side?" suggested Derek. "Didn't have time, old lad," Harris explained. "You know how it is!" "Well, what about this recording, then?" I insisted. "What have you got?" Harris looked from one to the other of us. Then: "I was wondering," he said meekly, "if either of you had any use for fifteen seconds of aeroplane-noises? Make a nice tape-loop job, sort of thing . . . Or . . . No?"

\* \* \*

**T**EN minutes later, we were driving homewards, with the Bleary-Eyed Bleriot sleeping it off in the back seat. Next day, faced with the prospect of a lengthy absence from work with something the doctor had diagnosed as "acute duodenal-dyspepsia," coupled with the added expense of £8 10s, for a new microphone, Harris viewed life from his bed with a jaundiced eye. Nor was this all. Laurence, he learned later from a mutual acquaintance, had given a highly-unflattering account of his passenger's antics to a bar full of other flying-club members.

"Hadn't been up many minutes before the fool undid his safety-belt and started jumping and dancing and chucking himself about! Screaming and shouting, he was! When I took no notice, he started throwing things at me—I thought he was going lah-loo! Then, after we came down and I got back from reporting-in, I found he'd . . . well, you know, been ill all over the place and had sheered off in a fast car with two other merchants without offering a penny towards the expenses!"

But the final straw was laid when Harris's indignation at this wilful misrepresentation of the true facts turned to absolute disgust upon being informed—by a cynical family doctor who knew Harris of old—that "acute duodenal-dyspepsia" was simply another name for . . . indigestion!



**D**O you insure your tape recorder? I suspect that most people do not, but the risk, particularly if you take your recorder around with you, is out of all proportion to the modest premiums called for.

I quote from a new scheme announced by Telesurance Ltd. A "limited policy," covering fire, theft and accidental damage, costs as little as ten shillings.

A "comprehensive policy," covering these risks, plus maintenance, costs £3 for recorders costing under £60, and £5 for those costing between £60 and £105.

I shall watch with interest this effort to persuade enthusiasts to provide proper cover.

*Reprinted from the October issue of Tape Recording Magazine.*

Every tape recorder, no matter how good, needs and deserves top-line servicing at some time. And what happens if it is stolen... or damaged whilst you are carrying it around?

The Telesurance policy covers all these risks and ensures top-line servicing by a countrywide network of Telesurance Agents. These

Agents are established Retailers; fully qualified, experienced, and equipped to deal with all tape recorder maintenance requirements.

The wise tape recorder owner insures his machine with Telesurance. Why not you?

*"Fill in and post this coupon or write for details now to Telesurance Limited, 14 Windmill Street, London. W.1."*

# Telesurance

**TELESURANCE LIMITED,  
14 WINDMILL STREET, LONDON, W.1.**

Please send me full details of the Telesurance tape recorder policy and the address of my nearest Telesurance Agent.

NAME .....

ADDRESS .....

TRM 1

# INTERVIEWING for amateurs

**I**F as amateur tape recordists we are going to take creative recording seriously, then the field is wide open. There is hardly a subject that cannot be tackled if necessary. With a recorder and a reel of tape we can experiment with the unknown, we can produce anything we please from bird-calls to drama.

But at some time interviewing will invariably come into our work. It may be a straightforward interview with one person or a series of interviews such as one might do during a documentary feature. For example, at a silversmiths where one would have to obtain a short history of the firm by talking with the director and then interview the various craftsmen about their particular jobs. This, of course, becomes a little more involved because narration has to be added to link up the various replies to keep the listener in the picture.

How then as amateurs are we going to tackle this professional job of interviewing? As with everything else, practice makes perfect. During my three years of recording I have interviewed all sorts of people, from a Salvation Army brigadier to that lovable actress, Margaret Rutherford. I have always found everybody most co-operative.

I have found it helpful to carry out a little research first and then prepare a rough script. During the interview one can slip in a question or two based on the replies received to questions already in the script. Fortunately for us, we are not tied by time, only by the length of our tape which can afterwards be edited down.

On my search for perfection with my interviewing technique I telephoned Leslie Mitchell, the well-known broadcaster. He has had more experience than most people in interviewing on both sound and television, and was most helpful and only too pleased to give any assistance he could to an amateur. He invited me along to his home and, as he is himself a keen recording enthusiast, we put the interview on tape.

I learned that he spent eleven years on the stage before taking up a microphone. He entered radio as a news reader and after a time was transferred as a producer to the Variety Department. From there he went to the world's first regular television service as senior announcer at Alexandra Palace in 1936, where he produced many of the early programmes. He became commentator for British Movietone News in 1938, and more recently helped to pioneer I.T.V.

From my tape of the talk we had I have taken the following points, with his answers.

**R. T.** *As amateur tape recordists, interviewing comes into our work a great deal. We enter competitions and we make*

**RONALD TUCKER, of the London Tape Recording Society, describes an interview with a professional broadcaster who gave some valuable interviewing tips for the amateur.**

*up our own programmes. This might involve talking to a celebrity like yourself or an on-the-spot interview. What advice would you give us?*

**L. M.** Well, interviewing I think is a very special art. It is rather like playing the piano. Anyone can do it but whether the noise you make or the effect you have is as good as it should be is another thing. I think one of the first things you have got to remember in interviewing is that nobody really wants to hear much from you if the other chap can talk and if he is interesting. On the other hand, if he is huddled in a heap with nervousness and looks at you with sheep's eyes hoping you are going to do most of the talking, you are forced into it sometimes.

You've simply got to keep something going. The thing to do is to gain their confidence first and say to all intents and purposes "don't worry about anything if you stop, I will start," but make sure that he doesn't stop.

**R.T.** *We remember you as a commentator for British Movietone news. Can you give any hints on commentating. Many of us combine tape and slide shows and we may be called on to describe on-the-spot events. Have you any useful tips on such occasions?*

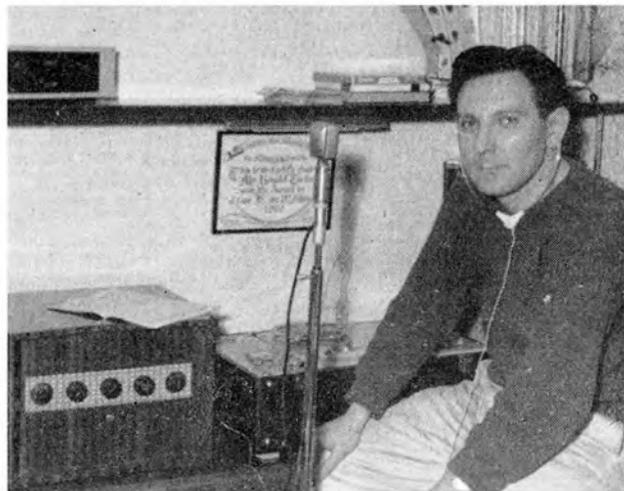
**L. M.** So long as you are sticking to sound it is comparatively easy, it's when you have sound and picture that you have to be careful what you say and do not say. It is very irritating to have a sound commentary thrown at you when you can see for yourself perfectly well what is happening.

But the job for the sound broadcaster is to convey the picture as accurately as possible and maintain a steady stream of comment and information in order to keep the thing going. The real thing you've got to do is to train yourself to be able to describe at least adequately a scene that may not be familiar to your listener.

**R. T.** *What are your methods for dealing with the person who won't say enough and the interviewee who just goes on and on and on?*

**L. M.** With the ones that go on and on you simply say "Thank you" rather firmly and finally—if that doesn't work—give a signal to somebody to take them off the air! But seriously, there are very few people who go on and on.

The main troubles are with people who are too scared to really let go. This is your fault, incidentally, because you have not gained their confidence. They should be listening to what you are saying and giving you the answers that presumably they know. I had a little trick that I used to play: I used to discuss roughly what we were going to say in front of television cameras or broadcasting microphones and we would set it out in order, then if I thought they were getting a little too smug because they knew exactly what was going to happen, I



The author in his "studio"

would ask the last question first and this made them sit up and start thinking like mad!

A recital is very dull unless it is beautifully done. The majority of people you interview are not, after all, professionals and you cannot expect them to give a professional performance in radio or television unless there is someone or something to help them. That is what the interviewer is for.

**R. T.** *I mostly work with a script. Do you think this is the best method?*

**L. M.** Frankly, no, because I believe that most people, including some actors, become more engrossed in what they are reading than what they are thinking, and the only thing that really comes out live is somebody thinking out loud.

(Continued on page 25)

# HARMONIC DISTORTION

THE subject of frequency range having been dealt with rather fully (exhaustively might be a more appropriate adjective), let us have a look at some of the less well understood distortions that our equipment can produce to degrade the sound quality.

Any piece of equipment in which the output voltage or current is not directly proportional to the input voltage or current is said to be non-linear and to introduce harmonic distortion.

## THE WORLD OF TAPE

**\$1,000,000 worth of tape recorders**

WHEN Elizabethan (Tape Recorders) Ltd. held a trade show at the Mayfair Hotel during the period of the Radio Show, they installed a roulette wheel in the hotel's Monte Carlo suite.

Visitors were invited to spin the wheel for a 200-guinea prize and top marks were eventually scored by Mr. S. R. Parkes, the managing director of Trulite, the Birmingham wholesalers. Later in



the month Elizabethan held a press luncheon at which Mr. Parkes received his cheque and a scroll signed by those present.

Our photograph, above, shows Mr. Parkes (right) with Mrs. Parkes, receiving the scroll from Mr. H. Lubin, sales director of Elizabethan.

Speaking of their successful trade show, Mr. E. Newland-Smith, Elizabethan sales manager, claimed that his company were the largest exporters in 1962, most of their models going to the U.S.A. and Russia. He also stated that since March this year Elizabethan had exported over a million dollars worth of recorders to America, where they were marketed by Sonic Electronics.

Proportionality, or linearity, implies that if an input signal of one volt produces an output signal of 100 volts, an input signal of two volts should produce an output signal of exactly 200 volts. The effect of any lack of proportionality between the input and output voltages or an amplifier is surprising, an input signal having a single frequency (the fundamental) appears at the output terminals as a signal having components of two or more frequencies.

The additional components are known as the harmonics and are distinguished by having frequencies which are always exactly 2, 3, 4, 5 . . . times the frequency of the input signal. The amount of harmonic distortion produced is indicated by the ratio of the fundamental voltage output to the output voltage of the harmonic.

Thus an amplifier which at its rated output power produces an output voltage consisting of, say twenty volts, at the frequency of the input test signal and one volt at twice the frequency of the test signal will have—  
 $1 \times 100$

— per cent = 5 per cent second harmonic distortion.

If the additional frequency had been three times that of the input signal then the amplifier would have been quoted as developing its rated power output at 5 per cent third harmonic distortion. Whether the additional frequencies consist of the even (2nd, 4th, 6th) harmonics or the odd (3rd, 5th, 7th) harmonics depends upon the actual shape of the input/output voltage relation.

At first sight it may seem surprising that lack of proportionality between the input and output voltages should result in the appearance of signals having frequencies several times that of the test signal, an interesting point that I thought of pursuing but then decided to postpone in favour of a discussion on the effect of these harmonics on sound quality.

A first reaction to the effect of harmonic frequencies on sound quality might reasonably be that they were undesirable for they are something in the output signal from the amplifier that was not present in the input signal and are therefore distortions in the true sense. As the advertising people claim that amplifiers having distortions as low as 1, .1 or even .01 per cent are necessary, it appears that the hearing system must be very sensitive if such relatively small distortions can cause audible trouble.

If they could, it would be very surprising for almost all the common musical instruments produce notes containing harmonics of several hundred

per cent. When the harmonics are removed the fundamental tone proves to be dull and uninteresting. Moreover the two otherwise identical violins will differ in harmonic content by several hundred per cent so it would seem to be surprising if the sound quality were significantly changed by the addition of another 5 per cent due to a not-so-good amplifier. The explanation is our method of expressing the amount of non-linearity.

The distortion measuring technique consists of applying a single frequency signal having low inherent distortion and measuring with a special form of voltmeter, the amplitude of the signal of the same frequency in the output circuit. In addition the amplitude of each harmonic is measured, the voltmeter being tuned to each of the harmonic frequencies in turn.

A typical amplifier may produce a second harmonic of 5 per cent, a third harmonic of one per cent, a fourth of .8 per cent, a fifth of .1 per cent with some smaller percentages at higher frequencies but it should be noted that these are all related to the input frequency by exact and simple whole numbers. Thus as we noted in the first instalment, no discord should result and indeed if a loudspeaker is connected to the amplifier there is no discord when the amplifier is producing 20 per cent harmonic from a single frequency input signal. However, as we have seen, music and speech do not consist of single frequencies. At any specific instant there may be components of a hundred or more frequencies simultaneously present.

We can apply this sort of test signal to our amplifier and measure the result but it is simpler and just as effective if we apply only two signals. The result is alarming. If the frequencies of these two input signals are denoted by the symbols  $f_1$  and  $f_2$ , the output voltage is found to contain not only these two frequencies  $f_1$  and  $f_2$  and their harmonics  $2f_1, 3f_1; 2f_2, 3f_2$ , this is to be expected but there are a large number of new frequencies present. These are equal to the sum and difference of the two input frequencies, the difference between twice one input frequency and the second input frequency ( $2f_1 - f_1$ ) and a large number of others which it is more convenient to write in symbolic form—  
 $2f_1 - f_2, 3f_1 - f_2, 2f_1 + f_2, 3f_1 + f_2$  etc.

These sum and difference frequencies are the distortions known as "intermodulation products" and they are significant for one special reason; their frequencies are not harmonically related to the frequencies of the two input signals. Thus if we use two test frequencies of 100 and 110 cps, the second and third harmonic frequencies will appear but the intermodulation products will be such frequencies as 10 cps, 90 cps, 190 cps, etc. Discords are known to result when two frequencies are simultaneously present, the two fre-

quencies being a few cycles per second apart. If each frequency has its own harmonics the discord is usually increased.

The presence of these inharmonically related frequencies is readily detectable by the hearing system, a total of 1 per cent resulting in a marked reduction of quality. This is apparent as a "blurring" of the sound and a lack of clarity. The instruments in the orchestra lose all their individuality in a crescendo, the result being just a mass of noise rather than an assembly of instruments. It is the hi-fi enthusiasts' "dirty sound."

This being the case why do engineers continue to measure the harmonic content as an indication of performance when it is the intermodulation products that cause the audible distortion.

In America it is the practice to quote

## An authoritative but very readable explanation of the whole background of audio—theory and practice—by a leading figure in the tape field

used with the insinuation that values even lower might be a further improvement.

The minimum value of distortion that it should be justifiable to obtain should be the value that results in a "just detectable" reduction in sound quality when the distortion is introduced. This

made arrangements to introduce distortion into the equipment under test at any desired part of the frequency band while leaving the signal in the remainder of the band quite undistorted. Speech and music were then played over to the test listeners who were allowed to compare the "distorted" and the "undistorted" conditions directly, the amount of distortion being reduced until it could not be detected on such a direct comparison.

This is a very critical test, for your normal judgment of the amount of distortion in your hi-fi system is based, not on an immediate comparison, but upon what you remember hearing the last time you attended a concert. Thus these special tests might be expected to show that very low values of distortion are necessary if it is to be recognisable.

It comes as a shock to find that the just recognisable values are so high. Table 1 illustrates the findings. When the distortion is mainly concentrated in the frequency range below 100 cps the just detectable distortion is 25 per cent if the distortion is mainly even harmonic and 5 per cent if the distortion is mainly odd harmonics. This supports the commonly held view that odd harmonic distortion is more serious than the same amount of even harmonic distortion. (One aspect of the old triode versus pentode controversy.)

These results are taken from one particular set of experiments but they have been well confirmed by the results of other investigators' work. All of them appear to agree that at frequencies above about 500 cps the "just detectable" distortion point appears to be in the region of one per cent.

These values are all high in comparison to what might be expected and I would tend to view them with extreme suspicion if there were not so much corroborative data. The published information comes from America, England, Germany and Russia and the figures quoted in the table are about the lowest of all.

The agreement between all the experiments is surprisingly good in view of the difficulties in estimating the "just detectable" distortion point. The amplitudes of all the components in music and speech are changing continuously, peaks generally being of very short duration.

Overloads of short duration due to peaks in the waveform are much less annoying than similar overloads of long duration and thus music of one kind may be subjectively less annoying than music of another kind even though the peak distortion is the same on both. In these circumstances the agreement about the amount of distortion that is "just detectable" is rather surprising.

This is a subject full of surprises and full of examples of the danger of applying engineering common sense in deciding what the brain will think about the quality of sound.

TABLE 1

<b>Second harmonic</b>	— up to 25 per cent for frequencies below 100 cps
	up to 3 per cent for frequencies below 200 cps
	up to 1 per cent for frequencies above 400 cps
	below 1 per cent for frequencies above 400 cps
<b>Third harmonic</b>	— up to 5 per cent for frequencies below 100 cps
	up to 2 per cent for frequencies below 200 cps
	up to 1 per cent for frequencies above 400 cps

"intermodulation distortion figures" instead of harmonic distortion figures. In fact for any specified method of test, the intermodulation values bear a fixed relation to the harmonic values and as the two are so closely related it is good sense to quote the criteria that can most easily be measured.

Intermodulation figures must appeal to the advertising man, for they can be made to be either high or low as required by merely changing the ratio of the amplitudes of the two test frequencies, or more subtly, by changing the bandwidth of the tuned voltmeter used for measurement. Before intermodulation distortion measurements on two amplifiers can be compared, the test technique must be known in detail. If harmonic measurements are used this is quite unnecessary.

What values of harmonic distortion are permissible in a high quality system if it is to retain any claim to high fidelity. Valve manufacturers use figures of anything from 5 to 15 per cent when quoting the power obtainable from their products but they undoubtedly expect this value to be reduced by the use of negative feedback in any hi-fi amplifier. Two per cent is the value used in the sound film industry as the maximum permissible distortion in amplifiers designed by engineers and sold to engineers. In the high fidelity field where the products go to less technical customers, distortion values of 1, .1 and even .01 per cent are

has been checked by several investigators. The early experiments indicated that the "just detectable" value of distortion varied with the frequency at which the distortion was present.

As we will see later, every amplifier, loudspeaker or pick-up does just this, introducing more distortion at the low and high frequency ends of the band than in the middle of the band. With this in mind, some of the investigators



you'll be glad you chose

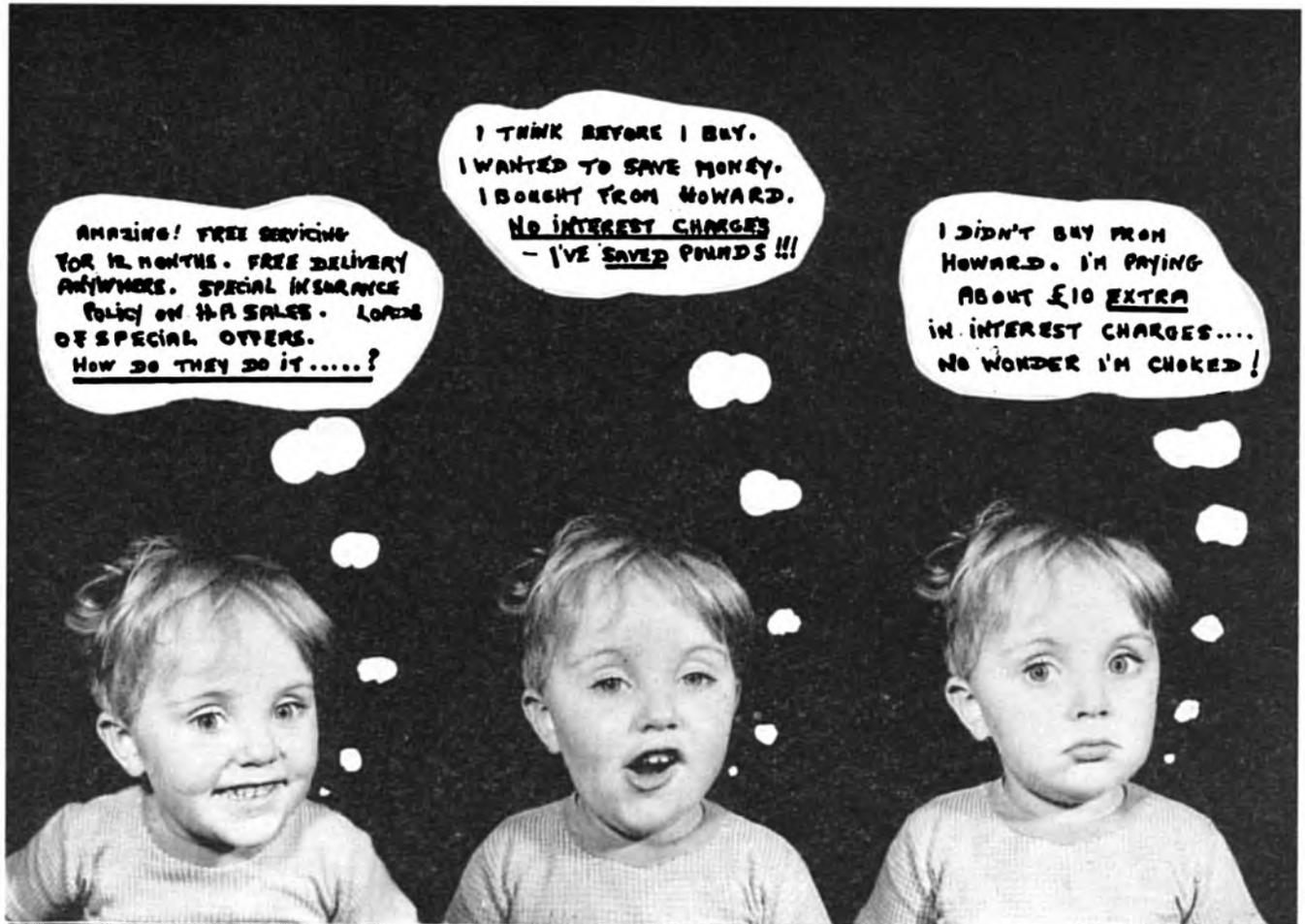
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## 3 HEADS ARE BETTER THAN 1

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We have 10 years experience as the biggest Specialists in the **BRITISH ISLES**, to place at your disposal—for nothing. It is a fact that you will pay less than if you buy anywhere else. *Think we are shooting a line?* Then write, phone or call us—we will prove it with an ease that is both the envy and despair of our competitors.

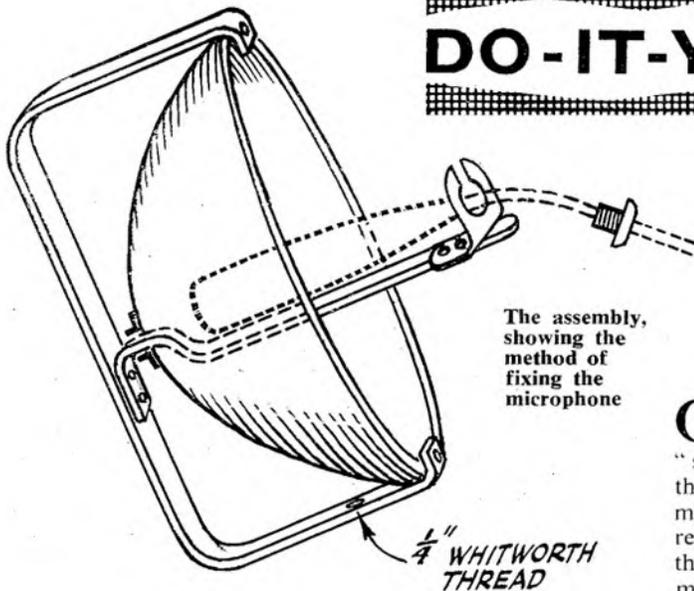
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BROMLEY, KENT

RAVensbourne 4000/4477

# DO-IT-YOURSELF

By  
M. J. PITCHER



The assembly, showing the method of fixing the microphone

Describing a parabolic reflector which can be constructed by the average handyman.

GETTING out and about with a tape recorder involves problems that are not met with in a living-room "studio." Chief among these problems is that of getting the microphone near enough to the source of sound to minimise background, and unwanted, noises. Commercial reflectors tend to be large, and cumbersome, so that while they do an excellent job a high price has to be paid in the matter of convenience.

Having occasion to adjust my motor-car headlamps, and observing the nicely parallel beam of light which could be obtained, it occurred to me that a similar reflector could be used to bring sound waves to a focus. By placing a small microphone in the position occupied by the lamp filament some increase in the volume of sound should be obtained.

## THE REFLECTOR

A visit to a local car-breaker's yard was very rewarding. A number of reflectors had been tossed into a corner. I sorted out the largest, which proved to be seven inches in diameter, and inquired the price. "That's all right, Guv, no charge to you." I was wearing my oldest clothes by some happy chance. The reflector had, of course, lost its silver and headlamp casing, but they were not important to my purpose.

I decided to use an Acos 39-1 microphone which has a diameter of about one inch. The reflector collects sound energy from an area nearly fifty times as great and should therefore produce a power gain of some 17 dB. The efficiency was not expected to be high at low frequencies because these are not easily reflected, so some tests were carried out to see just how efficient the reflector was in practice.

## PRELIMINARY TESTS

The lamp-holder was still in position and assumed to be in correct adjustment. A spare bulb was inserted and the filament found to be situated about  $1\frac{1}{2}$  inches from the rear of the reflector. The reflector was then clamped, with its axis horizontal, so that it was facing, and at some distance from, a loudspeaker. A steady signal, at about 1,000 cps, was maintained while the Acos 39-1 was moved along the axis. Maximum response was determined by plugging into a tape recorder, set to "record,"

## TIMING THOSE TAPE TALKS

MANY people taping with friends on different size reels and different grades of tape may have difficulty in knowing when the tape is coming to an end—even though they may have a digital counter on the recorder. The hurried "Bye now . . ." is no substitute for the proper farewell that should finish track two.

A simple and effective method is to note the time the tape played when you listened to your correspondent's message. Assuming the tracks lasted for ten minutes each, set a watch or clock to ten to twelve and off you go, knowing that as the time comes up to 12 o'clock you have to end track one. If the second track is recorded right away, without pause—track two will end at ten past twelve and you will get nice warning that you have to wrap the whole conversation up.

Of course, this system will be no good for the person who stabs away at the pause control when making a tape to a friend.

A simple method enabling them to relax in the armchair and to forget the digital counter is to buy a small reel of the *coloured* recording tape now coming on to the market.

With a thirty-second length of yellow *recording* tape spliced at the end of the reel, the recordist can see at a glance from the other side of the room when the end of the track is coming up. Tape can be had in this

country now with yellow, green, blue and red backing, any of which contrasts well with the more normal, brown type.

If this coloured tape is spliced on to both ends of the tape, you can bring the conversation to a halt on track one and change over the reels without running off the end and having to re-thread the tape.

For those who want to go just that little bit further in cueing the ends of the tracks, the following idea is offered.

A small strip of metal foil, about 12 inches in length (the type supplied on the ends of some brands of tape) can be easily cemented on to the *back of the recording tape* near the end of the spool (say 30 seconds).

This will not interfere with the recorder signal.

It can be used to complete a simple circuit made with a torch battery connected to either a small buzzer or a torch bulb—with two wires terminating at contacts on a base block which can be slid underneath the path of the tape as it comes from the record head on the machine.

When the metal foil comes into contact with the two terminals of this circuit the light or buzzer will operate for an instant. This is a fool-proof way of cueing in the end of a track and is well worth the small effort involved in the making.

R. COOTE

(Continued on page 25)

Have you an idea, a complaint, or a bouquet to hand out? Write to us about it. Letters not for publication should be clearly marked

# Letters to the Editor

## A DISTURBING TENDENCY TOWARDS APATHY

### Club members' replies

**A** DISTURBING tendency towards apathy shows up in the *Letters to the Editor* columns in the September issue and if I may be permitted the courtesy of your columns, I should like to take up points with your correspondents.

From Shipley, Yorkshire; J. Williams poses the query, "Are tape clubs—really necessary?" Of course they are. I have no idea of his unfortunate experiences of clubs, but it certainly seems he has had some. To be successful, a club has to have a strong committee that is a *working* nucleus that really enjoys its tape recording and is not afraid of acting on its own initiative; don't ask the members what they want to do, tell them if necessary! The more the Committee puts into it, the more both they and the members get out of it and until you try this, you have no idea how infectious this attitude can become.

The advantages of club life are so very obvious that I am surprised that Mr. Williams fails to appreciate them. Activities far too numerous to mention are constantly being publicised in the Tape Press concerning the life of Clubs and gives the clue to the usefulness of these bodies.

Analysing these activities, it becomes very clear that little scope exists for the one man, one machine set up, but collectively and with true enthusiasm, the tape world is your oyster.

The Chairman of York Society, Mr. G. Machen, bemoans the lack of enthusiasm and seems worried that eighteen is a big night out of a paper membership of over forty. Why worry about this? Quality of members is far more important than quantity; those that are your "regulars" are the solid foundation and if the remainder drop out through lack of interest, they would have been of little use in any case since they are not of the calibre required when there is a job to tackle. Concentrate on the lively members who enjoy their hobby and the lukewarm will either drop out or catch the "bug" and really surprise you if you encourage them. It is safe to say that you will uncover large reserves of untapped talent if you involve your members in club projects. Asking for volunteers is only asking for the usual half dozen to take on a bit more; the "How about you?" technique often brings a surprise result.

The idea of encouraging dealers to introduce tape customers to the local club or society must surely commend itself to the trade. It is clearly to their long-term advantage and it surprises me too why it is so difficult to interest them in doing so.

From Cambridge, Mike Renshaw writes of his secretarial difficulties in arranging weekly programmes; I sympathise but feel that the answer lies in cutting the frequency of meetings to once a fortnight. That is our period and we

know of a number of clubs who started off this way, but got a demand for weekly meetings. It never seems to last very long though and they come back to the fortnightly basis. Of course, localities differ, but it seems that the majority of enthusiasts in the clubs want it that way and this probably means that you can keep open through the summer months too. We have not had a summer closure yet and membership has been maintained over the four years' existence at a steady level with never less than ten at a meeting even in July and August and often no appreciable drop in attendance at all.

Manufacturers' demonstrations; while in many cases they are excellent can hardly be made the mainstay of club life. The non-technical members quickly become bored, but quarterly they are looked forward to by Walthamstow members. The difficulty as observed by Mr. Renshaw, is in knowing which of the manufacturers will co-operate and the suggestion of a register for reference is excellent.

MAURICE R. DUDLEY.

Walthamstow T.R. Society.

**A**LTHOUGH not responsible for the programme of the Glasgow Society, I will agree with Mr. Renshaw, of Cambridge (*Letters, September issue*), that there is an element of headache constantly present in arranging an attractive syllabus for a season's meetings.

I would like to see a separate list of manufacturers willing to visit clubs in Scotland, due to the longer distances from the majority of companies. I would also be very interested in contact by tape only as an alternative.

The three letters in the September issue sum up the whole situation in a nutshell. I cannot mention names, but we have gained the assistance of a local retailer who advertises the existence of our club.

GEORGE DRYDEN.

Glasgow T.R.C.

*Why be shy about your anonymous helper? Such retailers as these, who are helping the hobby in general deserve recognition. Incidentally, Truvox Ltd. have asked us to point out that they are regularly demonstrating to tape clubs and are willing to visit by request.*  
—EDITOR.

**T**HERE is a lot of truth in the categorising which Mr. J. Williams indulges himself in and he should try to build on the latter group. Mr. Godfrey Machan appears to have a defeatist attitude.

In a large measure we are all little boys grown up and like playing with our toys. However, we soon tire of doing so alone and thus we seek the company of others—this, too, can pall if it is merely a question of playing. The answer is to turn your energies for the benefit of others, who do not perhaps have the money to spend on equipment or the knowledge to apply the same.

This coming winter from selected members we hope to start an Overseas Circle. Enquiries from abroad will be welcome.

W. J. TOMLINSON.

London, E.17.

## The Federation's viewpoint

**I** READ with some astonishment the letter from Mr. Storey in your October issue. Let us examine the sequence of events which he describes.

(1) The club is failing to attract members to meetings. (2) The committee disbands the club. (3) The members of the committee continue to meet privately to enjoy various activities free from the responsibilities of running a club.

What does this prove?

Mr. Storey would have us believe that this proves that tape recording clubs are not necessary! What this sorry history really demonstrates, above all else, is that Messrs. Storey, Gaunt and Wainwright were members of a committee which failed its members.

Every club goes through difficulties when membership is low and meetings disappointing. It is the responsibility of the committee to discover the reason for this and take steps to improve the situation. This is precisely what Mr. Storey's committee failed to do.

The important aspect of the work of the Federation is to assist failing clubs to gain new strength. This we have done many times. We number amongst our members some of the most successful clubs in the country. The combined experience of these clubs is always available to those in need of help. In addition to dealing individually with club problems, we are preparing a very informative leaflet on programme planning which will shortly be available.

Finally, my advice to amateurs in Wakefield is to form a new club—join the Federation—exercise great care in the selection of your new committee.

ALAN STABLEFORD.

Chairman, F.B.T.R.C.,  
9, Normandy Terrace,  
London, E.16.

## TROUBLESOME TAPE EXCHANGES

I WOULD like to warn tape exchange enthusiasts against certain persons who advertise in *Tape* for contacts and do not bother to answer the tapes sent to them.

I have lost two tapes in this manner, and wonder what action I can take to ensure the return of my tapes. Perhaps some of your readers can suggest suitable precautions.

G. WILLIAMSON.

Melton Road, Leicester.

*It is advisable to send a letter in the first place (unless otherwise stated by the enthusiast concerned) to establish whether the contact is still free to accept tapes. One enthusiast wrote saying he had received fifteen tapes, following his name appearing in our magazine, and could hardly find time to listen to and select the contacts his spare time allowed. He was loathe to return the tapes unheeded and, eventually, replied to every one. On the other hand, perhaps, the experience related below may be an answer to this problem.—EDITOR.*

I HAVE recently had a most unfortunate experience following contact with a tape exchange enthusiast made through your magazine.

In June this year I received a message tape from a gentleman in Oxford who had seen my name and address in your listing. As my recorder had been returned to the manufacturer for servicing I wrote to Oxford explaining the delay. A month later, still without a machine, I returned the tape by registered post. This was returned a few days later marked "not known at this address."

A month later still, I received a most acrimonious letter from my Oxford contact who demanded his tape back. Upon investigation I found the numbering of his address could be taken for either 89 or 39, and assumed I had returned the tape to the wrong address. I then tried the alternative address and as it has not been returned presume my contact has received it.

My reason for this letter is two-fold; firstly, in case my contact has "branded" me to your magazine, and secondly, to

## OOPS!

I READ with great interest the paragraph in page 11 of the September issue of *TAPE* relating to the cover picture depicting Mr. Purves and his goldfinches. You say he was "feeding them and recording their hungry cries."

But surely not with the pause button depressed!

GORDON R. POWELL.

Waterbeach, Cambridgeshire.

*We wondered if you would notice!*

—EDITOR.

offer a possible explanation why some enthusiasts do not receive replies to their tapes.

It would save a lot of grief if enthusiasts would print their addresses clearly when first sending a tape. Not everyone would be able to afford to return tapes by registered post, and unless clear addresses are supplied one cannot be sure of tapes being returned.

W. F. MADDEN.

Romford, Essex.

## TAPE/SLIDE SHOWS

I HAVE only recently seen the article by William R. Phinney which appeared in your January issue concerning a tape/slide show. This has interested me considerably, as my experiments with recorded commentaries have followed similar lines to those of Mr. Phinney.

My first trials were with an introduction and conclusion of music and a silent background to the scripted commentary. I adopted a time of at least fifteen seconds for the showing of each slide, unless a longer description was necessary, and for some slides there were periods of complete silence.

To sustain interest, I divided my slides into groups, either on a geographical or journey basis, and members of my family spoke the commentary for various groups. Between each group the music was faded in for a few seconds only.

Later, I felt the time allowed for each slide was insufficient. I allowed five more seconds, and also experimented with background music. My current production, a holiday in Somerset, begins with a song of Somerset. While this is being played I show a close-up of a map of the district and a few general views which illustrate the song. A selection of Somerset folk-songs is used as a background while my son narrates, and at the end of this the music is faded up to a conclusion.

From my experience, three MUSTS have emerged. First, the music must be very quiet, so that it is hardly heard while the narrator is speaking. It will appear to be louder when the voice ceases.

Second, while recording music and voice, the loudspeaker of the recorder or second tape recorder producing the music must be silenced or the narrator will tend to shout and destroy the conversational nature of the script.

In addition, it is most necessary to monitor on headphones to preserve the right balance between words and music.

I trust these comments, with those of Mr. Phinney's, will encourage more enthusiasts to combine these two interesting hobbies.

THOMAS H. BILLSDON.

Sandringham Avenue, Leicester.

## WE PREFER A REGIONAL FEDERATION!

ALTHOUGH the Federation of British Tape Recording Clubs is a good thing, we in our society feel that a Yorkshire Federation could be much better.

Why is it that London should have a National Federation covering the whole of the British Isles when, perhaps, 95 per cent of tape recorder owners are unable to attend meetings?

I notice there are two societies, in Yorkshire and Scotland, who have joined the Federation, but we must remember that London is 200 miles from us, and farther from some other clubs.

A recent census in our club showed that the members are not in favour of joining the National Federation, although most would join a Yorkshire Federation. In this way the Yorkshire societies could get together easier with mileage, as well as cost, for inter-club personal contact, cut down considerably.

This local federation need not have its headquarters in Huddersfield; it could be in Leeds, or even York.

JOHN D. IREDALE.

Secretary, Huddersfield T.R.S.

EDITOR.—*Mr. Iredale's letter was passed to the Secretary of the national Federation. His comments are as follows:—*

I WOULD like, first of all, to correct the statement made by Mr. Iredale. In fact, London has no Federation or any local organisation of clubs. Member clubs of the Federation meet only once a year at the Annual General Meeting, although the committee meets regularly some four or five times in the year.

One of the main aims of the Federation is to represent clubs on a national scale. Obviously, relations with international bodies, negotiations about copyright, etc., are much better handled at a national rather than a local level.

The Federation welcomes the proposal to form a Yorkshire Association of clubs, and would like to hear from other clubs who feel that an Association in their area would be desirable. We are prepared to help in any way we can and would like to send representatives to the inaugural meetings.

Finally, if any club is not receiving a copy of the Federation's Quarterly Bulletin, or would like a visit from a Federation Official to explain our policy and answer questions, please drop a postcard to the address below.

E. ROGER ASLIN.

Secretary, F.B.T.R.C.,

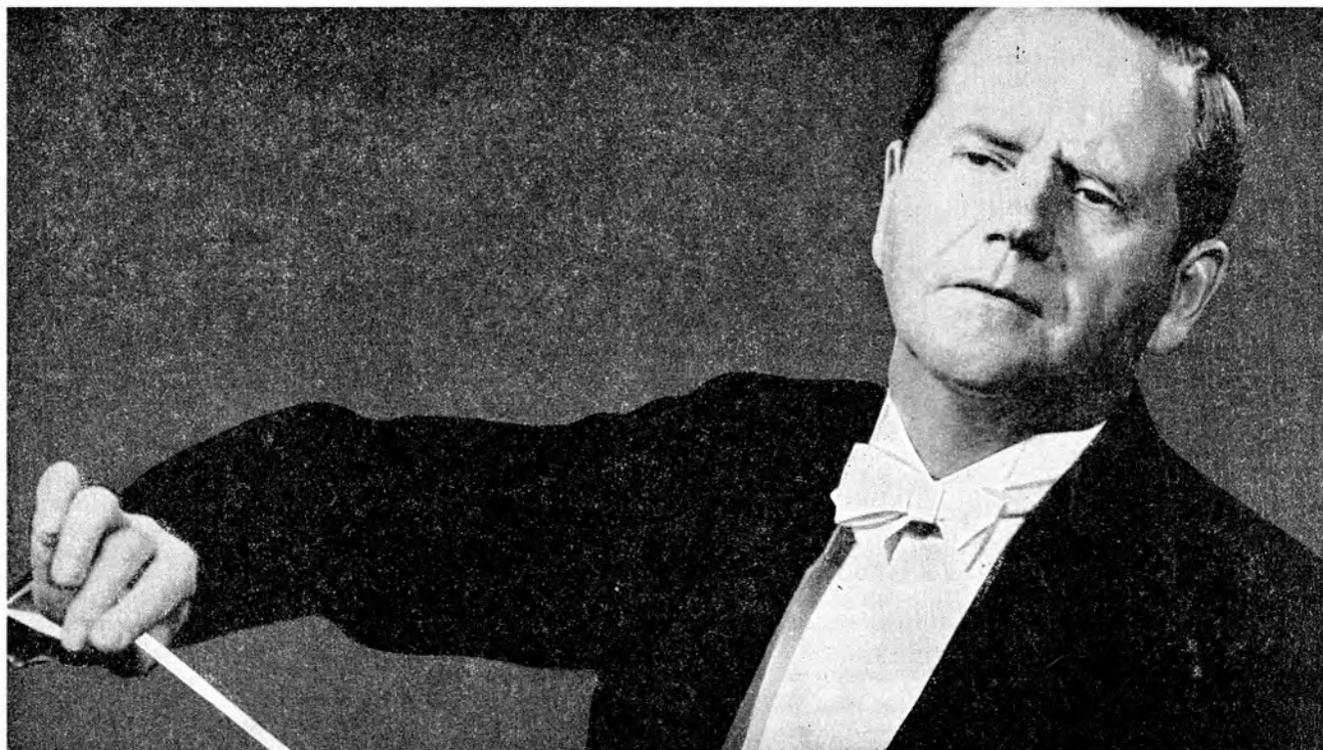
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# DO-IT-YOURSELF FEATURE

(Continued from page 21)

and observing the closing of the magic eye. Surprise! surprise! The microphone ended up  $1\frac{1}{4}$  inches from the rear surface of the reflector.

## MOUNTING THE MICROPHONE

The next step was to devise a simple, but effective, method of mounting the microphone, bearing in mind that it should be easily detachable so that it could be used normally when required.

It was discovered that the brass screw at the cable end of the microphone could be unscrewed; this fact made mounting simple. A hole was filed in a

piece of thick aluminium so as to give clearance for the screw thread, and the metal was filed right through to the edge to make a slot wide enough for the cable to pass through. The aluminium was then bent to form a bracket to hold the microphone securely when the brass screw was tightened.

The bracket was bolted to a piece of brass vallance rail, bought from a local hardware store. This was bent to pass through the hole for the bulb-holder and bolted to a second strip of metal at the rear. Vallance rail is often "hard" and snaps if bent round too sharp a curve. This can be avoided if the metal has been heated to dull redness where bending is to take place.

The rear bracket needs to be of fairly stout metal to permit its use as a carrying handle. I found a piece of galvanised iron strip lurking in the coal cellar, and, having dusted it off, found it to measure  $\frac{1}{4}$ -inch wide by  $\frac{1}{8}$ -inch thick and some  $16\frac{1}{2}$  inches long. This seemed to be a bit narrow for the purpose at the time but has since proved to be adequate. A hole was drilled and tapped with a  $\frac{1}{4}$ -inch Whitworth thread which is the fitting for British camera tripods.

## PERFORMANCE

The reflector was tested in a number of locations, comparison being made between the response of the equipment, with, and without, the reflector. The curves, reproduced with this article, were obtained using an Advance Audio Oscillator, Leak TL 12 amplifier, and

not to be taken as microphone response curves, but represent the overall response of the equipment used together with the acoustics of the test location. The important deduction to be made is the difference in readings between the two curves which shows the gain of the reflector. It will be noted that the reflector does not appear to introduce any undue distortion of the curve for the microphone on its own. There is a useful gain, between 200 and 18,000 cps, of about 12 dB.

An important feature of the reflector was noted, while on the roof, in that wind, and extraneous, noises are very considerably suppressed. This suppression appeared to amount to as much as 10 dB and is accounted for by the fact that the business end of the microphone is set deep into the parabola. This has an excellent shielding effect. Parabolas of large diameter would become unduly bulky if the focus is made too near; the result is that a rather flat dish shape is used and the microphone is exposed to the wind and weather.

Much of the gain of a large parabola can be lost under breezy conditions. The instrument described in this article cannot suffer to the same extent.

The equipment was taken to a number of large halls and similar, or better, gain obtained. The acoustic properties of these locations are such that wide variations occur in the meter readings as the frequency alters. It was found that the reflector smoothed out a lot of the fluctuation and was picking up the sound direct from the loudspeaker in preference to the reverberant sound.

The poor low-frequency response is a positive advantage when recording under adverse conditions. The intelligibility of speech is much improved when record-

## INTERVIEWING

(Continued from page 17)

This is not always strictly true, of course, because it is much easier to polish your sentences and get speed, variety of intonation and all the things that make a good performance when you have prepared it; but there again, I think the job is to let yourself think, in fact make yourself think, rather than read from the end of one line to the beginning of another, which is in effect putting a damper on your performance.

**R. T.** You very kindly let me conduct this interview on your own recorder. What uses do you find for your machine?

**L. M.** I use it for everything. I record quite a lot of music and programmes. I record my own programmes with the BBC in order to find out what kind of a radio broadcaster I have become during the years I've spent in television!

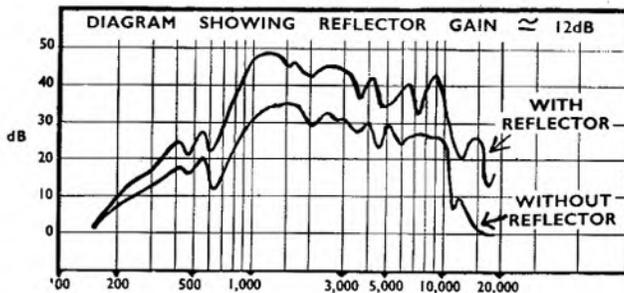
**R. T.** During your years with sound broadcasting you must have had some amusing or memorable experiences. Is there anything in particular which you remember?

**L. M.** I think when I went up to announce the early morning talk when I was a new announcer at Broadcasting House. I pressed the button which meant that we were on the air and I said: "This is the so-and-so programme and here is Miss Monica Dixon to give a talk on cocking and snooping . . . er shocking . . ." I looked at her in agony and invited her to start. When I looked at the script again I saw it was "cooking and shopping". Perhaps this is an example of my own theories being carried too far—I was not reading the script with sufficient attention.

I closed our little chat with my final question and asked Mr. Mitchell for his impression of the increasing popularity of tape recording.

**L. M.** Sound is very worthwhile pursuing, you can have a lot of fun with it and there is something of interest for everyone. Just for the moment people aren't taking sound as seriously as they should. Some very good programmes are being wasted because people think "sound" is old-fashioned. So is the wheel—but we are still using it.

Frequency curves obtained by the author with experiments out-of-doors.



Frequency in cycles per second

G.E.C. metal cone speaker in its recommended enclosure. The microphone was plugged into a Sound Level Meter (Dawe Instruments) which gives readings directly in dB, in this case above a purely arbitrary zero. The Principal of Tottenham Technical College allowed the use of the College's facilities for my tests.

The particular curves shown here were obtained out of doors. All the equipment was set up on a large, flat roof. The air at ground level seemed to be fairly still. Forty feet up, on the roof, wind blew in little irritating gusts and at no time did the air seem to be motionless. Some allowance was made for this in the readings and the results probably show less gain than is actually available in consequence.

It should be noted that the curves are

ing in highly reverberant surroundings, or in the presence of heavy machinery. The results cannot be thought of as "hi-fi" but can be obtained under conditions which would be otherwise impossible.

The reflector has been used by the writer to record birdsong. The smaller birds record very well indeed since they produce no low notes. Single birds can be selected among the general chorus, up to distances of about fifty yards. The reflector can be sighted along the carrying bracket, elaborate arrangements of peep-holes and sighting tubes being unnecessary.

Tests, both in and out of doors, show that the reflector does a useful job in spite of its small size. It has the further advantages of being extremely cheap and highly portable. Need I say more?

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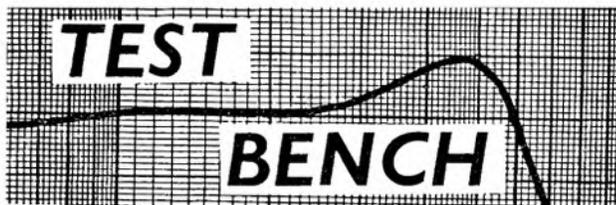
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# FI-CORD 202

**T**HE Fi-Cord 202 is the latest in the series of miniature recording machines produced by a firm justly famous in this field. It is the successor to the well known Fi-Cord 1A, used by many professionals as well as by amateur recordists. The 1A is now no longer in production.

At the cost of some increase in size and weight, a number of features not found in the earlier model have been incorporated in this machine. First and foremost, fast wind forwards and backwards are provided whereas on the earlier machine these operations had to be performed manually. With the speed switch set for  $7\frac{1}{2}$  ips, the rewind time for a four-inch spool of long play tape is  $1\frac{1}{2}$  minutes. Record and play back speeds of  $7\frac{1}{2}$  and  $3\frac{3}{4}$  ips are provided, the first of these being especially welcome in view of the better frequency response and wow and flutter figures that it permits. It is a pity that more manufacturers of portable tape machines do not include this speed, which undoubtedly allows better recordings to be made.

The machine is styled in the modern manner in gold coloured metal and black plastic with a transparent plastic lid. This lid is completely removable when required. The batteries, one set for the transistorised amplifier and the other for

separate accessory. This is connected via a socket at the back of the machine and the changeover switch from mains to batteries is situated beside this socket. A power pack for operation from a 12-volt car battery is also available.

As supplied by the manufacturers, the basic machine has no carrying case but a superb case of high quality black calf skin is available as an accessory. This case is really in the luxury class and is

## By H. Burrell Hadden

fitted with an adjustable shoulder strap which also carries a pouch for the microphone. The leatherwork is cleverly designed so that the machine can be operated with the top flap open, all controls and input and output sockets then being accessible. Two zip fasteners enable the side of the case to be opened in order to change tape and the battery compartments are always accessible through the bottom.

Three major controls and two push buttons are provided to operate the machine: The first is the volume control which operates both on record and playback, and the second is the record/play switch which switches on the motor and the amplifier but does not start the tape. The third control is the tape switch which sets the machine in motion. The two buttons operate a safety lock to prevent accidental operation of the record switch, and a control to engage the fast forward wind. Rewind is accomplished by turning the tape switch anti-clockwise, in the opposite direction to that required for play or record.

means of a meter which is also used to indicate the state of batteries. This meter is marked with a red and green scale and works in the opposite direction to normal, that is from right to left. The green field on the meter is used for indicating battery life and the pointer should move into the red field when recording. Unfortunately no clear indication of over modulation is given on the meter scale, the instruction book merely stating that the pointer should not go too far to the left of the red field.

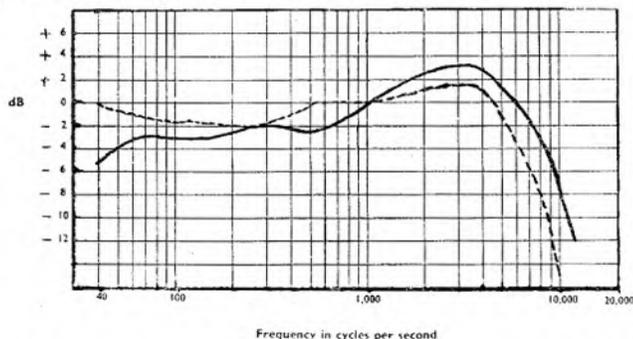
Four sockets are provided on the front of the machine. The first of these, from left to right, is for the connection of a remote control lead supplied as an accessory. The second socket, labelled "in/out" is for a low impedance microphone of from 20 to 200 ohms. If the microphone is left in the socket during playback it will act as a miniature loudspeaker and playback the recording. This is especially useful if the microphone is being used by a second operator at a distance from the recording machine. The socket can also be used for the operation of an external loudspeaker of 15 ohms or more impedance. Plugging in to this socket automatically cuts the built-in loudspeaker.

The third socket is an input used solely for recording, either by microphone of 200 to 1,000 ohms impedance or by direct line recording from radio or record player. Both input sockets can be operated at the same time.

The fourth socket provides an output for feeding to a high quality amplifier system. An accessory is available enabling the "in/out" socket to be used with a 600 ohm line, as used by professional recordists, and with this accessory the machine will accept or deliver the standard zero level of 1mW.

The machine was given the usual frequency measurements and the results are shown in the accompanying graph. The signal-to-noise ratio was excellent for all normal purposes but on a practical recording test there was not sufficient gain available to make a really satisfactory recording of the dawn chorus. The machine needs 200  $\mu$ V to fully modulate the tape.

The machine performed well when used for recording background sound effects for a film of a holiday tour in Europe, during which the temperature varied from about 50 to 100 degrees Fahrenheit. Whether these extremes were the cause or not the drive motor developed some mechanical noise. Whilst this noise did not appear to cause any electrical interference with the recording, it could easily be picked up on the



**Record / replay characteristics of the Fi-Cord 202.**

$7\frac{1}{2}$  ips —————  
 $3\frac{3}{4}$  ips - - - - -

the motor are in interchangeable cassettes which form the feet for the machine. Each cassette can be loaded with special mercury cell packs provided by the manufacturers or by seven separate mercury cells. The motor battery life is 20-30 hours depending on speed, and the electronics battery sixty hours.

A mains power pack is available as a

An unusual facility is provided in the amplifier. With the volume control turned completely anti-clockwise an automatic volume control is brought into action, controlling the volume according to the loudness of the sound. This is particularly useful for speech recording, but is liable to produce some odd results on music.

The indication of recording level is by

*(Continued on page 30)*

## TEST BENCH

(Continued from page 29)

microphone, and only appeared to stop if the machine was operated upside down!

The microphone pouch proved to be somewhat of a mixed blessing. One reel of tape, which had been on the machine for some time, was found to have bands of permanent magnetism. This I presumed to be due to the proximity of the microphone when the machine was sitting on the back seat of the car. As is always the way, some of the best recordings were spoiled by this!

No microphone is supplied with the machine as standard equipment, but the manufacturers offer a range of Beyer instruments of varying price and type. The one sent along for review was the type M119, a non-directional moving coil microphone of studio quality. Some excellent recordings, ranging from cow bells on a remote mountain-side to the organ in a famous cathedral, were made using this instrument.

To sum up. This machine is among the best of the presently available miniature recorders. However, perhaps this reviewer, may, as most critics are privileged to do, express the personal opinion, that he wishes the manufacturers had not done it! The Fi-Cord 1A was the smallest, lightest and most easily operated machine that has ever been made to give good quality results: this machine producing only marginally better results is more complex to operate, larger in size and considerably heavier. I for one will continue to prefer the earlier model.

### MANUFACTURER'S SPECIFICATION

Speeds:  $7\frac{1}{2}$  and  $3\frac{3}{4}$  ips.

Frequency response: 50-12,000 cps  $\pm$  3 dB at  $7\frac{1}{2}$  ips; 50-8,000 cps  $\pm$  3 dB at  $3\frac{3}{4}$  ips.

Wow and flutter: Less than 0.3 per cent (RMS) at  $7\frac{1}{2}$  ips; Less than 0.4 per cent (RMS) at  $3\frac{3}{4}$  ips.

Noise level: 50 dB unweighted.

Recording time: Twelve minutes each track on a four-inch reel of long-play tape at  $7\frac{1}{2}$  ips.

Power required: Two separate sources of 7-12 volts capable of 170mA.

Power supply: Seven Mercury cells (Mallory type ZM12 or RM12).

Battery life: Motor—Approx twenty hours at  $7\frac{1}{2}$  ips or thirty hours at  $3\frac{3}{4}$  ips. Electronics, at either speed, approx sixty hours.

Input: At 'in' socket for fully modulated tape, .2mV.

Output: Maximum 1 volt at 'out' socket; this will not fall below .8 volts when loaded with 100 ohms.

Direct line recording: Voltage required to load tape to standard level—0.2 mV.

Dimensions: 9 x  $6\frac{1}{2}$  x  $4\frac{1}{2}$  inches.

Optional accessories not included in price are carrying case, choice of microphones, and power pack for mains or car battery.

Weight:  $6\frac{1}{4}$  lbs, including mercury batteries.

Price: 66 guineas.

Manufacturers: Fi-Cord International, 40a, Dover Street, London, W.1.

## "AND A LITTLE FRENCH"

IT was the intention, when this series started, to devote each article to a particular aspect of tape recorder servicing. Say, one month to brakes, the next to clutches, and so on. A neat and tidy idea.

Unfortunately for neatness, our readers do not sport such tidy habits! No offence intended—I mean that queries and comments of all manner of different subjects are reaching this office. So, forgive me this once, if I attempt to answer a few of those that have been kept back, awaiting the appropriate monthly niche.

First, from Crowborough, Sussex. L.H.T. writes to say he has been using his Korting stereo machine to tape a wedding at a local church and in doing so, has picked up, during the quiet passages on one track, some unwanted French chit-chat. He deduces, correctly, that it is radio interference from the Foreign Office broadcasting station, a couple of miles away, and asks, "Have other readers experienced the same phenomenon? If so, what can be done to the recorder to stop it?"

This is a much more widespread problem than it used to be, and is likely to increase later on as television uses frequencies in the UHF band. The point being that a relatively short piece of wire, or a capacitive and inductive circuit such as is offered by an impedance mismatch, acts as an ideal device for picking up the higher frequencies.

A high-gain audio amplifier can provide the detecting action and pass a weak

interfering signal through to the recording head and thus to the tape. Similarly, during playback, signals can be picked up at the head, rectified and amplified, and reproduced quite clearly. But the cure depends on where and how the signals are being picked up. Each case is different.

In L.H.T.'s problem, it seems that the microphone lead, (or the microphone itself) is acting as an effective aerial. The cure may be to decouple the radio frequencies at the input. This is sometimes possible by fitting a 50 picofarad condenser across the microphone jack terminals; in the case of a stereo jack, from each outer pole to the common. It may be necessary to reposition the cable, and in this respect the advantage of monitoring a recording can be seen. By this method the trouble will be heard before it is too late.

In the worst cases, the incorporation of an hf choke in the "live" lead of the microphone input, with the condenser from the "recorder" end of the choke to chassis can help reduce television interference. The choke is simply formed by 20 to 25 turns of 26 swg enamelled (or otherwise insulated) wire, wound around a pencil into a tight coil. Remember to make all connecting leads as short as possible.

A similar trouble on playback can often be eliminated by fitting a 50 picofarad condenser across the recording head, as near its connection as possible. As a further effort, try an even smaller capacity, say 22 "puff," across the grid load of the first amplifier. (See Fig. 1.)

As a final note on the subject, let me pass on the observations of M.R.A., of Woolwich, who is using a Stella 451 machine. He had the trouble of apparent television interference and failed to cure it by any of the above remedies.

His clue came when he was using the machine one night after the TV stations had closed, and this time heard what appeared to be linesmen testing a circuit. Actually, it was radiation from a badly-screened feeder of a local relay company.

The pick-up was the Band III sound channel, and it was caused by induction at audio frequencies. The only

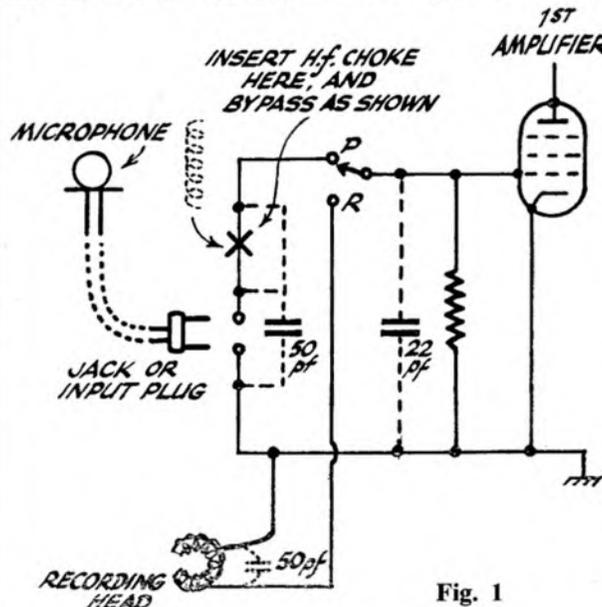


Fig. 1

More advice in our

## SERVICE BUREAU

by Harry Mack

total cure would have been to screen the complete recorder in an earthed metal box!

Fortunately for M.R.A., the line fault was put right and the interference ceased.

The same machine, Stella 451, gave an unusual headache in our workshop recently when the customer complained of high noise level on playback. Recordings made on this machine and played back on another were perfect. The cause was an intermittent open-circuit of the .01 microfarad capacitor from the anode of the EF86 valve, which, in series with a 22,000 ohm resistor, forms a low-frequency correction circuit. An unusual fault that may be worth passing on.

My next "left-over letter" is from B.P., of Rawdon, Leeds, who has some complimentary things to say about the Gramdeck, with one qualification. His complaint refers to the inefficient erasure, due to its permanent magnet erase method.

He notes that the members of the "Mutleyphonic Workshop," in their article describing the portable(!) recorder they used to make their prize-winning tapes, employed bulk erasure to clean the tape. "Is it not possible," asks B.P., "to make a simple erase circuit, as used in electrical equipment?"

Well, that's a teaser. To my knowledge, there is only one machine that has an electromagnetic erase head worked from a transistorised oscillator circuit, and that is the Philips EL3585. In his Test Bench review of this model (November 1, 1961), H. Burrell Hadden reports its superiority.

Unfortunately for B.P., the head and the oscillator coil are a Philips speciality, and details are not yet available. Undoubtedly, there will soon be alternative designs on the open market for constructors. If there are already, we would welcome information from readers, or perhaps a working circuit.

The reason for the prevalence of magnet erase devices is simply a restriction of power. Whereas a bias oscillator for the recording head need only deliver 150 milliwatts or so, for erasing purposes a much stronger magnetic field is required. The initial amplitude of the a.c. signal (for electromagnetic erasure) must be sufficient to saturate the tape. Three watts is not unusual.

However, B.P. need not despair. He does not tell us what equipment he is using with his Gramdeck, and it is possible he is already in a position to take power from an amplifier circuit to energise an erase head. If so, a simple unit could be made, built around the popular EL84 valve, mounted in a convenient spot in the cabinet, whilst the erase head is fitted to the deck at any point prior to the record/replay head.

The important items are the erase head and oscillator coil. They should be matched for maximum transfer of power. A number of types will be seen in advertisements in many journals.

The circuit is essentially simple: a typical arrangement being as shown in Fig. 2. This is designed around the Brenell head and coil and a version of it was first published in the Mullard publication, "Circuits for Tape Recorders." Switching can be incorporated at the discretion of the constructor. It is only necessary to open the h.t. to oscillator coil line, as shown dotted, during playback, and rewind. Power drawn from the main circuit is not excessive, the EL84 needing only 6.3 volts at 0.3 amps to feed the heater, and a maximum of 50 milli-amps h.t. current.

Before leaving the subject of erasing, it may be as well to remind ourselves that many recordists favour the use of such devices as the Wal D-Mag, for spot and head demagnetising. This unit is made by Wellington Acoustic Laboratories Ltd., Farnham, Surrey.

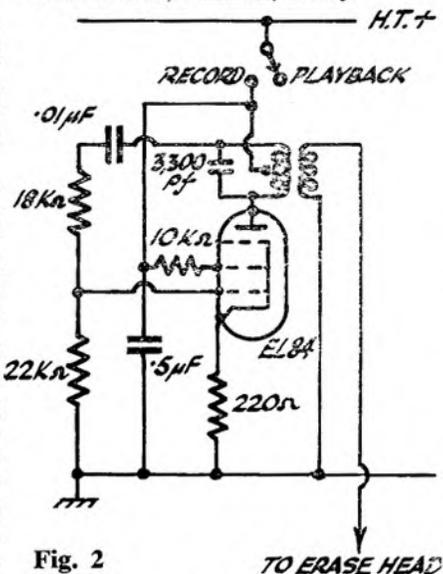


Fig. 2

Another reader with a query is D.B.A., of Peterborough, who asks whether any manufacturer supplies "an instrument which records only, thus saving the expense of a loudspeaker and playback facilities?"

This is not really a digression, for we come back to the topic of the Gramdeck, which can be fed from the output of the main tape recorder for dubbing purposes. This presupposes that D.B.A. uses a gramophone of some sort, capable of 78 r.p.m. and providing a rumble and wow-free performance. Remember that the Gramdeck is only as good as its initial drive. On a turntable it will give excellent results.

But whatever way dubbing is done, there must be a secondary drive mechanism, unless one is prepared to experiment with stacked spools and heads. There must also be a secondary

amplifying channel, whether the main instrument is used on record or playback. This means that the manufacturer of a dubbing instrument would really be wasting his opportunities if he did not include switched equalisation and the simple addition of an output stage and loudspeaker for playback.

I should have thought that the inexpensive answer to the dubbing problem is for D.B.A. to get together with another owner and arrange a "dubbing session," when each could copy on the other's machine. An advertisement in the local press should bring forth a response. And a contact with a member of Northampton's lively club, which meets on Tuesdays and Thursdays at 36, Spring Gardens, would not be without interest.

A final thought on dubbing—don't forget the vexed question of the Copyrights Acts. These have already been widely discussed in past issues of the magazine. Those wishing to recap can refer to the following back numbers: November 4, 1959; May 17 and 31, 1961. As Alan Edward Beeby observed in the February 22, 1961, issue: "... this is 1961—and you can still be tried for witchcraft."

As a total change of subject, allow me to answer J.M., of Cardiff, who complains that his home-built tape recorder lacks a tape position indicator. He has used the simple BSR deck and is reluctant to "cut it about" to fit a standard revolution counter.

Luckily for J.M., and many other enthusiasts who are using this popular deck, one firm is now marketing a kit comprising counter, fixing screws, pulley and belt at 36s. This is English Numbering Machines Ltd., of 25, Queensway, Enfield, Middlesex. A simple clip-in window is also supplied with this kit, and the amount of "cutting-about" is kept to an absolute minimum.

The tape position indicator, regarded as a refinement by many manufacturers, should be considered a vital necessity by any enthusiast. And if you are not an enthusiast, J.M., I hardly think you would be reading this. Anyway, thank you for your kind remarks, and my apologies to you, and the preceding readers, for having left your queries so long unanswered.

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It is timeless jazz, but has the additional merit of the unobtrusive background music. It is impossible to fault.

\* \* \*

**MUSIC IN THE MODERN MANNER.** Russ Morgan and his Orchestra. World Record Club (TT 145), 3½ ips, mono. 29s.

This title is a joke. Morgan's music is pleasant, danceable (in a discreet, non-twist way). It is not modern. This record includes *So Tired* one of the more distinctive piano-orchestra hits of the last 20 years.

Recommended only for those who enjoyed the sweet music of the 'forties, even though many of the tunes are good.

\* \* \*

**MUSKRAT RAMBLE.** Doc Evans and his Dixieland Band. Saga (STE 3073), 7½ ips, stereo. 63s.

Trad jazz is not extensively included in the tape catalogues. The Evans' band reaches back into the early New Orleans days, using for its inspiration the music of Jelly Roll Morton, Nick LaRocca, Kid Ory and Bunk Johnson.

The performance, though dedicated, sometimes lapses into a more modern style. The performances are worth listening to and if your friends don't want to bother, they will be able to dance to it.

\* \* \*

**MY CONCERTO FOR YOU.** Russ Conway with Michael Collins and his Orchestra and the Williams Singers. Columbia TA-33SX 1214, 3½ ips, mono. 35s.

The magical appeal of Conway reached its height in 1960 when the disc version of this tape was first issued. The pianist saw it as the start of a dedication to more serious composition.

Events have not quite allowed him to proceed with his ambition, although it is quietly developing.

The title track *My Concerto For You*, though credited to Stanford is really Conway's work, signed with his real name. It includes *The Warsaw Concerto*, *The Autumn Concerto*, *Dream of Olwen* and concert arrangements of *La Mer* and

*Jeannie*—since made into a vocal hit by Danny Williams.

\* \* \*

**PAL JOEY AND NEW MOON.** Joyce Blair, Andy Cole, Denis Quilley, Barbara Leigh, etc. With the Mike Sammes Singers and Johnny Douglas conducting the New World Show Orchestra. World Record Club (TLM 3), 3½ ips, mono. 29s.

World Record Club has probably the biggest collection of show albums in the world. This record adds to it with the best numbers from two big successes from yesteryear.

They follow W.R.C.'s pattern of theatrical-type performances and should be considered as show souvenirs. They do not fit into the main stream of pop music.

"Pal Joey" has five great Rodgers & Hart songs—*There's a Small Hotel*, *The Lady is a Tramp*, *I Don't Know What Time It Is*, *Bewitched* and *I Could Write a Book*.

"New Moon," written a decade earlier by Sigmund Romberg, Oscar Hammerstein and others, has better performances, but not so many good songs, though, of course, *Softly As In a Morning Sunrise* and *Lover Come Back To Me* are in the top flight of musical comedy composition.

The record is produced with the usual W.R.C. thoroughness but I wish the performances weren't quite so straight.

\* \* \*

**ROMANTIC GUYS.** Various singers with Hugo Montenegro and his Orchestra. Music on Tape (CR 443), 3½ ips, mono. 46s.

In its deals with American composer Frank Stanton, Music on Tape has made available a host of new pop songs. This is another collection, this time featuring male vocalists.

Although all the performances are at least adequate and some excellent, the standard of songs varies considerably. Nevertheless it is a good record if you are looking for new pop music.

\* \* \*

**THE SHADOWS.** Columbia TA-33SX 1374, 3½ ips, mono. 35s.

Britain's most popular hit parade group makes its debut in E.M.I.'s autumn issues in its series of tape releases at roughly the same price as the LP disc.

*The Shadows* was the first album issued of the group which has been—and continues to be—heard on most of Cliff Richard's discs.

In its medium and style it is quite brilliant. Shadows' fans will need no recommendation from me. If there is a teenager in the house at all interested in the hit parade, this tape is a must.

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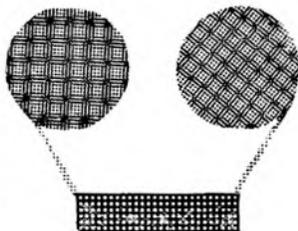
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**NEW  
PRODUCTS**



**NEW BATTERY PORTABLE**

A PORTABLE battery-operated tape recorder, price 25 guineas, is the latest model to be introduced by Cossor. The new model, a twin-track, single (1 1/4 ips) speed recorder designated CR1620, following the latest trend to upright styling, has operating controls and tape deck on top of the casing. The frequency response is quoted as 120-5,500 ±3dB, with wow and flutter given as less than 0.5 per cent, and signal-to-noise ratio as better than 40 dB. It accommodates four-inch reels with the lid removed (three-inch without) providing a playing time of 32 minutes using standard-play tape. Fast forward and rewind takes 90 and 110 seconds for 300 ft. of tape.



The Cossor CR1620

Six 1 1/2 volt U2 batteries supply the power, and their life is estimated at twenty hours. The output is given as 250 mW. Among the other features are a high efficiency four-inch diameter loudspeaker, moving coil microphone, and combined recording and battery level indicator. Simple operation is effected by means of three push buttons with a safety interlock to prevent accidental erasure. Inputs are provided for microphone, and radio/pick-up, and a line output is also available. Housed in a turquoise polystyrene cabinet with a transistor radio appear-

ance, it has a removable carrying handle which can be replaced by a shoulder-strap (optional extra). A carrying-case is also available as an optional extra, as is a mains supply unit (Model EL3766) which allows the recorder to be operated from the mains to conserve the batteries when indoors.

It measures 12 x 7 1/4 (height) x 4 1/4 inches and weighs 8 lb, complete with batteries.

Cossor Radio & Television Limited, 233, Tottenham Court Road, London, W.1.

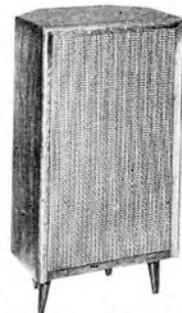
**LATEST SPEAKER  
BY ROLA CELESTION**

LATEST introduction to the Rola Celestion range of loudspeakers is the Colaudio II unit, price £36 10s., illustrated below.

This is described as opening a new era for the discriminating listener, its outstanding features being a small cabinet of less than two cubic feet, a twelve-inch bass unit having a diaphragm moulded from expanded plastic material, and a pressure treble unit HF 1300.

The handling capacity is said to be 15 watts (peak), within a frequency response of 30-15,000 cps. The matching impedance is 15 ohms.

Its height is 28 1/2 inches, including legs, has a 15-inch frontal, and the depth is 11 1/2 inches. The cabinet is finished in polished matched walnut veneers.



Rola Celestion Colaudio II

A detailed description of the bass unit states that the use of a moulded diaphragm made from the expanded plastic material enables the unit to reproduce pure tones free from harmonics and avoiding the usual cone break-up. Three suspensions are employed to provide a true axial movement and a loudspeaker resonance in free air below 30 cps.

The treble unit is an improved version of the HF 1300 used by broadcasting and recording companies wherever high quality treble reproduction is required.

Rola Celestion Limited, Ferry Works, Thames Ditton, Surrey.

**Change of address**

A CHANGE of address is announced for Tape Recordings London Ltd., distributors of Music-on-Tape and Esoteric tape records. Their offices are now at 188, Vauxhall Bridge Road, London, S.W.1. Telephone TATE Gallery 9615. All orders for tape records received at this address can now be despatched the same day or, if temporarily out of stock, within twenty-four hours.

They also announce that Music-on-Tape tape records at 7 1/2 ips will now be supplied only on seven-inch spools.

## MORE ELIZABETHAN MODELS

THREE new models, recently introduced by Elizabethan Ltd., are the Popular 200 and 400 and the LZ29 and LZ30.

The first of these is the Popular 200, a two-track single speed ( $3\frac{1}{2}$  ips) model incorporating the BSR Monardeck. With accommodation for  $5\frac{1}{2}$ -inch spools this provides a playing time of 45 minutes per track using standard-play tape. It has a four-track version, the Popular 400.

With a quoted frequency response of 60-10,000 cps it has an output of five watts, and a host of other features. These include automatic locking device to prevent accidental erasure, a built-in 8 x 3-inch loudspeaker, facilities for superimposition and monitoring, and a magic eye recording level indicator. Inputs are provided for microphone and radio/pick-up, and outputs for external loudspeaker (3.5 ohms) and external amplifier (220 k ohms).

The valve line-up includes an ECC83, ECL86, EM84, and a metal rectifier. The power supply is 200-250 volts, AC 50 cycles. Sixty-cycle operation is available to order.

It measures  $13\frac{1}{2}$  x  $14\frac{1}{2}$  x  $5\frac{1}{2}$  inches, and weighs 16 lb. Included in the price, 22 guineas for the 200 and 25 guineas for the 400, is a crystal microphone, reel of tape, spare reel, and recording lead.

The second of their new models, the LZ29 incorporates the three-speed Collaro Studio deck. The quoted frequency response is 50-14,000 cps at  $7\frac{1}{2}$  ips, 50-10,000 cps at  $3\frac{3}{4}$  ips, and 50-6,000 cps at  $1\frac{7}{8}$  ips. Wow and flutter is given as not greater than .15 per cent at the top speed, and the signal-to-noise ratio is 40 dB unweighted.

This is a four-track machine accommodating seven-inch spools providing a playing time of just over two hours per track using standard-play tape at the slowest speed. Among the features are a magic eye recording level indicator, mixing facilities, separate bass and treble controls, digital rev. counter, and fast forward and reverse wind (one minute for 1,200 ft.). The amplifier output is five watts through the 7 x 4-inch loudspeaker unit.

Mains supply is 200-250 volts, AC 50 cycles, and the power consumption is rated at 140 watts. The valve line-up, inputs and outputs are identical to the Popular models.

The LZ29 measures  $16\frac{1}{2}$  x  $15\frac{1}{2}$  x  $6\frac{1}{2}$  inches, and weighs 29 lb. Included in the price of 36 guineas is a crystal micro-



Top to bottom: the Elizabethan Popular, the LZ30, and the LZ29

phone, reel of tape and spare spool, and recording lead.

Two-track operation is available on the LZ30, a model incorporating an Elizabethan deck. Three speeds,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ , and  $1\frac{7}{8}$  ips are provided and, with the seven-inch spools accommodated, a playing time of just over two hours is possible per track using standard-play tape at the slowest speed.

Features and facilities are as for the LZ29.

The LZ30 measures  $16\frac{1}{2}$  x  $14\frac{1}{2}$  x 6 inches, weighs 25 lb., and costs 32 guineas.

Elizabethan (Tape Recorders) Limited, Romford, Essex.

## Ferrograph Series 5 recorder

THE Ferrograph Co. Ltd., have announced the introduction of the Series 5 tape recorder.

All the main features of the Ferrograph which have endured for so many years practically unchanged, are retained in the new model. The purpose of the change being described as to further enhance the present specification particularly with regard to the wow and flutter performance.

To this end the capstan motor speed has been doubled whilst the diameter of the capstan has been accordingly reduced.

This improves considerably the wow and flutter performance, especially at  $3\frac{3}{4}$  ips which has been regarded principally as a speech speed in the past. Ferrograph now regards  $3\frac{3}{4}$  ips as a useful musical speed.

The modifications described have led to an increase in price so that Model 5A/N is 85 guineas compared with 81 guineas for the Model 4A/N.

The Ferrograph Company Limited, 84, Blackfriars Road, London, S.E.1.

(More New Products on page 36)



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## NEW PRODUCTS (Continued from page 35)

# "SCOTCH" INTRODUCE RANGE OF ACCESSORIES

A NEW range of magnetic tape accessory items has been introduced by the makers of "SCOTCH" magnetic tape. Items include leader and timing tape, sensing tape, tape clips and an accessory kit.

The Leader and Timing Tape is made in five colours—red, green, white, blue and yellow. Each 100 ft. roll of quarter-inch tape is carded and sealed inside a transparent dispenser pack complete with cutter. The price is 6s. per roll, and the tape, with plaid sections accurately spaced, can be used for timing, tape "lead-ins" and labelling. Tape Clips, for holding the tape end secure on the spool, are now available in packets of ten, price 2s. 6d.

Also new in the accessory field is their Sensing Tape—a thin, flexible, strong conductive foil with a pressure-sensitive adhesive. Designated No. 51, this tape has been developed to work in conjunction with recorders having electronic sensing controls. Each 150 in. roll (7/32 in.) is carded a unique bubble pack, complete with tape guide, automatic separator for the discardable liner and cutter for easy tape removal.

The price of each roll is 14s. Apart from the advantage of this tape as an effective stop foil, it can be used as a sensing medium in certain tape recorder-slide projector systems.

A new pocket-size Accessory Kit is also introduced. This contains one splicer, a roll of No. 41 Splicing Tape, one roll of No. 24 Leader and Timing Tape and ten Tape Clips. Price is 29s. 6d., complete in an attractive pack with instruction leaflet.

Their No. 41 Splicing Tape is still available separately and the easy-to-use 150-in. roll of half-inch tape on the dispenser is now available in a modern style pack.

A leaflet describing the new

## "Sound" stereo

A NEW device introduced by Tape Recorder (Electronics) Ltd. provides for the playback of four-track stereo tapes by all the latest "Sound" four-track machines.

Designated the Sound Stereo "Addon," it is a specially designed stereo amplifier matched for the "Sound" range of recorders and gives over three watts output. It has a frequency response to CCIR characteristics, and operates at 200-250 volts, 50 or 60 cycles. It has a printed circuit, utilises two Mullard valves, ECC83 and ECL86, with input connection from the "Sound" recorders.

Other features include a matched loudspeaker unit, and a further extension speaker socket. The controls comprise volume, tone, and on/off. It is mounted in a cabinet designed to harmonise with their range of recorders, and will retail at 14 guineas.

Tape Recorders (Electronics) Limited,  
784-788, High Road, Tottenham, London, N.17.

"SCOTCH" accessories is available from the makers.

Minnesota Mining and Manufacturing Co. Ltd., 3M House, Wigmore Street, London, W.1.

## Neck microphone announced by STC

A NEW Lavalier neck microphone, Model 4112, is to be introduced by S.T.C. Ltd. The first model has attracted a great deal of attention.

The new unit is a small tubular omnidirectional moving coil microphone designed for use in broadcasting and in public address systems. It weighs only five ounces and is provided with a light neck halter. Attachments are available enabling it to be used with a stand or as a table microphone.



The STC "Lavalier" microphone Model 4112 seen used in the halter position

The frequency response of the new instrument is claimed to be substantially uniform between 100 and 14,000 cps, with a sensitivity of -82dB referred to 1 volt/dyne/cm<sup>2</sup> (0.1 millivolt approx).

The case, which can be readily removed for replacement of the screened cable if required, is of strong aluminium alloy, with a perforated chrome-plated steel front. It has a durable plastic diaphragm. From a maximum diameter of 1.35 inches, the 3½ inch long case tapers to a minimum diameter of 0.875 inches.

Deliveries were to commence this autumn. The price has not yet been announced.

Standard Telephones and Cables Limited, Electro-Mechanical Products Division, Edinburgh Way, Harlow, Essex.

# LANGUAGE COURSES ON TAPE

A RANGE of language tape records have been introduced by Visaphone Ltd., who have previously made available disc courses.

Recorded at 3½ ips on five-inch spools, the tapes cover English, French, German, Italian, Russian and Spanish languages and will be available for Elementary and Conversational Holiday courses, and Home Study courses. Other speeds and reel sizes can be supplied to special order.

Three labels divide the courses which are available by Visaphone, Interpret, and Lexiphone. The Visaphone courses for either English, French or German comprise two books and two tapes (140 minutes) for nine guineas. The Russian course on this label, three tapes (three hours) and two books will cost twelve guineas.

The Interpret conversational holiday course, covering English, French, Italian, German and Spanish comprises one tape (45 minutes) and two books for £4 9s.

On the Lexiphone label, English, French, German, Italian, Russian and Spanish elementary courses are available on one tape (35 minutes) with three booklets (two only for Russian) at 38s. 6d.

Also available are English and German conversational courses with three tapes (three hours) and two books for nine guineas. A commercial course in English, using two tapes (two hours) and two books, costs eight guineas.

All the recordings contained on these tapes are spoken by specially picked natives of the countries concerned. The complete course is packed in an attractive presentation book-type container.

Visaphone Company Limited, 10, Bayley Street, Bedford Square, London, W.C.1.

## Tape recording handbook by E.M.I.

A FIFTY-SIX-PAGE, fully-illustrated book presenting the elements of tape recording in simple and straightforward terms is the latest "tape accessory" for the novice and even the partly-experienced tape enthusiast. Written by John Borwick, producer of the popular *Emiguides*, the book is published by E.M.I. Tape Ltd. and sells at 2s. 6d.

Among the pages are chapters on the background of magnetic tape, how it is made, tape tracks and speeds advice, hints on obtaining the best quality from your recorder, microphone technique, tape editing, outdoor recording, trick and sound effects recording and producing feature tapes.

This handy pocket-book is available from tape dealers or direct from the manufacturers.

E.M.I. Tape Limited, Blyth Road, Hayes, Middlesex.

## Cosmocord announce new Mic 39

COSMOCORD Limited, announce the introduction of a new version of the familiar and popular Acos Mic 39 crystal microphone. The new unit will incorporate a dynamic insert.

The crystal version, for recording speech and music for semi-professional and amateur use continues in production, and as an alternative the new "Dynamic Mic 39," incorporates a transformer to provide high and low impedance matching. This will prove of particular advantage for use with long leads.

The new instrument also has an omni-

directional response, and is claimed to give good frequency coverage and sensitivity. The quoted figures are as follows: frequency response: 80-10,000 cps  $\pm 3$  dB and approx. 10 dB down at 50 and 15,000 cps. Sensitivity: low impedance connection (nominal 200 ohms), -80 dB ref 1v/dyne/cm<sup>2</sup> on open circuit; high impedance connection (nominal 50 Kohms)—54dB ref 1v/dyne/cm<sup>2</sup> on open circuit.

The price is £7 10s. 0d.

Cosmocord Limited, Eleanor Cross Road, Waltham Cross, Hertfordshire.

## NEWS FROM THE TRADE

TAPE Recorder Maintenance Ltd. announce they have opened a branch at 6, Shirley Road, Southampton (Southampton 22262).

From there they offer trade repairs for all makes of tape recorders, covering the area along the coast from Poole in the West to Chichester in the East, extending to parts of Wiltshire in the North.

A CHANGE of address for Tellux Ltd. is announced following their removal to new premises at Avenue Works, Gallows Corner, Colchester Road, Romford, Essex. (Tel.: Ingrebourne 43791-2-3.)

A reorganisation of their works now provides an "off-the-shelf" service for Sennheiser microphones and Isophon speakers, together with their marketing of the Sony range of tape recorders.

THE Challen Instrument Company announce they have ceased production of the Minivox battery portable tape recorders and that they can no longer undertake servicing of the models now in circulation as they have vacated their premises.

Arrangements for servicing can be made with Sheppard Services, 11a, Upper Tulse Hill, Brixton Hill, London, S.W.3. (Tel.: Tulse Hill 7441.)

FRANCIS of Streatham announce they have taken larger premises immediately next door to their Tape Recorder shop for their Hi-Fi department and that the company's address is now 169/171/173, Streatham High Road (telephone STR 0466/0192). In charge of the tape recorder section is Mr. Douglas Francis and Mr. Barry Francis is in charge of the hi-fi department.

GRUNDIG (Great Britain) Limited who reopened their showrooms at 39, New Oxford Street, London, W.C.1, for the period of the Radio Show, announce that in response to popular demand the showrooms will now remain open permanently.

Their full range of tape recorders, radios, radiograms, dictating machines and typewriters will be on show and members of the Grundig staff will be available during normal business hours to answer queries and give demonstrations.

K. H. WILLIMAN & CO. LTD. announce that they have signed an agreement with Planet Projects Ltd. under which they will handle all export sales to Europe of the new Planet range of decks.

K. H. Williman & Company Limited, Blackford House, Sutton, Surrey.

## AMERICA'S ONLY TAPE RECORDING MAGAZINE

Since 1953, this magazine has totally been devoted to tape recording. In addition to its timely articles, our columns also feature:

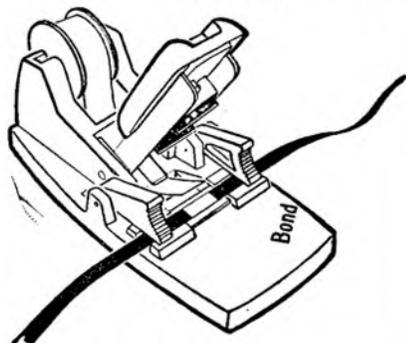
- Tape Reviews
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- Club News (tape correspondence clubs)
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How to make both ends meet!  
—and stay spliced for life!



SIMPLY USE A  
**BOND MAGNETIC RECORDING  
TAPE SPLICER**

Tape Editing will become a new-found pleasure

Semi-automatic operation

— ONLY —

**32/6** complete with 150"  $\times$  ½" jointing tape

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(Sole U.K. Distributors)

# Taped sound breaks through the price barrier

## NEW FERGUSON 4-TRACK RECORDER GIVES YOU MORE FEATURES FOR LESS MONEY

How is it possible for the price? The answer lies in the years of designing and engineering effort that Ferguson have spent in producing a tape deck of their own. This recorder is *all* Ferguson. That's why it cost less to build. The cost saving has been passed on to you first by lowering the price, and then by cramming it with all those features you never dared hope to afford. Sceptical? There's only one cure for your scepticism. See the new Ferguson recorder at your dealer's. Trust to the evidence of your own eyes—and ears. Trust to the reputation of Ferguson. And finally, trust to your own instinct for value.



- Piano Key controls
- Tape "inching" facility
- Four-track, two speeds:  
3 $\frac{3}{4}$ " per sec., 1 $\frac{7}{8}$ " per sec.
- Reel diameter: 5 $\frac{3}{8}$ "
- Fast spooling in both directions
- Pause control
- 'Play-through'/Superimpose Button
- Press-button reset for tape position indicator
- Automatic stop operates at both ends of tape
- Electron beam recording level indicator
- Weight 19 lbs.

Complete with microphone (incorporating remote control switch), 850' long play tape, take up spool, connecting leads. Powered accessories socket, using suitable attachments, enhances scope of recorder with playback of stereo tapes, track to track recording synchronization, automatic stop/start by voice or signal, synchronized slide projector/recorded commentary operation, etc. etc.

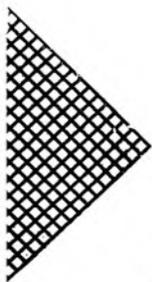
**33** MODEL 3202  
**GNS**

A new twin-track single-speed Ferguson, too! Incorporates almost all the features of the four-track model, yet the Ferguson 3200 costs only **26** GNS



# FERGUSON

THORN ELECTRICAL INDUSTRIES LTD., THORN HOUSE, UPPER SAINT MARTIN'S LANE, LONDON. W.C.2



# News from the Clubs

## BRISTOL

A change of secretary is announced in the latest edition of *Bristape*, the official newsletter of the Bristol club. M. E. Hollier has retired, and his post has been filled by Clifford Redknap.

October 18 is to be a special competition night for the members. On that occasion members are to select the "Club tape of the Year." A special handicap is being introduced to separate the experts from the novice members. The first prize is to be a four-channel passive mixer unit and the second prize a message spool of tape.

The judging will consist of points awarded for quality, originality, presentation, and interest holding making a maximum of forty to the successful winner.

During the same evening members will be presented with a petition currently going the rounds to enable tape exchange enthusiasts to use Second Class Airmail. The petition is organised by World Wide Tape Talk.

Earlier in the month the members were to be entertained to a demonstration of mixer units. Cabot Productions Ltd., a local dealers, were to visit the club for the occasion, and present a programme of instruction on the use of these items.

A variety of activities are lined-up for their November meetings, including how to add sound to cine with a demonstration film with sound added by members (1); a stereo demonstration (15); and playmaking and studio-procedure (29).

Secretary: Clifford Redknap, 15, Downfield Road, Clifton, Bristol 8.

## BRIXTON

Final gesture of Mr. Dale Griffiths, member of the Brixton club, before he emigrated to Australia was to present his last tape production in the UK. This was a programme compiled from the best tapes produced by the Brixton club in the last two years.

He also helped produce a tape/slide show of the club's activities.

One of the most recent reported exercises of the club was the "coverage" members gave to the laying of a foundation stone for a Youth Club, performed by King Hussein of Jordan. The BBC and ITV cameras and recording units were there, but the amateurs came out best in the scramble for a strategic vantage point in Camberwell Vicarage garden where the ceremony took place.

Secretary: R. G. Garrett, 56, Rattray Road, Brixton, London, S.W.2.

## CHRISTIAN TAPE LIBRARIES

Clubs which run hospital programme services may be interested to hear of a list of Tape Libraries with pre-recorded church services available.

The list, which details some thirty addresses, is available from *Tapes for Christ Missions*, 136, Tollington Park, Stroud Green, London, N.4. Contact with this address will provide the full list of tape libraries holding pre-recorded church services, and details of the particular items held.

The tapes are available on loan, mainly for the cost of postage, plus a freewill offering.



## Charlie Chester's "Oscar on Tape"

"TAPE Recording Magazine" in collaboration with Charlie Chester, the TV show personality, and Alan Edward Beeby, our popular contributor, announces a scheme designed to bring comfort and cheer to the blind and infirm.

During the wartime show "Stand Easy," Charlie Chester originated his Oscar awarded for bravery in adversity, and he has suggested a similar scheme be run on tape for the blind and infirm.

The scheme calls for recommendations from clubs or individuals who have knowledge of a person who they consider as being brave in adversity. Sponsors, should, unknown to the person concerned, submit the name, age, home address, type of illness and name of hospital (if an in-patient), together with as many per-

sonal details including interests and hobbies etc., as possible, together with a message spool of tape.

We will then consider the names put forward, and each month will announce who gets the "Oscar on Tape."

The Oscar will comprise a personal message from the Editor of "TAPE Recording Magazine" and Charlie Chester. It will be recorded on the message spool which will be returned to the sponsor for playback to the patient.

Any speed is acceptable, but our task would be made easier if 3½ ips were used where possible.

Tapes and details together with return postage, should be sent to Alan Edward Beeby, 88, Clare Street, Northampton.

## COTSWOLD

"Who says the countryside is dull?" A recent newsletter of the Cotswold society would prove this statement to be anything but true, and to follow-up their question Peter Turner described the activities of Peter Duddridge who found himself amidst the facts behind the headlines some weeks ago.

Equipped with his Fi-Cord he was lucky enough to intercept a press conference with Colin Jordan the neo-Nazi leader, and to be present when the sturdy men of Gloucester turned up in force to throw out the fascists from their Cotswold camp.

Later still he had the luck to run into Tyndall collecting the camp equipment from the shed where it had been dumped by the police and secured an interview with him. He also interviewed the manager of the hotel where the American Nazi Rockwell spent several days as "Mr. Henderson."

Further visits to the area produced interviews with the Crusaders, including the man who shot his twelve-bore through the swastika. From these items a complete sound picture of the strange goings-on at Deadmanbury Bottom is to be compiled.

A more sedate recording experience was met by Messrs. Duddridge and Turner later when they managed to situate themselves for a recording session during a performance by the Cheltenham Young Persons' Orchestra in the Town Hall.

Using a Ferrograph 402 with two Reslo microphones, and a Simon SP4 with Cadenza and Beyer microphones they achieved recordings which were later described as standing comparison with many FM transmissions.

Resuming their regular fortnightly meetings on September 6, members held a novice's evening. Several five-minute tapes were submitted for a competition judged by chairman Ernest Morris. Entries varied from music concrete, entered by Ray Ringley (no novice he) to the camp-fire singing of handicapped children produced by June Turner. The winner was Harry Foieder who had created an imaginary futuristic interview between doctor and patient.

At the same meeting Peter Turner presented a sound record of the Stroud Jubilee show. Beginning with carnival procession recordings, the tape went on to give snapshots of activities and personality at the fair. Special emphasis was given on the annual brick-throwing contest between the four Strouds of England, Australia, Canada, and U.S.A. The tape is to be circulated to these four towns.

Members of the Northampton Tape and Cine club presented a demonstration of "Sound through the Ages" at a meeting this year. Our photograph, left, shows left to right, Messrs. Bonham, Cox, Spokes, Foster-Smith, and Ramshaw examining some of the ancient reproducers. Hovering in the background is a member of the local press. In addition to the ancient acoustic devices that can be seen, transistorised portable gramophones and others were demonstrated including for comparison the very latest transcription units and four-phase stereo recordings.

Colin Woods recently designed a tape-editing unit described as greatly simplifying this delicate chore. Details of the design are still to be made known, but to illustrate his invention he presented a recording of the voice of TIM, the speaking clock. The golden voice, with its obedient pips, had been edited into saying the most extraordinary things, and the programme had been given the heart-breaking title of "Making a girl go wrong."

Secretary: Peter D. Turner, Pike Cottage, Frampton Mansell, Stroud, Gloucestershire.

## CRAWLEY

A change of secretary is announced for the Crawley club with Mr. G. Stephenson replacing Mr. R. C. Watson in this post. The new secretary's address is "Hazlewood," Langshott, Horley, Surrey.

## FRIERN BARNET

A visit to the Tufnell Park society is the latest news from the Friern Barnet club, following an excursion made on September 24. Another outside call was made to Teletape, the Marble Arch tape record dealers, three days later, where they heard examples of the 2,000-odd tapes held by this specialist concern.

Earlier in the month members were entertained to a tape/slide show presented by J. Neal. The same evening they also received instruction on writing a script and producing a play from John Pitcher.

Jim Smith, one-time member of the club, has written from his new home in Johannesburg to say his recorders are now on their way to him and that soon he should be once again back in the swing. Another traveller, Jeff Burgess has just returned from holiday in Hong Kong and will present some of his recordings made out there.

Secretary: A. S. Andrews, 13, Hartland Road, Friern Barnet, London, N.11.

## LONDON

A change of secretary is announced for the London club. The post vacated by Terry Devereux, who moved to the West Middlesex club, is now filled by Mr. F. Fowle, of 66, East Road, London, N.1.

## MIDDLETON

A round of local dealers was the arrangement made for members of the Middleton club when their meeting place, a schoolroom, was closed during the holiday period.

First stop was at Rare Records where they were given demonstrations of the new Revox recorder, the Tandberg four-track stereo model, the new Truvox stereo Tape unit, and the Ferrograph 4A/N. A number of speaker units, ranging in price from £22-£98, were also demonstrated.

The second visit was to Lancashire Hi-Fi at Deansgate. Salesman Hugh Jones a member of the club, entertained members with demonstrations of the Ferrograph 422 stereo model, Telefunken 95, Brenell Mk 5M, and the H.M.V. Voicemaster. During this visit the demonstrator secretly recorded a discussion on the various machines, and surprised his guests with the playback in stereo.

(Continued on page 41)

**SEND YOUR ORDER NOW!**

*for*  
**TAPE RECORDING YEARBOOK**  
**1962-63**

Designed to cater specifically for the ever-growing circle of tape recording enthusiasts, the fifth and latest edition of the **TAPE RECORDING YEARBOOK** is now ready. The first copies of this unique reference book recently came off the press. If you want to be certain of getting your copy fill in and return the form below **NOW**.

Once again the "at-a-glance" comparison charts have been included. This tabulated form of presenting specifications and prices of equipment has proved most popular in past numbers. This edition contains catalogues for all



the current tape recorders, microphones, and mixer units, together with illustrations.

Other contents are listed below, and the useful speed and frequency charts are once again included.

Orders for the Yearbook will be dealt with in strict rotation. In previous years many were disappointed when the book was sold out within weeks of the publication date. Be sure you are not unlucky this year by returning the form below together with the 7s. 6d. (post free), and ensure immediate delivery.

THE CONTENTS INCLUDE

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

★ A full review of tape developments during the past year.

★ Advice on choosing—and using—a tape recorder.

★ Tape and cine.

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Please send me.....copy(ies) of Tape Recording Yearbook 1962-63 at 7s. 6d. a copy (including postage), I enclose remittance herewith.

Name .....

Address.....

(Continued from page 39)

Another location activity concerned the club's representation at the nearby Oldham leisure time exhibition. Three mains and three battery portable machines were on view and in operation. Members taped interviews with other exhibitors and the opening speeches. Extracts from the recordings made will feature in the third edition of the club's taped magazine *Playback*, which is produced for the benefit of those members unable to attend every meeting.

The members are currently selecting a new secretary to replace Mr. G. E. West, who has had to cease all club activities for a while due to other commitments.

Correspondence c/o Middleton Tape Recording Club, Tonge School, Oldham Road, Middleton.

## SOUTH AFRICA

Although the response to the stereophonic section of the British Amateur Tape Recording Contest was not very high, elsewhere there seems to be a lesson to be learned. The South Africa tape and hi-fi society seem to be moving in very high circles in this direction.

In one of their latest newsletters a final throw-away paragraph states: "Progress is being made with the demonstration of Todd-AO sound... definite date during next meeting." If they are pursuing multiple track recordings in such a blasé manner, it is not surprising that they should be well advanced in stereo technique. Their recent meetings have included a great deal of stereo material, including demonstrations of this type of recorder, with live and pre-recorded tape illustrations.

Other of their activities have included a preliminary discussion to organise a National Tape Contest. They have the backing of a large electronic concern who have presented a trophy, and a newspaper has promised support for the various announcements. At present the society deals rather more for the technician, and moves are afoot to bring their "standards" a little lower down for the enthusiastic beginner type.

Mr. B. Wilson, Sales Manager of B.A.S.F. Chemicals Ltd. of London, visited the members during July. Their programme for the evening included a first showing of the film *The Magic Tape*, and a demonstration of the new Wharfedale Slimline speakers.

## SOUTH BIRMINGHAM

A change of meeting place is announced for the South Birmingham club which now meets at the Brendon Cross Hotel, Pershore Road. Meetings are still being held on alternate Mondays, the next being on October 29.

Their first meeting at their new venue saw a dozen tape recorders including a Ferrograph, Simon with stereo attachment, a home-built stereo recorder, and an ingenious clockwork machine built by a visitor. Present for the evening were members of the Kidderminster club.

Among recent activities by the members have been a visit to the Midland Gliding club where chairman Gordon Skipper took his portable recorder up in a glider, and a Garden Party at the secretary's home when they were able to meet members of the Warwick and Leamington club. The club has also made a trip up the Lickey incline, visited a Go-Kart racing track, and made a recording during the opening of the M5 Motorway. Recordings made at these various points are to be included in their hospital programme scheme which has become a major activity.

A film of club activities, complete with tape commentary has recently been completed, and was due for its first showing in October.

Secretary: J. T. Gilbert, "Woodcote," Boxtrees Road, Dorridge, Solihull, Warwickshire.

## WHITSTABLE

Attendances at the Whitstable club have been keeping well up during the summer months, with surprising turn-outs for the June and July meetings.

At the earlier of these, members heard a demonstration of the Simon SP/5 when Mr. Allen of Simon Equipment Ltd. visited. A number of mono and stereo tapes were heard, and many members commented favourably on the simplicity of operation of this model.

At the second June meeting, the first item heard was a recorded lecture on tape received from Derek Worman of the South Africa society in Johannesburg. His subject was microphones, and he illustrated his talk with examples of all kinds of instruments ranging from the inexpensive crystal types to the condensers, some of which cost £200. Some cynical chuckles were heard when "fairly cheap" microphones costing £15-£20 were mentioned, and one anonymous member remarked that his recorder had not cost that much. Mr. Worman's lecture, concluding with a recording of a cathedral organ, brought hearts near to the mouth at the vain attempts made by the club's loudspeaker unit to handle the throbbing bass notes.

A small Sobell tape recorder was examined before Bill Blake took over the meeting to present the

third part of his *A Generation of Sound* series. This included sounds of the 1935-37 era, among them being the abdication speech of Edward VIII, and the death and funeral of George V. Also heard were Stanley Baldwin, Clara Butt, and Robb Wilton.

At the first July meeting the report on the Audio Fair by Bob Coope of the Voicespendence Club was heard, and the members then began discussing their plans for the coverage of the Whitstable Carnival to be held in August. Several members have premises overlooking the route, and it is hoped to present a linked commentary of the procession.

Between meetings, Bill Blake, Tom Robinson and Peter Hadley had been busy attending to the needs of the Playcraft Theatre Group for which the club had recorded sound effects. At each of the five performances this "terrible trio" supervised the operation of a Telfunken 85KL, concentrating "like mad" to bring the sounds in on cue. They summed up the operation as a nerve-wracking but most valuable experience.

Main features of the second July meeting were the playback of competition tapes, and a further instalment of the serial thriller play.

The competition was for the best five-minute feature tape on any subject. Among subjects chosen were interviews with a farm worker and with a French woman, who spoke on life in France today, a sound picture and report on the Kent County Show, and a number of sound effects. More entries are still to be heard.

Bob Watson took the serial play along its penultimate instalment, and it now rests with Peter Hadley and Tom Robinson to finish off the serial in a credible manner.

Later meetings have included visits by leading manufacturers, including BASF Chemicals Ltd., who presented their film *The Magic Tape* during October, and Lustraphone, who demonstrated their microphones at one of the September meetings.

Secretary: Tom Robinson, "Crefello," 17a, St. Anne's Road, Whitstable, Kent.

## WORLD TAPE PALS

A recent letter from John and Rhona James, UK representatives of World Tape Pals claims the club has become the most comprehensive in the British Isles. They list sections devoted to sound effects, educational programmes, philately, writers, stereo, readings for the blind, tape and cine, tape/slide shows, and an offshoot of these, tape and postcard (to show Britain to the world).

At present the Readers for the Blind section is for W.T.P. members only. It is hoped to expand this to cover any blind person who cares to use the facility.

They describe the stereo section as having been set up in order to enable members with stereo equipment to experiment at minimal cost. There are programme tapes on round robin circuits including ideas and trends in the stereo world. These are issued on quarter-track tapes at present.

The sound effects library of W.T.P. contains effects from all over the world, and all are available on request to members.

Secretary (U.K. only): John James, 45, Boundary Road, Collers Wood, London, S.W.19.

## B.B.C. "Sound" Programme

A magazine for radio and recording enthusiasts

4 p.m. October 28

Introduced by Douglas Brown,  
Editor of "TAPE Recording Magazine"

## STRASBOURG 1962

A review of entries to the International Amateur Recording Contest, with extracts from some of the winning entries.

"Sound" is broadcast on alternate Sundays at 4 p.m. on Network Three

The next programme is on November 11 when John Borwick and Peter Walker answer questions put to them by two listeners in the studio,

## TAPE EXCHANGES

Euler, Rex (24). 42, Pine Road, London, N.W.2. Travel, all music. 7½, 3½, 1½ ips. 7-inch spools. National recorder, 2 and 4-track stereo.

Faderl, Norbert. Krankenhaus, Vocklabruck, Hartschekstrasse 24, Oberosterreich (Austria). Young German enthusiast who requires English tape contacts. No further details provided.

Franke, Josef (28). Lazarettstrasse 10, Gelsenkirchen, Germany. Photography, travel, pop music. Female contacts required in U.K.

Frauchiger, Jon (31). 1c, Heriot Road, Hendon, London, N.W.4. 355 mm. photography, reading, mixed music. 3½ ips. 5½-inch spools. Grundig TK23, four-track. U.S.A., South America, Australia.

Froud, William (48). 36, Woburn Avenue, Theydon Bois, Essex. Motor-cycle racing, camping. 7½, 3½, 1½ ips. 7-inch spools. Brenell Three-Star, stereo. Robuk RK3. Male contacts only in U.K. and U.S.A. Letters not required.

Gibson, David (22). 7, Grosvenor Avenue, Hull, Yorkshire. S.W. radio, psychology, spiritualism. 7½, 3½, 1½ ips. 7-inch spools. Verdik, U.K. and India.

Goodin, Miss Eileen (21). 74, Chillingham Crescent, Ashington, Northumberland. 3½ ips. 5-inch spools. Fidelity Argyll.

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Haslinger, Kurt (33). Rankwell Vibf, In der Sihaufel 11, Austria. 8 mm. cine, travel, music and television. Requires to improve knowledge of English language.

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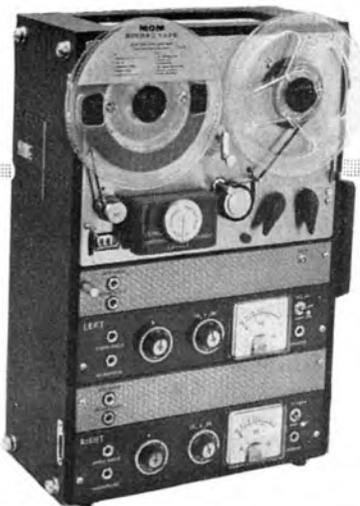


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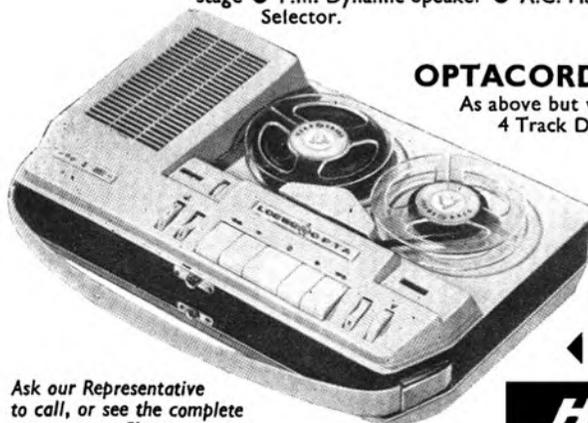
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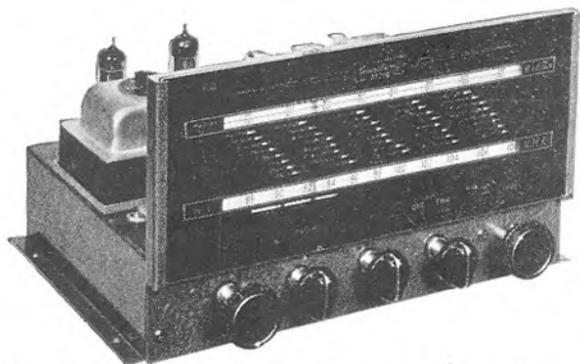


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