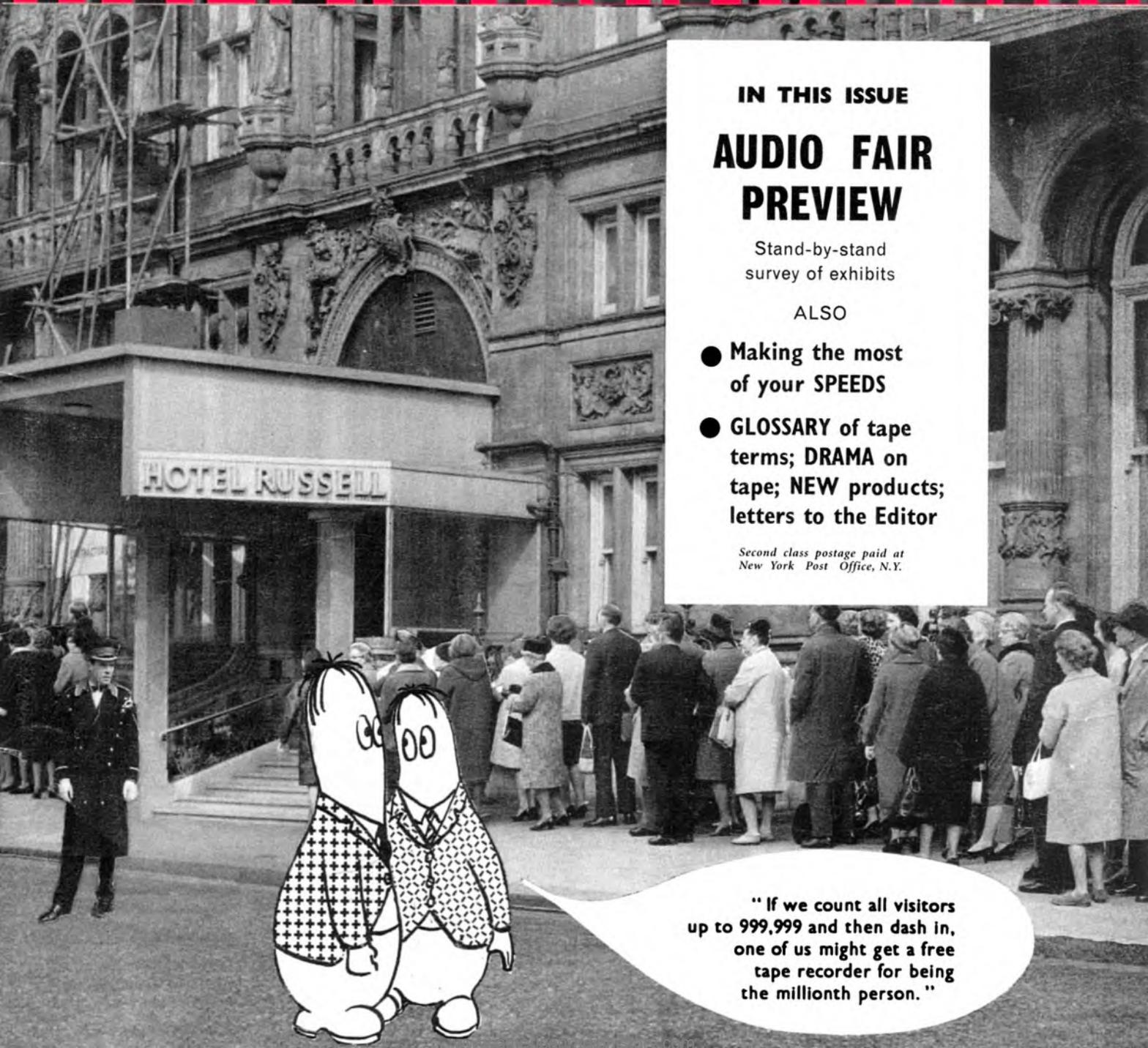


MAY 1966

# TAPE

RECORDING MAGAZINE

24



IN THIS ISSUE

## AUDIO FAIR PREVIEW

Stand-by-stand  
survey of exhibits

ALSO

- Making the most of your SPEEDS
- GLOSSARY of tape terms; DRAMA on tape; NEW products; letters to the Editor

*Second class postage paid at  
New York Post Office, N.Y.*

"If we count all visitors up to 999,999 and then dash in, one of us might get a free tape recorder for being the millionth person."



**The only catch about  
this new better-looking, longer-lasting  
library box from BASF is deliberate.**

(It goes click)



Inside the hard wearing Polystyrol case of the new BASF library box is a hard wearing Polystyrol catch. Its sole function is to ensure that when the easy-swivel cassettes click tight, they stay tight. So your tapes stay in. And the dust stays out. The new BASF library box is better-looking, harder wearing — and costs no more. It's solidly built to

give your valuable tapes greater protection, longer playing life than ever before. The new library box is available with either Long Play or Double Play tape in 5", 5 $\frac{3}{4}$ " and 7" spools. See it at your dealer's now. And for a ready reference to your collection ask him for the BASF Library Index, FREE.



—THE SYMBOL OF AUTHENTIC SOUND

**BASF CHEMICALS LIMITED** · 5a Gillespie Road, London, N.5 · Tel : CANonbury 2011





# Over 100 different Tape Recorders and Hi-Fi equipments: ONLY ONE IS RIGHT FOR YOU

**THEY'RE ALL HERE . . .** every kind of Tape Recorder on the market. Nowhere else can you see such an all-embracing display as that which awaits you at NuSound.

As Britain's largest Tape Recorder sales organisation with over 10 years' experience in this specialised field, NuSound have built up a reputation that is "second to none."

Only from NuSound can you obtain the benefits of all these invaluable features—The most comprehensive range of equipment on display in the country, expert staff, free technical advice, immediate demonstration of any model, the finest after-sales servicing available.

Whatever your means of transport or point of arrival, be it Holborn, King's Cross or Liverpool Street Stations there is a NuSound showroom within easy reach. The position of each showroom has been carefully selected to be just a few minutes away from these well known Central London landmarks and Main Line Stations.

- UNBEATABLE NO-INTEREST TERMS
- OVER 100 MODELS ON DISPLAY
- EXPERT STAFF EXPERT ADVICE
- GENEROUS PART EXCHANGES
- UP TO TWO YEARS' FREE SERVICING

## SHOWROOMS

82 HIGH HOLBORN, W.C.1 (1 minute Holborn Underground)	CHAncery 7401
242/4 PENTONVILLE ROAD, N.1 (3 minutes from King's Cross Station)	TERminus 8200
228 BISHOPSGATE, E.C.2 (1 minute Liverpool Street Station)	BIShopsgate 2609
36 LEWISHAM HIGH STREET, S.E.13 (1 minute Lewisham Station)	LEE Green 2399
2 MARYLAND STATION, STRATFORD, E.15 (adj't Maryland Station)	MARYland 5879
205 HIGH STREET NORTH, E.6 (opposite East Ham Station)	GRAngeWood 6543

## AUDIO FAIR 1966

*During your visit to the Audio Fair do not miss the unique opportunity of calling into our High Holborn and Kings Cross showrooms to see, hear and compare the finest and largest selection of tape recorders on display in Great Britain. Both of these showrooms can be reached in a matter of minutes from Russell Square (one stop on the Underground).*

**HIGH HOLBORN** These superb showrooms are devoted exclusively to tape recorders and we have on display virtually every recorder both large and small available today. Nowhere else in Great Britain is it possible to see a greater selection of 1966 models all available for immediate demonstration.

**KING'S CROSS** In addition to the same wonderful selection of recorders as at our High Holborn showrooms we have a comprehensive range of Hi-Fi equipment, amplifiers, tuners, speakers, turntables, etc., all available for immediate demonstration and comparison.

**REMEMBER WE ARE ONLY A FEW MINUTES AWAY FROM THE AUDIO FAIR**

### NOTE: HOURS OF BUSINESS

**HIGH HOLBORN :**  
Monday to Friday 9 a.m. to 6 p.m. Saturday 9 a.m. to 1 p.m.

**BISHOPSGATE:**  
Monday to Friday 9 a.m. to 6 p.m. Closed all day Saturday.  
Open Sunday 9.30 a.m. to 2 p.m.

**KING'S CROSS, STRATFORD, LEWISHAM, EAST HAM:**  
Monday to Saturday 9 a.m. to 6 p.m. Halfday Thursday.

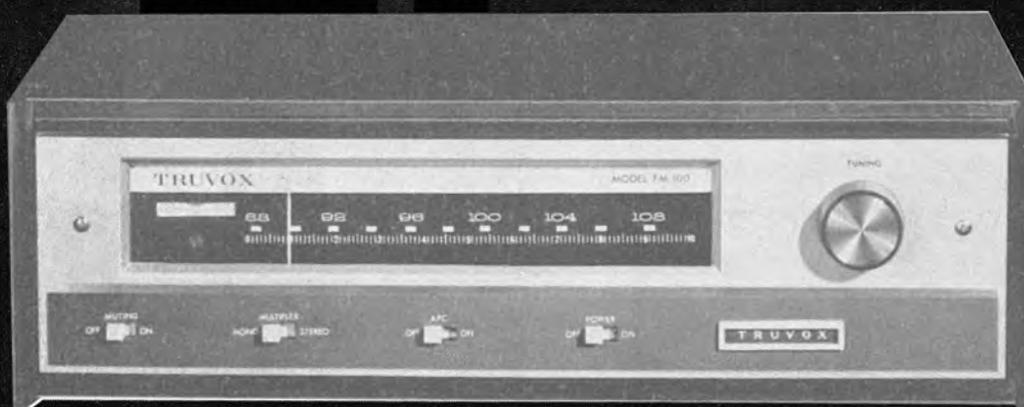
# NUSOUND TAPE RECORDER CENTRES

HEAD OFFICE : MAGNAPE HOUSE, 191 PLASNET ROAD, UPTON PARK, LONDON, E.13 GRANGEWOOD 2185

# This was the most successful ad we ever published. We're sorry to say

We knew our FM Tuner was good – very good. And we expected people like you to want it. We just didn't realise that there were so many people like you around, so a lot of Truvox-hunters had blank days. We're sorry if you were one of them, but happy to tell you that we have put things right *fast*. We caned our advertising manager and gave our production chief a lot of sleepless nights. And there's no reason, now, why you should be without Britain's most advanced Tuner.

## GET IT INTO YOUR SYSTEM! This brilliant new F.M. Tuner from Truvox



Here, without question, is Britain's most advanced Tuner – the splendid completion of the trend-setting Truvox Series 100 System.

The reliable, *self-powered*, all-transistor circuit ensures minimum distortion and background noise, and includes provision for fitting a low-cost, plug-in Multiplex Unit at any time for stereo reception.

Among the many advanced features are a unique Rotary Meter and a wide-range, switched, Automatic Frequency Control for high accuracy tuning. A Stereo Beacon lights automatically on reception of stereo broadcasts. Two output signals are taken from the rear of the Tuner via twin phono-sockets. Input sockets are arranged for any type of aerial feeder.

### SPECIFICATION FM100

Tuning Range 87.5 Mc/s to 108.5 mc/s  
Sensitivity 2 micro V. Sensitivity for 20 db quieting  
Frequency response:  
Mono 20 c/s to 20 Kc/s  $\pm$  1 db  
MPX Stereo 20 c/s to 20 Kc/s  $\pm$  1 db  
Very steep cut Notch filters operate at MPX carrier frequency  
Stereo separation—38 db at 1 kc/s  
Aerial Inputs—balanced 300 ohms, unbalanced 75 ohms  
AFC holding range  $\pm$  200 kc/s  
Switched AFC  
Switched power  
Switched inter-station muting control  
Automatic stereo switching with manual over-riding stereo-mono switch  
Automatic stereo beacon  
Outputs variable to 0-1 volt emitter follower  
Voltage 100-120 A.C. 50-60 cps or 200-250 A.C. 50-60 cps. Fused.

#### Muting Switch

A muting circuit completely eliminates inter-station noise, and prevents false activation of the Stereo Beacon.

#### Automatic Stereo Switch

The Tuner will produce a mono signal through both outputs. When a stereo broadcast is received, the Tuner will switch automatically to stereo reception. A slide switch on the front panel allows selection of a mono broadcast in place of stereo where the stereo signal is weak, resulting in a better signal-to-noise ratio.

#### The AFC Control

This holds over a particularly wide band and is controllable for really accurate tuning. Also weak signals adjacent to strong signals may be received without pulling into the stronger signal.

The output from the rear panel phono-sockets is controllable by a ganged potentiometer and thus all possibility of overloading sensitive input stages is obviated.

The Tuning Scale is handsomely styled, illuminated and fully calibrated. The complete tuner is the same size as the TRUVOX TSA100 Amplifier and is fitted in a matching afrormosia case.

#### Precision Tuning

A large balanced flywheel is fitted to the tuning control to ensure smoother, more exact tuning.

**TRUVOX**

Write to K. C. Smith for further information  
TRUVOX LIMITED • NEASDEN LANE  
LONDON NW10 • Tel: 00118 Hill 8011

TELEFUNKEN

# Tape recording will never be the same again

*(Two new recorders are going to make it a whole lot easier from now on!)*

What's the big attraction in Room 202 at the Audio Fair? Two new recorders that are going to make a big difference to tape recording. The M401, Telefunken's first cassette loading recorder. The M204E, latest addition to the famous 200 range, for full stereo high fidelity record and playback.

**M401** *Cassette loading recorder.* Who likes fiddling around threading tapes? No one. You don't have to with the new M401. Just clip in the cassette, press a button and you get instant recording—or playback. When it's finished, press a button and it's ejected automatically. The cassette conforms to the 'DC System International' the system adopted by most tape recorder manufacturers on the continent. So if you want to play your tape on someone else's machine, at a party for instance, it's more than likely you'll be able to. The M401 has a unique Telefunken motor the speed of which is controlled *electronically*. No brushes, no commutator. No sparking to create interference. Negligible wow and flutter. The M401 is a half-track machine for monaural recording and playback. Complete with moving coil microphone, audio lead, and one DC90 (playing time 90 minutes) tape cassette. Price 46 gns.

**M204E** Here it is, the most sophisticated recorder you could want. It's got everything. Four tracks, stereophonic record and playback, with sound to fill the largest room from a fantastic output of 6 watts per channel. Operates either vertically or horizontally. Fully transistorised, separate level controls and VU meters for each channel. The M204E is extremely compact, with the stereo power amplifiers and loudspeakers incorporated in the main cabinet. In handsome walnut case with satin finish metal top deck. Complete with reel of tape, microphone, audio lead and empty reel. Price 109 gns.



## See them at the Audio Fair

See the exciting new M401 and M204E recorders, plus the full 200 range in Room 202, Hotel Russell, Russell Square, London WC1 **APRIL 14 to 17**

AEG (GREAT BRITAIN) LTD., 27 CHANCERY LANE, LONDON WC2  
Please send me full details of your M401  M204E  (Tick appropriate square)

NAME (Please print) \_\_\_\_\_

ADDRESS \_\_\_\_\_

TRM

**AEG**



# TEMPOTAPE

**SUPERB PROFESSIONALLY RECORDED MUSIC—PLUS 600 ft OF EXTRA TAPE FOR YOUR OWN HOME RECORDINGS ALL FOR 21/- (3 $\frac{3}{4}$  I.P.S.  $\frac{1}{2}$  track) MONO**



Why consider ordinary magnetic recording tape when you can buy the wonderful new TEMPOTAPE, 600 ft. of super quality long play polyester on 5" reel, with the top track professionally recorded by skilled engineers on the latest Danish Lyrec equipment costing many thousands of pounds.

Here is the list of titles available:

- 1 EROTIC PERCUSSION. 2 BIG BAND BLAST. 4 TCHAIKOVSKY'S PIANO CONCERTO. 5 THE KING AND I. 6 CAMELOT. 7 FEATURING BILLY DANIELS. 8 HAPPY HARMONICA. 9 SOUTH PACIFIC. 10 ANDRE PREVIN. 11 GREAT THEMES FROM GREAT MOVIES. 12 BIG BAND SWINGS THE CLASSICS. 13 TRIBUTE TO DUKE ELLINGTON. 14 FLAMENCO. 15 UNDER PARIS SKIES. 16 ROMEO AND JULIET OVERTURE. 17 ORGAN POP CLASSICS JOHN KILEY. 18 TCHAIKOVSKY'S 1812 OVERTURE. 19 L'AMORE D'ITALIA. 20 OKLAHOMA. 21 FAMOUS OVERTURES. 22 MUSIC FROM IRVING BERLIN. 23 MUSIC FOR LOVERS. 24 THE GOLD RECORD. 25 SOUND OF MUSIC. 26 TRIBUTE TO WOODY HERMAN.

## STOP PRESS — LATEST ADDITIONS

27 An Evening with Tony Laurence, Tony Laurence and His Music. 29 My Fair Lady, Hollywood Radio City Orchestra and Singers. 30 Porgy and Bess, Hollywood Radio City Orchestra and Singers. 32 Tony Laurence Goes Latin American, Tony Laurence and His Music. 33 West Side Story, Marie Goossens (Harp and Instrumental). 34 Five of Harts, Gerry Hart (Multitrack Guitar Recording).

All are specially selected for your enjoyment and equivalent in playing time to both sides of an L.P. record.

In addition to providing you with a pre-recorded tape of superlative quality, TEMPOTAPE provide a bonus of 600 feet of blank tape, and all you do is turn over the reel and make your own recordings on the bottom track. You can later erase the top pre-recorded track making a further 600 ft. available for your own use and at 21/- you can afford to do this.

Ask your dealer for details or write to: Dept. X7, Tempotape Division, A. C. Farnell Limited, 81, Kirkstall Road, Leeds 3. Phone: 35111

# 100,000

## USERS CAN'T BE WRONG!

One of the really outstanding microphones in the medium-price range, the DP/4 is enjoying unparalleled success. Small wonder, for the DP/4 is wonderfully reliable and sensitive to an extremely wide range of sounds. Uniform frequency response 50 c/s to 15 kc/s.

It is in world-wide use for high-quality broadcasting, recording and public address both by the amateur and professional.

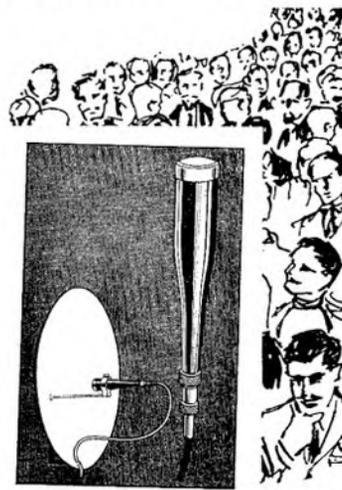
The Parabolic Reflector is its natural partner; it focuses a distant sound-source onto the microphone head, greatly amplifying it without loss of realism and without unwanted side-noises.

Low impedance microphone, complete with connector and 18 ft. screened lead.

Medium and high impedance models. Parabolic Reflector 2ft. diameter complete with microphone holders.

FURTHER DETAILS FROM YOUR DEALER OR FROM:—

**GRAMPIAN REPRODUCERS LTD., Hanworth Trading Estate, Feltham, Middx. FEL 2657**



**Grampian**

## 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.

Philips 3534 ...	...	...	87/-
" 3548 ...	...	...	79/6
" 3549 ...	...	...	79/6
" 3585 ...	...	...	57/-
" 3514 ...	...	...	66/-
" EL3515 ...	...	...	57/6
" EL3541/15 ...	...	...	57/6
" 3541H ...	...	...	72/-
Cossor 1602 ...	...	...	57/6
" 1601 ...	...	...	79/-
" 1604 ...	...	...	79/-
" 1605 ...	...	...	84/-
Stella ST455 ...	...	...	63/-
" ST454 ...	...	...	57/6
" ST458 ...	...	...	79/-
" ST459 ...	...	...	84/-
Saba 2305 ...	...	...	79/6
Elizabethan LZ29 ...	...	...	75/-
" FT.1 ...	...	...	66/-
Brenell Mk. 5 ...	...	...	77/-
" 3 star ...	...	...	69/-
Robuk RK.3 & RK.4 ...	...	...	67/6
Sony S21 ...	...	...	90/-
Ferrograph ...	...	...	80/-
Revox F model ...	...	...	84/-
Optacord 412, 414 & 416 ...	...	...	63/-
Truvox 92 & 94 ...	...	...	99/-
Tandberg 72, 72b, 74, 74b, 62, 62b, 64, 64b ...	...	...	99/-
(hard case) ...	...	...	£7/1/8
Soft case ...	...	...	£5/12/6
" 92 (hard case) ...	...	...	£7/1/8
Grundig TK.1 ...	...	...	49/6
" TK.5 ...	...	...	55/-
" TK.6 ...	...	...	67/6
" TK.8 ...	...	...	63/-
" TK.14, 18 & 23 ...	...	...	59/6
" TK.14L, 17L, 18L, ...	...	...	67/6
" TK.20 & 23L ...	...	...	52/6
" TK.24 ...	...	...	55/-
" TK.25 ...	...	...	55/-
" TK.30 ...	...	...	60/-
" TK.35 ...	...	...	63/-
" TK.40 & 41 ...	...	...	66/-
" TK.46 ...	...	...	82/-
" TK.55 ...	...	...	63/-
" TK.60 ...	...	...	75/-*
" TK.830/3D ...	...	...	63/-*
" Cub ...	...	...	35/-
Telefunken 85 ...	...	...	65/-
" 75/15 & 76K ...	...	...	55/-
" 95 & 96 ...	...	...	69/6
Philips EL3538 ...	...	...	63/-
" EL3542 ...	...	...	63/-
" EL3536 ...	...	...	70/-
*Without pocket.	...	...	

**A. BROWN & SONS LTD.**

24-28, GEORGE STREET, HULL

Tel.: 25413, 25412



## TO MEET THE STANDARDS OF THE CONNOISSEUR...

### Ampex 800 Series of Stereo Tape Recorders for sound perfection

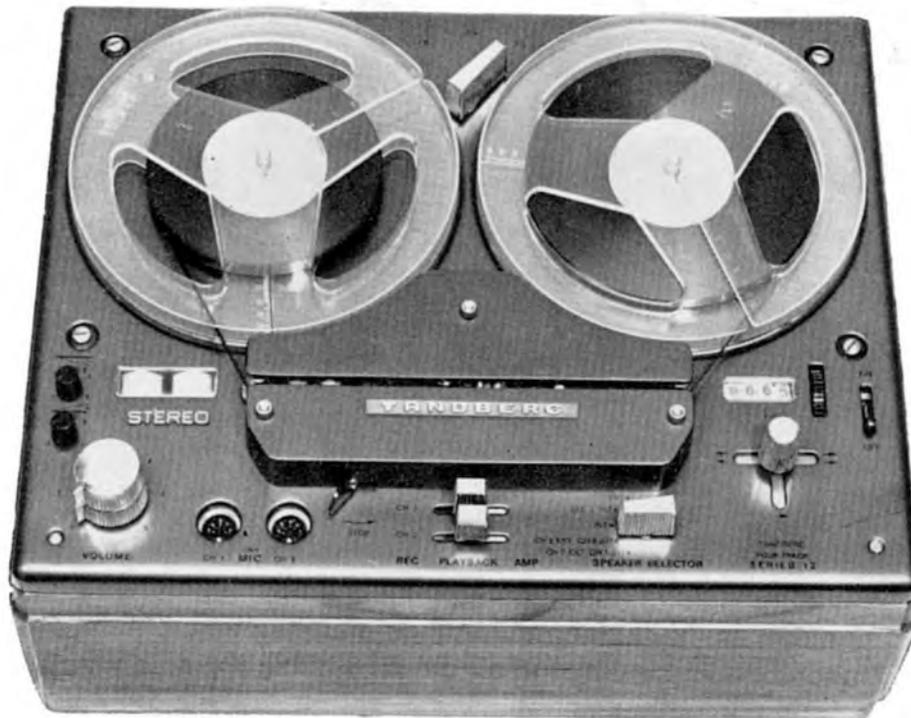
Designed to out-perform all other Tape Recorders in their price range, with *solid state* electronics for maximum reliability. A revelation in pure sound reproduction in 4-track Stereo or Mono. For true fidelity recording or hours of the most satisfying listening pleasure this superb Ampex instrument defies comparison at anything approaching the price. Look at the features that put the Ampex 800 Series years ahead: Versatile 3-speed Operation · Precise Dual Capstan Drive · Interlocked Tape Controls

· Lifetime Ampex Deep-Gap Heads · Accurate Record Level VU Meters · Uncomplicated, straight line Threading · Simplified Operation · Die-cast Aluminium Construction · Constant Speed, High-efficiency Motor. Additional features are Automatic shut-off switch—turns off tape transport when tension is lost; automatic tape lifters eliminate head wear during fast wind operations; automatic digital counter allows you to return to a selection on your tape quickly.

**AMPEX**

Ampex sales and service facilities are conveniently located throughout Europe and the Middle East. For more information write to: Ampex Great Britain Ltd., Acre Road, Reading, Berkshire, England. Telephone Reading 84411 · Ampex S.A. Via Berna 2, Lugano, Switzerland. Telephone 091/3.81.12 · Ampex Europa G.m.b.H. 6 Frankfurt Main, Düsseldorf Strasse 24, Germany. Telephone 252001-5 · Ampex, 41 Avenue Bosquet, Paris 7e, France. Telephone 705.38.10.

**Tandberg announce the new  
3 speed, 4 track, totally  
transistorised series 12  
stereo record & playback  
Hi-Fi system**



- ★ 20 WATTS OUTPUT (10 watts per channel) makes additional Hi-Fi unnecessary.
- ★ BASS & TREBLE Tone Controls.
- ★ F.M. MULTIPLEX filters fitted (a *MUST* for recording Stereo Radio).
- ★ OPTIONAL INTERNATIONAL CONNECTORS i.e. Phono or DIN or Standard Jack Sockets.
- ★ CENTRE CHANNEL OUTPUT.
- ★ PRE-AMP OUTPUTS.
- ★ LOW IMPEDANCE MICS ★ PLUG-IN PRINTED CIRCUIT PANELS.
- ★ INTERNAL SPEAKERS, etc. etc.
- ★ ON SHOW AT THE AUDIO FESTIVAL AND FAIR—STAND 17—APRIL 14-17th.

**Tandberg**

ELSTONE ELECTRONICS LTD.  
81 Kirkstall Road, Leeds 3. Telephone 35111

Please send details and price to:-  
(BLOCK LETTERS PLEASE)

NAME.....

ADDRESS .....

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TRM.1



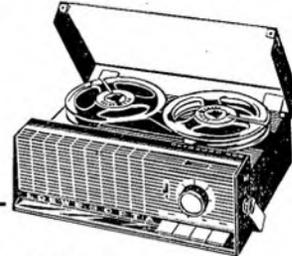
**LOEWE OPTA**

# Hi-Fi Tape Recorders

**FOR PERFECTION IN SOUND**

## THE NEW OPTACORD 408 THE MOST COMPACT MAINS AND BATTERY RECORDER

Single Speed  $3\frac{3}{4}$  i.p.s. Twin Track. For use on Mains, Batteries and Car Batteries. **39 GNS.**



## THE LATEST OPTACORD 416 OPTACORD 416

Specification as Optacord 408 plus dig. counter, tone and volume controls, 2 speeds  $3\frac{3}{4}$  i.p.s. and  $1\frac{7}{8}$  i.p.s. Twin Track **51 GNS.**



### OPTACORD 416 DIA

As Optacord 416, with built-in Synchronisation for Automatic Slide Projector. **62 GNS.**

**THREE-IN-ONE MAINS—BATTERIES—CAR BATTERIES**

## HIGHGATE ACOUSTICS

Telephone: MUSEum 2901/5

71/73 GT. PORTLAND STREET, LONDON, W.1

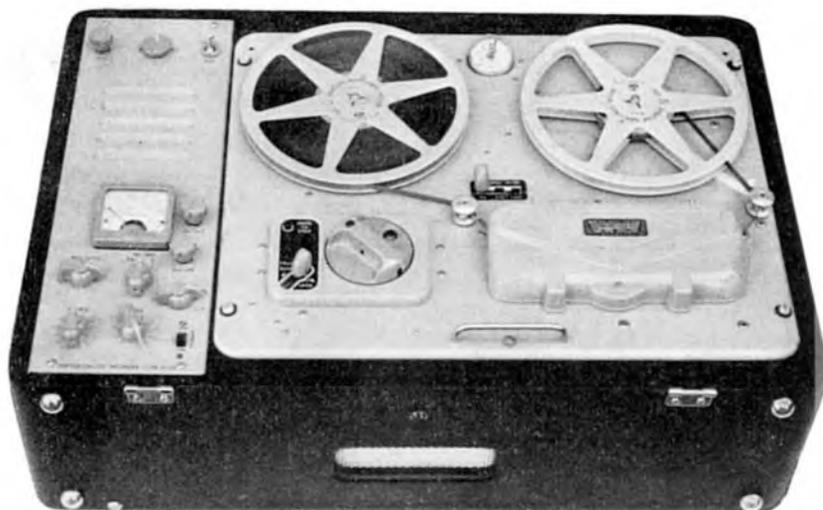
Approved Loewe-Opta Stockists

Alexanders, Holburn Street, Aberdeen.	Bristol & Cardiff Tape Recorder Centres.	Gilbert Pianos Ltd., 37, Southchurch Road, Southend.	Joplings Ltd., John Street, Sunderland.	Piercy's, 60-62 Lupus Street, S.W.1.	G. H. Steel, 141, St. Georges Road, Glasgow.
Queensway Radio, 97, Queensway, Petts Wood, Kent.	A. Brown & Son Ltd., 24/28, George Street, Hull.	Grimes Ltd., King Street, Wigan, Lancs.	Kendal Milne & Co., Deansgate, Manchester 3.	Rackhams Ltd., Corporation Street, Birmingham 2.	Tape Recorder Centre, 82, High Holborn, W.C.1.
Arding & Hobbs Ltd., Clapham Junction, S.W.11.	Brown, Muff's Bradford, 1.	Guildhall Tape Recorders, 33, Guildhall Street, Folkestone.	John King (Films) Ltd., Film House, East Street, Brighton, 1.	Recording Machines Ltd., 119, Victoria Street, S.W.1.	Tape Recorder Centre, 30, King Cross Street, Halifax.
Audiocraft, 20, Kettering Road, Northampton.	Camera Thorpe, 6/8, Osmaston Road, Derby.	J. E. Hargreaves Ltd., 1, Railway Road, Blackburn.	R. S. Kitchen Ltd., 22, King Edward Street, Leeds, 1.	Tom Reckie Ltd., 10, Bridge Street, Stafford.	J. H. Tate & Co. Ltd., 45, Crowtree Road, Sunderland.
Barkers Ltd., 31, Oxford Road, Worthing.	Campkins Audio, 21, Market St., Cambridge.	Harveys, High Street, Guildford, Surrey.	Lancashire Hi-Fi Ltd., Tape Centre, 8, Deansgate, Manchester 3.	The Music Centre, 103, Risbygate St., Bury St. Edmunds. (Tel. 4324)	Tele-Sales & Service Ltd., 9, Alexandria Drive, St. Annes, Lancs.
Barretts of Canterbury.	Chelsea Record Centre, 203, Kings Road, S.W.3.	Hamilton Electronics, 35, London Rd., Southampton.	Leech & Haige Ltd., 112, London Road, Oxford.	Ryland Huntley, 15, Old Bond Street, Bath.	Teletape, 33, Edgware Road, W.2.
Battys (Rhyl) Ltd., Rhyl (Tel.: 2621).	Chiesmans Ltd., Lewisham, S.E.23.	R.E.W. (Earlsfield) Ltd., 266 Upper Tooting Rd., S.W.17 (BAL 9174)	Massey's 121/3, High Road, Chiswick, W.4. CHI 2082	Selfridges Ltd., Oxford Street, W.1.	The Recorder Co., 188, West End Lane, N.W.6.
Wilf Plant, Asfordby, Melton Mowbray Leicester.	NuSound Tape Recorder Centre, 228, Bishopsgate, E.C.2. (BIS: 2609)	House & Son Ltd., Blake Street, York.	James McKenzie Ltd., Grange Road West, Birkenhead.	Sheen Tape Recorder Centre, 8, Station Parade, Sheen, S.W.14.	Turners Photographic Ltd., 9, The Walk, Ipswich.
Bon Marche, Northgate Street, Gloucester.	Courtney Davies, 12, Station Road, Harpenden.	R. H. O. Hills Ltd., Bank Hey Street, Blackpool.	Misons, Hi-Fi Specialist, Citadel Row, Carlisle.	Sheffield High Fidelity, 10, West Street, Sheffield, 1.	Radio Maintenance, (Leicester) Ltd., 111, Queens Rd., Leicester.
Leonard Booth, 35, South Street, Eastbourne.	Crosdales (Nelson) Ltd., 41 & 58, Every Street, Nelson, Lancs.	Imhofs Ltd., New Oxford Street, W.C.2.	Fairbotham & Co. Ltd., 58-62 Lower Hillgate, Stockport, Cheshire.	J. Smith & Sons, 184, The Rock, Bury, Lancs.	Lloyd & Keyworth, 26, Downing Street, Farnham.
Bourne Radio, 4, Albert Road, Bournemouth.	Dingles, Royal Parade, City Centre, Plymouth.	Jones & Higgins, 1-41, Rye Lane, Peckham, S.E.15.	Aldridges (Music) Ltd., 14/16 Hoghton Street, Southport.	Stanwood Radio Ltd. (All Branches.) London-Essex-Herts-Suffolk.	Bristol-Hi-Fi, 28, Upper Maudling Street, Bristol.
<b>LOEWE OPTA</b>	Francis of Streatham, 169, Streatham High Road, S.W.16.	Parish & Co., 130, Union Street, Torquay.	Sport & Radio, 26/29, Aldwich Road, Bognor Regis.	J. W. Mansfield, 18, Liverpool Road, Worthing.	

# ***Vortexion*** **quality equipment**

## **TYPE W.V.B. TAPE RECORDER**

**AUDIO**  
FESTIVAL  
and  
**FAIR**  
HOTEL RUSSELL  
Demonstration  
Room  
**348**



The **Vortexion W.V.B.** is a high quality monaural machine with "Before and After" monitoring. The recording inputs are a high sensitivity socket for moving coil or ribbon microphone and a high impedance socket for radio, etc., either of which can be selected by a switch. Superimposing and echo work can be done, and the playback has reserve gain for abnormal requirements. This model cannot be converted for stereo playback, but it is a thoroughly reliable machine for the engineer specialising on monaural work.

Speeds  $1\frac{7}{8}/3\frac{3}{4}/7\frac{1}{2}$  i.p.s. **Price: £115 10 0**

Speeds  $3\frac{3}{4}/7\frac{1}{2}/15$  i.p.s. **Price: £128 0 0**

The **Vortexion W.V.A.** is a monaural machine which has a performance equal in sound quality to the other models. It possesses all the features of the W.V.B. except for "Before and After" monitoring, Dubbing and Echoes. The recording being made can be heard on the internal loudspeaker, as in the W.V.B. and C.B.L. The controls are uncomplicated.

Speeds  $1\frac{7}{8}/3\frac{3}{4}/7\frac{1}{2}$  i.p.s. **Price: £96 7 0**

Speeds  $3\frac{3}{4}/7\frac{1}{2}/15$  i.p.s. **Price: £107 3 0**

The **Vortexion C.B.L.** is a versatile stereophonic recorder which has no equal in its price group.

IT CAN record monaurally or stereophonically with its own mixed inputs from Gram., Radio or other sources and from high grade low impedance balanced line microphones. With good microphones, etc., the result is a suitable master for disc manufacturers. "Before and After" monitoring is provided together with adjustable metered bias for perfection.

IT CAN also make a recording on one track and then transfer it to the other track while measuring and listening to it and adding one or two more signals also metered. A special P.P.M. type meter is now used.

IT CAN repeat the process and transfer this combined signal to the first track with one or two more signals. Composers use it for this purpose. One track may have music or commentary and the other cueing signals or commentary, and either may be altered without the other.

IT CAN playback stereophonically or monaurally with its own amplifiers of  $3\frac{1}{2}$  watts each.

Speeds  $1\frac{7}{8}/3\frac{3}{4}/7\frac{1}{2}$  i.p.s. **Price: £172 0 0**

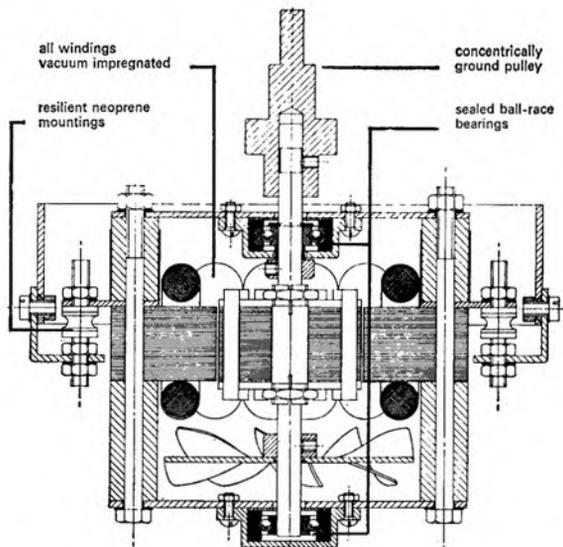
Speeds  $3\frac{3}{4}/7\frac{1}{2}/15$  i.p.s. **Price: £180 0 0**

All tape recorders have adjustable bias controls, low impedance mic. inputs for unlimited lengths of cable, highly accurate position indicators and meters to measure recording level and bias.

**VORTEXION LIMITED, 257-263 The Broadway, Wimbledon S.W.19**

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## THIS IS A CAPSTAN MOTOR. ONE REASON WHY A FERROGRAPH TAPE RECORDER COSTS 95 GNS

Every Ferrograph tape recorder is fitted with three independent motors each designed for its specific task and built by Ferrograph to give enduring reliability over a long, long period of time. The Capstan Motor is synchronous, mounted on resilient neoprene pillars for lowest mechanical noise and is fitted with ball-race bearings to ensure a maintenance-free life and assist speed accuracy. Its design minimises hum fields. This motor is just one reason why Ferrograph tape recorders are incomparable. Other reasons include:

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3. The signal level meter, pioneered by Ferrograph, has a fast response to transients with sustained peak readings to ensure distortionless recording.

If you are satisfied only with the best, and want an instrument that records faithfully and gives you an unequalled quality reproduction, there's no substitute for the Ferrograph. For further details, fill in the coupon and you will receive an illustrated leaflet. Or, if you prefer, we will send you the comprehensive 64-page Ferrograph Manual—at the price of £1 refundable when you buy your Ferrograph.

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

\*Please send me an illustrated leaflet about the Ferrograph.

\*Please send me the Ferrograph Manual.  Mono  Stereo

(I enclose cheque/P.O. for £1) \*Delete as applicable.

Name \_\_\_\_\_

Address \_\_\_\_\_

T M2

# Ferrograph

THE INCOMPARABLE TAPE RECORDER

# TAPE

RECORDING  
MAGAZINE

Vol. 10

No. 5

May 1966

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**COVER PHOTOGRAPH:** Notwithstanding the optimism of the Soggies, who have finally managed to attain front cover status, one man who will be presented with a tape recorder during the Audio Fair is the winner of our recent Script-Editing Contest. On the opening day he will receive the Philips EL3300 cassette-loaded tape recorder presented by Philips Electrical Limited as the prize for this competition. Full details of the results will be published next month.

"TAPE Recording Magazine" is published on the third Wednesday in the month, by Print and Press Services Ltd., from 7, Tudor Street, London, E.C.4.

"TAPE Recording Magazine" is available by a postal subscription of 25s. per annum (U.S.A. \$3.75) including postage, or it can be obtained at newsagents, bookstalls and radio and music dealers. In the event of difficulty, write to the Publishers at 7, Tudor Street, E.C.4.

Back numbers, if still in print, are available at 2s. 6d. per copy.

Address all communications

7 TUDOR STREET, LONDON, E.C.4

EDITORIAL

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# Tape trends and tape talk

By the Editor

APRIL 14 IS THE tenth anniversary of the unveiling by the Ampex Corporation of the world's first videotape recorder. It is astonishing to contemplate the speed of advance in that short time. Ampex collected four and a half million dollars' worth of orders for this machine within a few weeks and until 1958 there was no competition.

At that stage the cost of the videotape machines was such that only professional broadcasting concerns could afford to buy them. In 1963 came the second break-through, which produced machines at a fifth of the original price and opened up an entirely new market: educational, institutional, industrial and commercial users of closed circuit TV.

Now, at their tenth anniversary, Ampex report: "In the long run, two of the newest applications of videotape recording may ultimately dwarf all previous uses in scope. These are the home videotape recorder and the Videofile system."

The Videofile system is a means of storing up to a quarter of a million foolscap documents on a fourteen-inch reel of two-inch video tape, using equipment which enables any chosen document to be found and read in seconds by pushing a button.

As for home recorders, Ampex have sent me a dossier of photographs and articles showing the progress of the last decade, leading up to the handsome, compact home recorder which is now available in America for the dollar equivalent of about £350. "Over the next few years new designs will inevitably produce lower cost

versions and permit substantial expansion of the market," say Ampex confidently.

I shall be very surprised if Ampex do not celebrate their anniversary this year with a first domestic video recorder available for British enthusiasts.

\* \* \*

I HAVE BEEN STUDYING the entries in our script editing competition, the results of which will be announced in our next issue. There were nearly 100 entries, which I consider remarkably good.

Also good was the average standard achieved and at the time of writing I can see that it is going to be extremely difficult to decide which is the best among about twenty which I have short-listed.

It is easy to lay down general rules for preparing a script, but it is remarkable how the points emerge naturally when one compares a number of alternative scripts using the same basic material. By setting side by side the choices made by different individuals one can vividly illustrate mistakes and achievements.

We shall try to do something of this in an article next month. A number of competitors have pleaded for regular contests of this sort; one difficulty is that adequate treatment requires a great deal of space; but we shall consider how far we can meet the demand.

\* \* \*

I SEE A FEW OF the new Grundig battery-mains portables using cassettes about in the dealers, but I understand they are strictly rationed for the present. Expect them in quantity during the summer, in time to catch the good outdoor recording weather.

This is the machine which uses a cassette with one-eighth inch tape designed to operate at 2 ips, discussed in this column in the past. As already reported, the Grundig design of cassette is going to turn up on several other makes of machine and one of the first to be put on show here will be Telefunken's Magnetophon 401, promised for the Audio Fair.

Some keen competition looks like developing soon in the battery cassette model market. The latest reports from the United States, however, suggest that growing cassette sales need not harm the sale of the familiar reel-to-reel machines.

And a recent survey in this country shows clearly that the cassette has not yet captured the imagination of the tape recording public.

One by-product of the development of new cassettes is likely to be even thinner tapes. Some American firms are now getting 1,200 feet of tape on a 3¼-inch spool.

\* \* \*

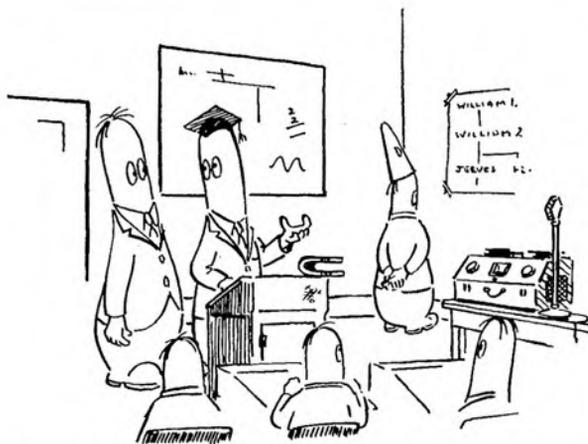
NOT EVERYONE WANTS ultra-thin tape, however. Many users want something that will stand up to the heaviest demands and Scotch have produced a new line to meet this demand—"Superlife." They kindly sent me a reel to try and I report myself well satisfied.

"Superlife" is a new coating designed to withstand the most rigorous treatment. It does not break and there is virtually no rub-off of oxide on to the heads. The new Scotch Dynarange with the "Superlife" coating claims a signal-to-noise ratio three to five dB better than conventional tape.

In fact, Scotch make this bold claim: "Dynarange is so sensitive it enables you to cut recording speed by half yet retain full fidelity."

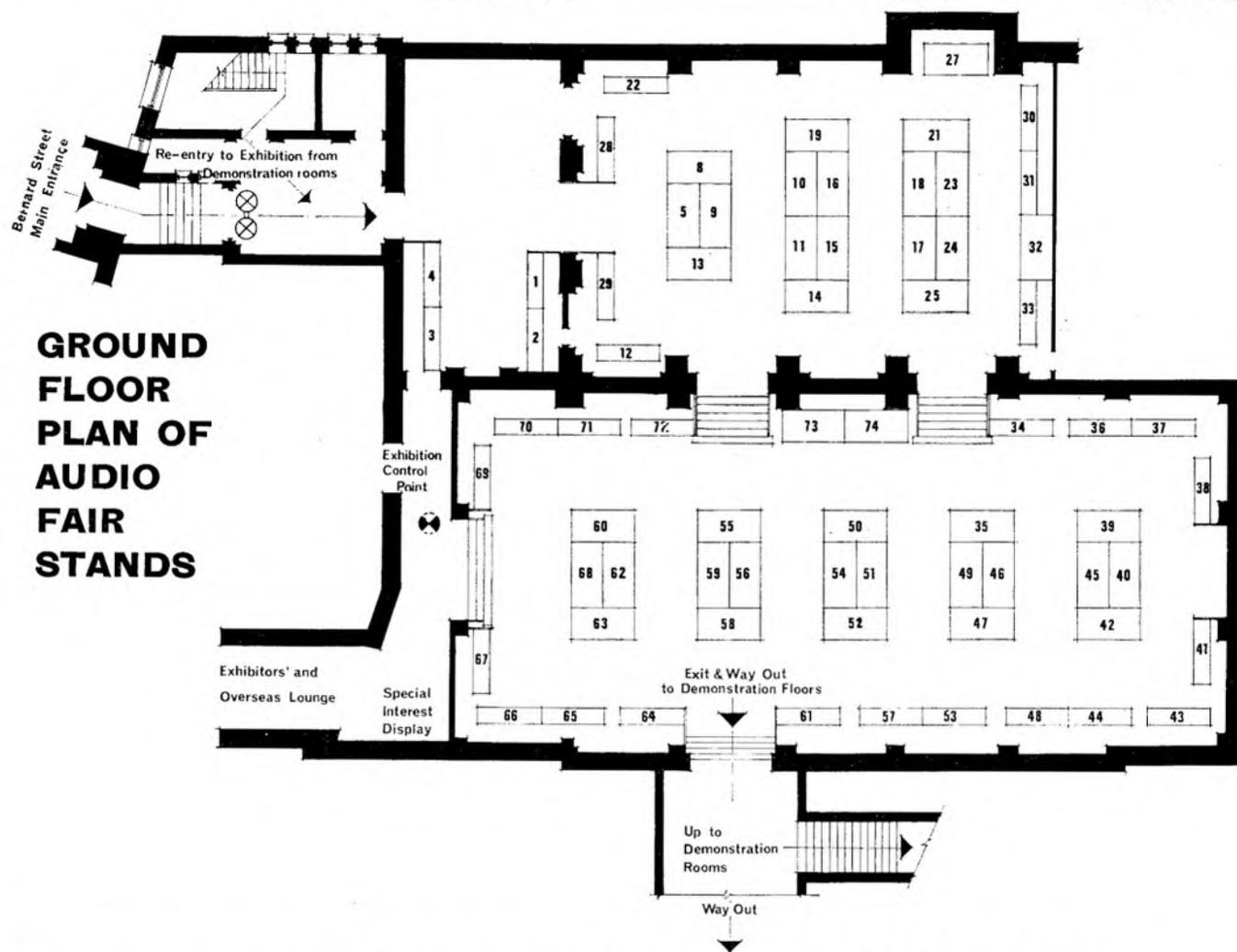
It's progress, progress all the way!

## LAUGH WITH JEEVES



**"We spent three weeks recording a school play, then that nit tries to pick the tape up with a magnet"**

# INTERNATIONAL FESTIVAL AND FAIR AUDIO AND 1966



The annual get-together of audio enthusiasts is once more being held at the Hotel Russell in Russell Square, London, W.C.1., this year from April 14 - 17 inclusive.

Admission is free, but only by ticket available from the Festival Director, 42 Manchester Street, London, W.1., from the offices of TAPE, and from your local dealers. The Fair is open from 11 a.m. to 9 p.m. every day except Sunday (8 p.m.). Trade visitors only up to 4 p.m. on the first day.

Advance information suggests a high standard of equipment will be shown, with the accent particularly on the reduction in the size of loudspeakers and stereo multiplex units. A number of companies will be making their debut this year. In the following pages, FRED CHANDLER reports on the exhibits to be shown by manufacturers showing what to look for and where it will be found. In the next issue we shall be reporting on any last-minute additions to displays.

TAPE will as usual be inviting readers and other friends to our first floor lounge (Room 153) where our team of contributors, reviewers and critics will be in attendance at various times throughout the show to answer your queries and problems.

## AGFA-GEVAERT (Stand 21).

*Agfa Limited, 27 Regent Street, London, S.W.1; Gevaert Limited, Great West Road, Brentford, Middlesex.*

A weekend flying visit to Paris is the prize being offered by Agfa-Gevaert who have arranged a special competition for visitors to their stand.

To win the weekend enthusiasts will have to guess the length of magnetic recording tape sealed in a twelve-inch transparent cube. Entry to the competition is free and can be made at the stand.

Also on stand 21 will be the range of Magnetron and Gevasonor magnetic recording tapes and experts on hand to answer enthusiasts questions.



## AKAI (Stand 16, Demonstration Room 213, Office 227).

*Pullin Photographic Limited, 11 Aintree Road, Perivale, Middlesex.*

Highlight of the Akai stand will be a twenty-minute tape/slide show produced by photographer Michael Parker and featuring the range of Akai recorders. Complete with

# STAND-BY-STAND SURVEY

musical background and commentary, the programme will be available for dealers after the Fair.

Four recorders new to this country will be among the range of nine Akai professional and amateur mono and stereo tape recorders, accessories and speaker units, to be seen.

Their range, which now extends from a studio console model to a pocket recorder, includes the stereo battery portable X-4 introduced at last year's show, and their first mono recorder which heralds Akai's entry into the medium price range market.

The new recorders will include the PT-5011 a studio console model available for stereo or mono operation. Different versions of this unit offer full or half-track facilities with a choice of double speeds from 3½ ips to 30 ips. Also shown will be the solid state X-300 stereo recorder (190 guineas) available for full, half, or quarter-track operation and with accommodation for 10½-inch reels. Other features include an output of 17 watts and push-button solenoid operation.

The remaining new models are the Akai 910, their first mono machine which is described in *New Products* on page 178, and the 28-guinea X-PK1 pocket recorder with two playing speeds. Accommodating 3¼-inch spools, this capstan-driven model also features a built-in microphone and speaker.

In addition, Akai will be showing the ST-1, 44S, and M8 tape recorders introduced at or since the last Audio Fair, plus the AA5000 solid state integrated stereo amplifier, shown for the first time, and five

stereo speaker systems. The accessories include tape splicers, microphones, tape and head cleaning kits, stereophones and bulk erasers.

Latest product, and brought to this country just prior to the Fair's opening day, is their CM-15 condenser microphone. Complete with stereo pre-amplifier, this will sell at approximately £104.



**A.K.G. (Stand 63, Demonstration Room 302, Office 301).**

*Politechna (London) Limited, Eardley House, 182/4 Campden Hill Road, Kensington, London, W.8.*

Seven new units will be among the extensive range of microphones to be seen on the A.K.G. stand.

Among these will be a newly-developed miniature condenser microphone (C61) which can be used for either cardioid or omni-directional purposes by changing capsules; and a dynamic microphone (D202) which uses two separate capsules together with a crossover system, providing a flat frequency response and frequency independent cardioid characteristics. Then there will be the D109, A.K.G.'s first dynamic lavalier microphone, for use as a hand microphone in general recording or reporter work. The respective prices are £84, £30 and £11.

Other new units include the D150 (price not yet available) a professional studio omni-directional microphone, and the range of dynamic cardioid models from

£13 15s. (D505), to £15 (D503 and D507, both with flexible shafts).

Also shown will be some twenty other dynamic and condenser microphones, together with the relevant accessories including headphones, stands and booms.



**AMPEX (Demonstration Rooms 449 and 450, Office 451).**



**ARENA (Stand 10, Demonstration Room 317).**

*Highgate Acoustics, 71-73 Great Portland Street, London, W.1.*

A stereo radiogram, solid state table radio, and stereo record player together with relative luxury housings will be shown on the stand of Arena, the Danish hi-fi specialists who are being represented at the Audio Fair for the first time by Highgate Acoustics.

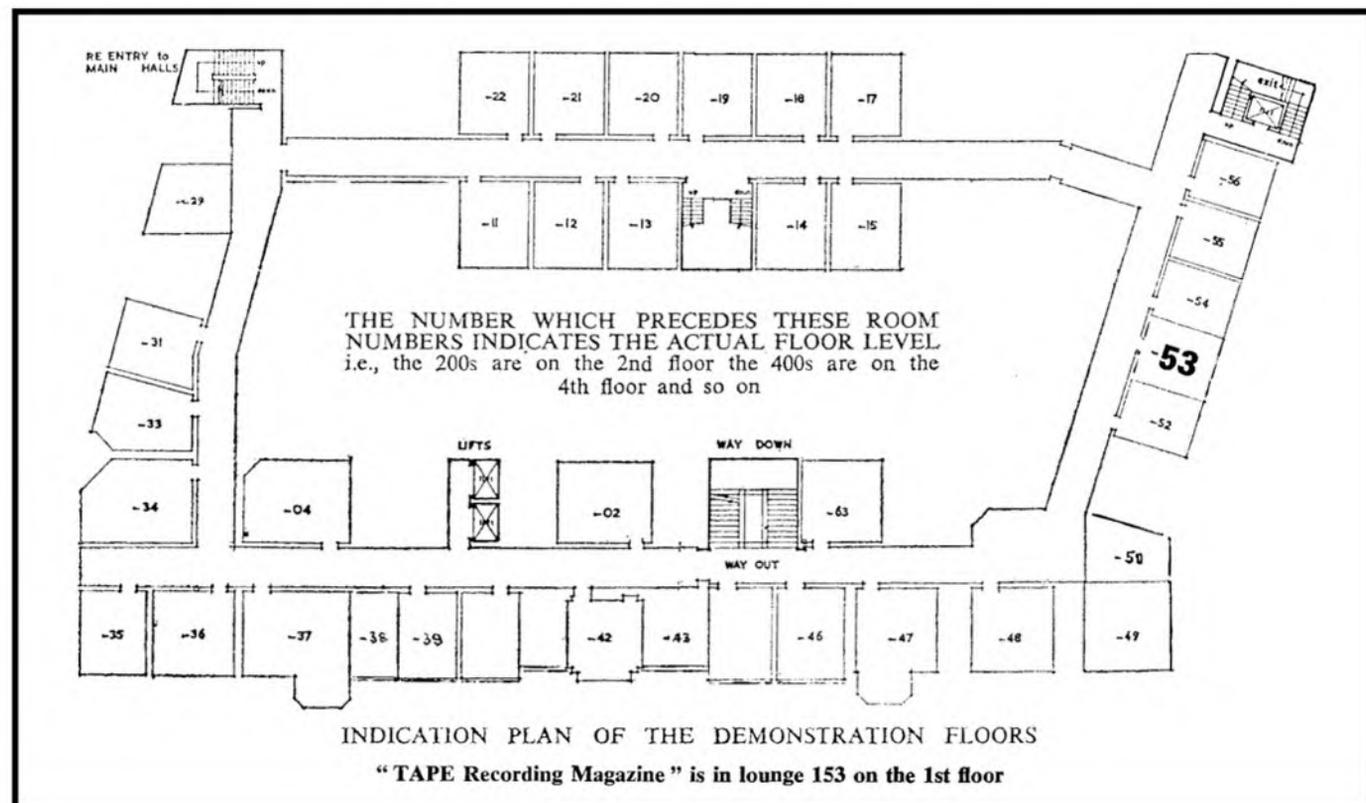


**ARMSTRONG (Stand 45, Demonstration Room 538, Office 539).**

*Armstrong Audio Limited, Warlters Road, London, N.7.*

Their complete range of tuners, amplifiers and tuner-amplifiers will be shown on the Armstrong stand together with their stereo Multiplex decoder introduced at last year's Fair.

This £14 10s. unit will be demonstrated if the BBC broadcast any stereo pro-



grammes during the run of the show, and will be shown in use with their tuner-amplifiers 226, 227 and 127 and tuners 223 and 224.



**AUDIO & DESIGN (Stand 65, Demonstration Room 220).**

*Audio & Design Limited, 40 Queen Street, Maidenhead, Berkshire.*

Specialists in the audio field, Audio & Design will be exhibiting a new range of speakers developed to the designs of Ted Jordan. They will also offer advice on the choice of leading makes of audio equipment.



**AUDIO & RECORD REVIEW (Lounge 344).**



**BASF (Stand 64, Demonstration Room 304, Office 305).**

*BASF United Kingdom Limited, 5a Gillespie Road, London, N.5.*

Once again BASF are preparing a special demonstration at which it will be possible to listen to a selection of short pre-recorded subjects covering a variety of tape topics. Visitors will be able to select items and have them recorded on a free sample of BASF tape on a message spool.

The full range of BASF tapes and accessories will be displayed, including the new improved Library box. BASF engineers will be in attendance in room 304 to discuss any special problems.



**BEYER (Stand 31) (see Fi-Cord).**



**BRAUN (Stand 32, Demonstration Room 122) (see Fi-Cord).**



**BRENELL (Stand 37, Demonstration Room 149, Office 148).**

*Brenell Engineering Co. Limited, 231-235 Liverpool Road, London, N.1.*

A mono and stereo pre-amplifier unit, the Hi-Fi Link, will be among the new products shown for the first time on the Brenell stand. The new unit (described in *New Products*, January issue) is designed to match a three-headed stereo deck to any make of hi-fi amplifier. Equalisation circuits for four tape speeds are incorporated and A-B switching enables recorded material to be checked against the original.

Also shown will be their range of Mark 5 Series 3 four-speed tape decks and recorders and the STB2/5/2 stereo tape unit incorporating separate record and playback amplifiers.



**BROWN (Stand 52, Demonstration Room 312, Office 324).**



**BSR (Stand 72, Demonstration Room 321).**

*BSR Limited, Monarch Works, Old Hill, Staffordshire.*

Prime unit of interest to tape enthusiasts

# Akai introduce four new models —more AKG microphones



Four new AKG microphones. Top, D202CS, then (left to right) D109, D150C and C61

**BUTOBA (Stand 59, Demonstration Room 242, Office 243).**

*Denham & Morley Limited, Denham House, 173-175, Cleveland Street, London, W.1.*

Latest model from the West Germany Butoba manufacturers will be the MT225, modified successor to the three-speed battery portable MT22 shown last year. Operating at 7½, 3½, and 1½ ips, the MT225 accommodates 5¼-inch spools and has a quoted frequency range of 40-18,000 cps. Among the features are remote control rewind and pause, seven-inch round loudspeaker, meter recording level indicator, digital rev. counter, automatic tape end stop, and an output of 1½ watts. The price is still to be announced.

Also on show will be the range of Butoba microphones from three guineas to 21 guineas.



**CELESTION (Stand 23, Demonstration Room 349, Office 350).**

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

Two new loudspeakers will be shown for the first time by Celestion. These are the twelve-inch co-axial speakers, Models CX1512 and CX2012, installed in 2½ cu. ft. enclosures manufactured specifically for them by Record Housing Ltd., and handling 15 and 20 watts respectively.

Also seen will be the Ditton 10 hi-fi loudspeaker system introduced last year. It incorporates a special five-inch bass driver unit and a pressure-driven high-note unit, which are coupled via a half-section LC crossover network. Frequency response is between 30-15,000 cps and power handling

on the BSR stand will be their TD10 tape deck which is featured on many currently available recorders.

This three-speed unit is available with half or quarter-track mono or stereo heads and there is also provision for a third monitoring head.

## VISIT THESE WHILST IN TOWN

CONCURRENT with the Audio Fair, some manufacturers are holding individual exhibitions in London.

At the Morton Hotel next door to the Russell, **MASTERTAPE** have taken a suite to show their range of magnetic recording tape and editing accessories. Their show runs from April 14-17.

Also adjacent to the Russell is the Grand Hotel where Daystrom will be showing the **HEATHKIT** range of equipment, including a new transistorised FM stereo tuner. Open from 11 a.m. to 9 p.m. daily for April 14-17 inclusive, but closing at 8 p.m. on the Sunday.

Also "at home" during this period are Bosch Ltd. who will be showing the **UHER** range of tape recorders and associated equipment at their showrooms at 205, Great Portland Street, W.1. Their show will be open from 9.30 a.m. until 5.30 p.m.

During the same period, **SONY** will be showing their range of Japanese manufactured tape recorders and accessories at the London Showrooms. Open from 11 a.m. to 7.30 p.m. at 71, Welbeck Street, W.1, the show is open to the Trade only on April 14.

The Danish **BANG & OLUFSEN** equipment will also be shown at this address and during the same times of opening. Included in their range is the high quality Beocord 1500 and 2000 tape recorders with matching microphones, speakers, tuner, amplifier, and disc reproducer available as a complete set-up.

Further away from Russell Square, the US Department of Commerce in conjunction with the American Institute of High Fidelity are organising an exhibition of the latest American hi-fi equipment. The show, at the US Trade Centre, 57, St. James's Street, S.W.1, will run from April 14-22 and is open from 10 a.m. to 5 p.m. with an extension to 9 p.m. on April 15, 19 and 21. Trade visitors only on April 14 and 15.

Among the exhibits will be the range of Crown tape recorders, Electro-Voice microphones and Sherwood amplifiers. Most of the fourteen companies exhibiting will be making their entry into the UK market for the first time.

# New model from Ferrograph

## -Fi-Cord show Braun equipment

capacity is rated at 10 watts. The Ditton 10 measures only  $12\frac{1}{4} \times 6\frac{1}{4} \times 8\frac{1}{4}$  inches.



### CONNOISSEUR (Stand 48, Demonstration Room 347, Office 363).

*A. R. Sugden & Co. (Engineers) Limited, Market Street, Brighouse, Yorkshire.*

The Connoisseur range of turntables, pick-ups and speakers, plus stereo and mono cartridges will be seen on stand 48 and demonstrated on the third floor.

Included in their range of loudspeakers are the Craftsmen series of column units.



### DECCA (Stand 73, Demonstration Room 236, Office 232).



### DECCA-KELLY (Demonstration Room 235).

*Decca Special Products, Ingate Place, Queenstown Road, London, S.W.8.*

Two new loudspeaker enclosures, produced by the Decca-Kelly merger, will be shown at the Hotel Russell by Decca.

First of these is the 47-guinea Decca-Kelly Kardiod, described in *New Products* last month, a full-sized enclosure incorporating the DK1 bass unit. Of particular interest, this unit incorporates the famous Kelly Mk III ribbon HF unit with the Acoustic Lens, convincingly demonstrated at last year's Audio Fair.

For their demonstration, Decca will use a pair of Kelly Kardiods with their Professional pick-up, incorporating the Mk III fss head and magnetic bias compensator.

Also demonstrated for the first time will be the Decca-Kelly Mini, designed for use in restricted spaces and featuring a six-inch bass unit. The frequency response of the Kelly Mini is said to be flat within 3 dB from 40-18,000 cps. It costs 20 guineas.



### DESIGN FURNITURE (Demonstration Rooms 109 and 114, Office 158).

*Design Furniture Limited, Calthorpe Manor, Dashwood Terrace, Banbury, Oxfordshire.*

Of particular interest here will be equipment cabinets evolved from the recent DF design competition. At the time of going to press several of the prize-winning designs, chosen from nearly 300 in each class, are being considered for production and many interesting models may be shown at the Fair.

In addition to these, two other models will be shown for the first time. These are the EQC17, a beautifully carved period reproduction cabinet suitable for most types of equipment, and the RC192 multi-purpose record storage cabinet on castors. This has space for some 190 records concealed behind tambour doors. Completing their display will be their well-known range of equipment, record storage and speaker cabinets in prices ranging from £13 5s. to £42.

### DUAL (Stand 12, Demonstration Room 322, Office 323).



### ELCOM (Stand 51, Demonstration Room 111).

*Elcom (Northampton) Limited, Kingsthorpe, Northampton.*

Elcom will be exhibiting a selection from their comprehensive range of complete audio equipment including multi-channel consols and portable mixers together with microphone amplifiers, line amplifiers, PPM units and faders. (See also page 181.)

Component exhibits will include attenuators, rotary stud switches, plugs and sockets and printed circuit components.

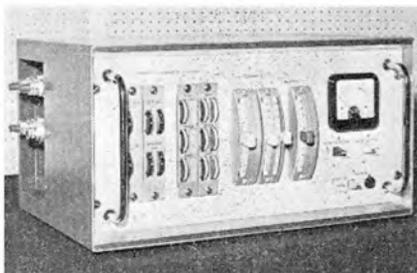


### ELIZABETHAN (Stand 41, Demonstration Room 120).

*Elizabethan Electronics Limited, Crow Lane, Romford, Essex.*

Making a return visit after some years' absence, Elizabethan will be showing their range of tape recorders including two stereo recorders, the LZ102 (reviewed on page 177 of this issue) and the LZ711 selling at £78 15s. Both these machines incorporate the latest tape deck from Magnavox, the 363 Studiomatic three-speed unit.

Also shown will be the two and four-track versions of the three-speed BSR TD10 tape deck model, the LZ32 and LZ34, together with similar versions of the single-speed Automan 2 featuring automatic recording level operation.



New portable sound mixer introduced by Elcom



### E.M.I. (Stand 39, Demonstration Room 247, Office 263).



### EUPHONICS (Stand 18).



### FANE (Stand 8, Demonstration Room 214).



### FERRANTI (Stand 13, Demonstration Room 112).

*Ferranti Limited, Gem Mill, Oldham, Lancashire.*

Making their debut at the Audio Fair, Ferranti will be exhibiting and demonstrating audio equipment using silicon planar transistors and will feature a series of

monograms designed specifically for the amateur constructor.

Two seven-watt AMP100 amplifiers will be used as the basis of the stereo system to be demonstrated in Room 112. Prime feature here will be the tape recorder electronic circuitry designed for use with the Collaro Studio deck, but also suitable for other decks with minimum modifications.

Also shown will be two silicon transistor pre-amplifiers, a capacitor microphone pre-amp, and an FM tuner.



### FERROGRAPH (Stand 34, Demonstration Room 542, Office 543).

*The Ferrograph Recorder Co. Limited, 84 Blackfriars Road, London, S.E.1.*

New this year from Ferrograph will be the Connoisseur 633, a mono recorder incorporating all the features of the Series 6 instruments together with further facilities.

The additional features include separate record and playback heads, level meters operating on record and replay, two-channel mixing, headphone monitor socket at front of instrument in addition to rear-mounted extension speaker socket, spot erasure facilities, and a test certificate covering all important specification measurements for each recorder. It will sell at 120 guineas.

The Series 6 mono and stereo machines including the new teak-sided models introduced last year will also be shown and demonstrated.



### FI-CORD (Stand 30, Demonstration Room 147, Office 162).

*Fi-Cord International, Charlwoods Road, East Grinstead, Sussex.*

Centrepiece of the Fi-Cord exhibit will be the 202A battery-operated tape recorder introduced last year. Also on display will be the range of Beyer and Fi-Cord microphones.

Fi-Cord have recently been appointed U.K. Distributors for the range of hi-fi equipment by Braun AG of Frankfurt, Germany. They will thus be extending their stand and demonstration rooms this year to accommodate the Braun tape recorders, amplifiers, tuners and speakers. Full details were not available in time for this report.



### FISHER (Stand 14, Demonstration Room 320, Office 326).

*Getz Bros. & Co. Incorporated, 2, Harewood Place, London, W.1.*

Another range of products appearing for the first time at the Audio is that of Fisher Radio International of America. They will be showing stereo amplifiers in the 55-136 guinea range together with multiplex receivers and tuners, and loudspeaker systems together with the K.10 Spacexpander, a 28-guinea electronic reverberation system.

Their speakers range from 29 guineas for the XP-5 free-piston enclosure to 107 guineas for the XP-9 three-way system. All the range is finished in walnut.



### GARRARDS (Stand 57, Demonstration Room 342, Office 343).

*Garrard Engineering Limited, Newcastle Street, Swindon, Wiltshire.*

Their range of transcription turntables and high-quality record playing units. Of interest to tape enthusiasts is the SP25 single record player which features a pick-up cueing device for lowering the arm slowly at any point on a disc.

G.K.D. (Stand 47, Demonstration Room 212, Office 225).



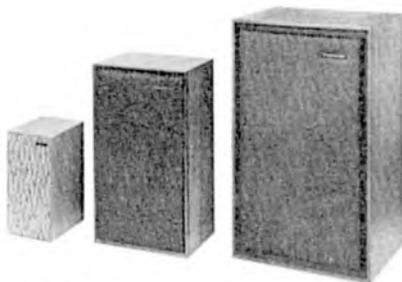
GOLDRING (Stand 38, Demonstration Room 248, Office 262).



GOODMANS (Stand 24, Demonstration Rooms 433 and 434, Office 405).

*Goodmans Industries Limited, Axiom Works, Lancelot Road, Wembley, Middlesex.*

The Maxamp 30 solid state hi-fi amplifier (*New Products* last month) will be shown for the first time by Goodmans. This stereo unit handles 13 watts per channel and has an integrated control unit all within a size of 10½ x 5½ x 7¼ inches. Full use is made of printed circuits and silicon transistors are used throughout.



Three Goodman speakers, left to right, Maxim, Mezzo and Magnum-K

Also making its Audio Fair debut will be the Mezzo, which the makers describe as "the loudspeaker to live with." Only eight inches deep, it can be accommodated in any book-shelf, the Mezzo is a 15-watt speaker system incorporating two new speaker units and handling a frequency response of 40-20,000 cps.

The established Maxim, the professional standard Magnum-K, and their Mini-System will also be exhibited.



GRAMPIAN (Stand 15, Demonstration Room 334, Office 333).

*Grampian Reproducers Limited, Hanworth Trading Estate, Feltham, Middlesex.*

Two pre-amplifier mixers will be introduced on the Grampian stand. The first is a compact battery-operated unit and the second a semi-professional mixer with on/off switches for each input channel in addition to the usual variable control, and a level meter. This model will also be available in a number of types and mains and battery-operated versions.

Also to be shown for the first time is their Ambiphonic unit Type 666 developed from their original Reverberation unit. Designed for use with live performers and with tape and disc record, it is suitable for mono or stereo equipment.

Other items will include their range of dynamic and ribbon microphones together with accessories including stands, reflectors and windshields.



THE GRAMOPHONE (Lounge 152).

# Leak introduce mini-speaker —Tape/slide show by Kodak

HAMMOND (Stand 33).

*C.E. Hammond & Co. Limited, 90 High Street, Eton, Windsor, Berkshire.*

New from Hammond (see also "Revox") will be their M-100 condenser microphone in mono and stereo versions. This omni-directional microphone uses a miniature precision made capsule with an unbreakable diaphragm and is described as having a frequency response covering the entire audio spectrum.

Described in *New Products* (February issue), the M-100 features a power unit containing a transistor stabilised L.T. supply, a voltage regulated H.T. supply, and can be operated from 110, 135, 220 or 245 volts, AC mains. The microphone connecting cable can be extended up to 200 ft. with adverse effect on performance. The impedance is 60 ohms.

The mono version costs 29 guineas, the stereo model 49 guineas, and the optional matching transformer costs three guineas. A battery power-unit is currently being developed for location work.



HAYMARKET PRESS (Stand 35).



HIGH FIDELITY MAGAZINE (Lounge 154).



ILIFFE PRESS LTD. (Stand 5).



JORDAN-WATTS (Stand 22).

*Jordan-Watts Limited, Benlow Works, Silverdale Road, Hayes, Middlesex.*

Six new presentations of the improved Jordan-Watts hi-fi loudspeaker driving unit will be shown this year.

Suitable for all applications, the range includes the 12-watt Juno, a slender reflex enclosure measuring 24 x 12 x 6 inches and selling at £24 10s.; the smallest in their range, the 12-watt Jumbo, measuring 16½ x 8 x 3½ inches and costing £17 12s. 6d.; the 25-watt Gemini with twin modules at £38 12s. 6d. and available for 7½ or 15 ohms; another 25-watt unit, the Jupiter at £54; the still-to-be-priced Jason handling 12 watts; and for matching low impedance amplifiers, the 3-5 ohms version of their drive unit in any of the above enclosure systems at ten guineas.



K.E.F. (Demonstration Rooms 442 and 443, Office 444).



KODAK (Stand 19, Demonstration Room 115, Office 116).

*Kodak Limited, Victoria Road, Ruislip, Middlesex.*

A multiple-screen, slide/music entertainment illustrating the theme, *The Four Seasons*, forms the main Kodak feature in room 115.

The five-minute show, running continuously throughout the week-end, was that seen at the recent Ideal Home Exhibition as a "Cascade of Colour" when Kodak used a unique 40 ft. "screen" of cascading water instead of a conventional screen. Slides and music for the show are automatically controlled by a six-track tape recorder and the slides will be projected on three Carousel projectors.

On their stand in the main hall, visitors can examine the full range of Kodak magnetic recording tape including the ultra-thin, and only available, quadruple-play tape, which can provide 5½ hours playing time from a 3¼-inch spool.



Accurate reproduction of the immense stiffness of "Sandwich" diaphragm incorporated in Leak's new Mini-Sandwich speaker

LEAK (Stand 69, Demonstration Rooms 534 and 536).

*H. J. Leak & Co. Limited, Brunel Road, Westway Factory Estate, London, W.3.*

Further accent on the smaller loudspeaker units will be evident on the Leak stand where their Mini-Sandwich unit will be introduced. This 18½ x 11 x 7 inches speaker enclosure costs £27 10s. and incorporates the features of the well-known larger Sandwich unit.

# Microphone kit by Peto Scott

## Tape records from Metro-Sound

Also new will be the Leak stereo pick-up which will be demonstrated in conjunction with their Stereo 30 amplifier in room 534 with the Sandwich speakers and in room 536 with the new Mini-Sandwich.



**LINK HOUSE (Stand 55, Lounge 155).**



**LIVING SOUND (Stand 43, Demonstration Room 221).**



**LOEWE-OPTA (Stand 11, Demonstration Room 318).**

*Highgate Acoustics, 71-73, Great Portland Street, London, W.1.*

No new items are expected on the Loewe-Opta stand where attention for tape enthusiasts will be focussed on the 408 and 416 battery-operated recorders.

These two-track single (3½ ips) speed models featuring units for operation from the mains supply, cost respectively £40 19s. and £53 11s.



**The Peto-Scott EL6033 studio quality microphone**

**LOWTHER (Demonstration Room 404 and 439, Office 440).**

*Lowther Manufacturing Co., Lowther House, St. Mark's Road, Bromley, Kent.*

To facilitate visitors' questions and demonstration demands, Lowther have their static display adjacent to their demonstration room.

New this year will be the PM7 drive unit, a direct replacement for the PM6 which was first introduced ten years ago. Main im-

provement feature is a high productivity speech coil. Another replacement involves the Corner Acousta enclosure which is superseded by the Dual-Purpose Acousta designed for use in a corner or any position along a side wall. Both positions offer indirect sound display.

In their amplifier range, the LL15 and LL15S are superseded by the L18 providing 18 watts output, and their Control units are modified to provide A-B testing. FM tuner units with valves or transistors will also be presented, the latter types with provision for a decoder for stereo broadcasts. The other Lowther products including enclosures, LL26 amplifier, drive units and reproducers are continued with minor modifications.



**LUSTRAPHONE (Stand 25, Demonstration Room 145).**

*Lustraphone Limited, St. George's Works, Regent's Park Road, London, N.W.1.*

A completely new range of miniature microphones based on the Model VR70/I sub-miniature lightweight ribbon unit will be introduced by Lustraphone. The measurements of the basic unit indicating the degree of miniaturisation achieved by Lustraphone are as follows: length, 1¼ inches; width, ¼-inch; depth, ¼-inch; volume, ⅜-inch; and weight, ⅜-ounce.

The models in the range include the VR75 tubular stand or hand-held unit with built-in transistor pre-amplifier, remote control facility and bass cut switches for close talking and singing; VR70/HS headset combination with swivelled positioning boom-mounted microphone suitable for Language Laboratory applications; VR/270 twin-ribbon element noise-cancelling unit; VR70/L "Lavalier" type microphone; and the VR70/1/2 ribbon unit which has been adopted by the GPO for their new loud-speaking telephone.

Once again they will be arranging special demonstrations for the unique transistorised "Radiomic" unit incorporating a microphone and transmitter which was introduced last year.



**MALLORY (Stand 29).**

*Mallory Batteries Limited, Crawley, Sussex.*

Main theme of the Mallory stand this year will illustrate the ability of their new Alkaline batteries to deliver a steady voltage over an exceptionally long life.

Also on display will be equipment which uses these batteries, together with a variety of Mallory miniature mercury batteries used in audio work.



**METRO-SOUND (Stand 4).**

*Metro-Sound Manufacturing Co. Limited, Bridge Works, Wallace Road, London, N.1.*

Their Tempotape range of tape records will be featured on Metro-Sound's static display in the Main Hall. Among the new titles to be shown in their range of two-track stereo tapes will be show tapes including *My Fair Lady*, *Porgy and Bess* and

*West Side Story*. The classical range will include *Scheherzade* and *Beethoven's 5th Symphony*. Mono records will cost 21s., stereo versions will be 30s.

New also this year will be a splicing block to increase their range of tape recording accessories, and a 72-guinea MST 15 transistorised stereo amplifier with facilities for tape monitoring.



**MULLARD (Demonstration Room 211, Office 209).**



**ORTOFON (Stand 3, Demonstration Room 217).**



**PETO SCOTT (Demonstration Rooms 335 and 336).**

*Peto Scott Limited, Weybridge, Surrey.*

A "do-it-yourself" microphone kit will be introduced by Peto Scott who are entering the domestic market for the first time.

The new microphone is the Philips omnidirectional unit which will sell in kit form at seven guineas. The EL7500 can be used as a hand microphone or mounted on a desk or floor-stand, or in a "lavalier" mounting. A sliding on-off switch is incorporated and it has been designed to match with most current tape recorders. Visitors will be able to see these units constructed throughout the run of the Fair.



**Peto-Scott's new microphone available as a kit at 7 guineas**

Also new will be their studio quality EL6033 microphone which can be operated with omni-directional or cardioid characteristics. It costs £24 and will be available in three versions for 50, 200 and 500 ohms.

Also to be shown and demonstrated will be the Philips video tape recorder introduced last year, together with the range of professional sound equipment and a new multi-channel communication recorder similar to that used at Heathrow airport.



**PHILIPS (Stand 60, Demonstration Rooms 337 and 339, Office 340).**

*Philips Electrical Limited, Century House, Shaftesbury Avenue, London, W.C.2.*

Only new item on the Philips stand this year will be the continuous tape cassette described in "New Products" last month.

Their range of Cossor, Philips and Stella tape recorders, microphones, tapes and

accessories will be exhibited together with the cassette-loaded EL3301 battery portable introduced last year.



**PIONEER (Stand 42, Demonstration Room 313, Office 325).**

*Swisstone Limited, 26 Leigh Place, Cobham, Surrey.*

The Japanese-manufactured Pioneer range of amplifying equipment will be introduced to the Audio Fair this year. Included in their products are stereo headphones, multiplex stereo receivers, stereo amplifiers and pre-amplifiers and loudspeaker systems all being shown for the first time.



**Record Housing's "Lowline Two" equipment cabinet**



**PYE (Stand 9, Demonstration Room 447, Office 446).**

*Pye High Fidelity Division, St. Peter's Road, Maidenhead, Berkshire.*

Pye will be showing the Brahms Amplifier, AM/FM Tuner, and loudspeaker together with the Peri Hi-Fi Ensemble which are all now in full production.

The Brahms HFS 30T amplifier is a transistorised stereo unit and has a matching transistorised self-powered AM/FM Tuner, the Model HFT 300, which has provision for a stereo decoder for stereo broadcast reception.

The compact speaker, Model HF3BS, measures 21½ x 11¼ x 6½ inches and has a sealed enclosure housing a 10 x 6 inch twin cone elliptical speaker and a four-inch tweeter giving a frequency range of 40-16,000 cps.

Their Hi-Fi Ensemble, Model HF1000, stands two feet high and features elegant see-through sliding panels on the top giving access to the components.



**QUAD (Stand 70, Demonstration Room 504, Office 505).**

*Acoustical Manufacturing Co. Limited, Huntingdon, Huntingdonshire.*

In addition to their range of control units, tuners and amplifiers, Quad will be introducing their professional Quad 50 power amplifier. This is designed as a versatile unit for general use for monitoring, line and studio applications.

The unique Quad electrostatic loudspeaker will again be shown and demonstrated.

# Rectavox enter market with new loudspeaker unit

**RADFORD (Stand 74, Demonstration Room 448, Office 462).**

*Radford Electronics Limited, Ashton Vale Estate, Bristol 3, Gloucestershire.*

New on the Radford stand will be their FMT2M transistorised Tuner Unit, available with or without an integral multiplex decoder.

Also shown will be their Series 3 power amplifiers, Bookshelf and Executive loudspeakers together with the Monitor speaker and SC22 pre-amplifier introduced last year.



**RECORD HOUSING (Stand 49, Demonstration Room 117, Office 124).**

*N. & S.B. Field & Co. Limited, Brook Road, London, N.22.*

With some 25 different cabinets currently in their range, Record Housing doubt their ability to demonstrate them all. There will, however, be room to introduce three new equipment cabinets.

These are the Acoustex, an ingenious turntable housing measuring only nine inches deep and ideal for shelf or wall mounting, and the Mobiley and Playview units both with "see-through" lids.

Prominent in their display will be the Fi-Flex group of matching units to be built up a wall on metal frames, and the smaller matching Scan Units introduced last year. Their Fi-Flex Speaker enclosure has been modified in co-operation with Celestion and will this year again be demonstrated with the Celestion CX 15/12 loudspeakers.



**RECORDS & RECORDING (Stand 50).**



**RECTAVOX (Stand 58, Demonstration Room 113).**

*The Rectavox Co., Central Buildings, Wallsend, Northumberland.*

Making their debut at the Fair will be Rectavox who will be introducing their Omni Mark II loudspeaker.

Incorporating two K.E.F. drive units the Omni has recently been selected for the Design Centre Index. It should be worth a visit to examine this unusually shaped unit, designed for maximum adaptability regarding room placing.



**REVOX (Stand 62, Demonstration Room 315, Office 316).**

*C. E. Hammond & Co. Limited, 90, High Street, Eton, Windsor, Berkshire.*

The Revox 736 stereo tape recorder will again be shown and demonstrated, together with the Revox Slide-O-Matic accessory for the automatic control of transparency projectors.

On this stand also will be the range of Studer professional tape recorders. On show will be mono and stereo versions of the two-speed C.37. Quoted frequency response for this machine is 30-15,000 cps + 1, -2dB. The amateur will be impressed by the performance and features of this machine even if the price—£1,141—is a

little beyond his means. The alternative, perhaps, is the smaller transistorised Model A62 at only £566 (full-track mono) or £712 (half-track stereo)!



**RICHARD ALLAN (Demonstration Rooms 215 and 216).**



**ROGERS (Stand 67, Demonstration Room 402, Office 401).**

*Rogers Developments (Electronics) Limited, Rodevco Works, 4-14 Barmeston Road, Catford, London, S.E.6.*

Two loudspeaker systems will be demonstrated with the Rogers range of established amplifiers and control units.

First of these is the "88" system incorporating an entirely new design available in two models. The "88" standard incorporates a low distortion bass loudspeaker with response down to 25 cps and a high quality five-inch mid-range tweeter. Cross-over is at 500 cps. The second model is the "88" Studio incorporating the Ortophase loudspeaker, for frequencies 500-25,000 cps, now being imported from France. The relative prices are 36 and 59 guineas.

The second speaker system is the Wafer ultra-slim.



**Two new tape decks by Scopetronics. The 825 (top) and 1150**



**SABA (Stand 56, Demonstration Room 311, Office 309).**

*Saba Electronics Limited, 3 and 5 Eden Grove, Holloway, London, N.7.*

Their well-known TK230S stereo tape recorder will be shown by Saba together with additions to their range of tuner/amplifier units, and two new loudspeaker enclosures Mk II and Mk III.

First of these is a 20 x 9½ x 9½-inch enclosure housing an eight-inch bass unit and a 6½ x 4½ inch mid-range/tweeter combination. It will handle 25 watts output. The second 35 watt enclosure measures 25½ x 14 x 11½ inches and features a twelve-inch bass unit with a four-inch tweeter.

New also to their de-luxe range of equipment is the Hi-Fi Freiburg Studio. Possibly the most advanced tuner/amplifier available, this produces 40 watts per channel, incor-

# Latest stereo model by Tandberg

## Sonotone announce new speaker

porates seventy transistors and is operated by electronic station search with remote control. It covers Long, Medium, FM and three Short Wave bands with bandsread.



### SCOPETRONICS (Demonstration Room 327).

*Scopetronics Limited, Crown Works, Church Road, Kingston-upon-Thames, Surrey.*

Another newcomer to the Audio Fair is Scopetronics who will be introducing their professional recorders and two new tape decks.

The 1150 studio recorder features variable spooling, interchangeable "plug-in" head bridge, simple drop-in loading and operates at 15 and 7½ ips. It incorporates the 1150 Tape Transport available separately and fitted with three stereo half or full-track heads.

The second new deck is the Scopetronic 825 with provision for four tape heads and operating at 7½ and 3½ ips.



### SCOTCH (Stand 40, Demonstration Room 234, Office 233).

*Minnesota, Mining & Manufacturing Co. Limited, 3M House, Wigmore Street, London, W.1.*

One of the main features of the Scotch stand will be their new Dynarange magnetic tape and the recently introduced Tape Albums in gold-embossed green leatherette. Dynarange tape is available in two versions,



Sonotone's first loudspeaker unit on Stand I

Standard-play on 5, 5½ and 7-inch reels, and long-play on 5, 5½, 7, and 8½-inch reels, and the albums are available for all spool sizes.

Also available will be a range of handbooks and literature including a new book, "Comedy Scripts for Tape Recording" by script writer Peter Cagney.

Theme of the Scotch stand is the use of their tape in Aerospace research.



### SENNHEISER (Stand 53, Demonstration Room 121).

*Audio Engineering Limited, 33-35, Endell Street, Shaftesbury Avenue, London, W.C.2.*

Some of the smallest magnetic microphones in the world, designed for high

quality deaf aids (and "Danger Man" transmitters!), will be seen on stand 53 where the range of high quality microphones by the West German manufacturers Sennheiser, will be shown. Making their Audio Fair debut, the microphones will be exhibited by the newly appointed UK Agents Audio Engineering.

The range includes transistorised radio frequency condenser microphones, with omni-directional and cardioid characteristics, and the ultra-directional condenser gun microphone. Every microphone is issued with a test certificate showing frequency response and absolute sensitivity.

The RF transistor design has made possible the MKH110, a measurement microphone with a flat frequency response from 0.1 cps to 20,000 cps (17½ octaves).

Of interest, but out of reach of most pockets, will be the Sennheiser "Philharmonic" stereo reproducer, featuring a three-channel stereo mixer and remote control facilities. Their display will be completed with a range of dynamic microphones.



### SHURE (Stand 66, Demonstration Rooms 237 and 239, Office 240).



### SME (Stand 28).

*SME Limited, Steyning, Sussex.*

The Series II precision pick-up arms and accessories will again be prominent on the SME stand. Only change concerns a revised balance system which dispenses with accessory weights and allows cartridges for 3-17 grammes to be balanced in either the standard or lightweight shell.



### SONOTONE (Stand 1, Demonstration Room 218).

*Technical Ceramics Limited, New Lane, Havant, Hampshire.*

An entirely new product will be introduced by Sonotone, best known for its range of pick-up cartridges. The newcomer is the Solent, a cabinet speaker priced at £18. With a quoted frequency response of 80-20,000 cps, it incorporates a 6½-inch diameter woofer and a 3½-inch tweeter mounted in a sapele veneered cabinet measuring 14 x 9 x 8½ inches.

Suitable for valve or transistor amplifiers with 8-15 ohms impedance, it will handle twelve watts at programme level. A larger model with an eight-inch low resonance speaker is expected to be marketed later.

Two Sonotone mono crystal pick-up cartridges will complete their new products for this year's show.



### S.T.C. (Demonstration Room 249, Office 250).

*Standard Telephones and Cables Limited, STC House, 190, Strand, London, W.C.2.*

Arranged for visitors to the STC room is a comparative programme of musical

works specially recorded for the Audio Fair demonstration.

Four microphones in turn were used to record about 1½ minutes of a Dvorak Quartet to illustrate the performance of the various microphones. First used was their



The 1150 studio recorder introduced by Scopetronics

4113 ribbon cardioid (11 guineas) followed in turn by the 4105 moving coil cardioid (£22 10s.), 4038 figure-of-eight (£50), and the 4126 cardioid capacitor (£84-£100).

The mono and stereo demonstration will begin with a passage played by each member of the Quartet showing the compass of his instrument. Then follows each demonstration piece concluding with the last 2½ minutes of the work recorded with the 4126 capacitor microphone.

In the lobby adjoining the demonstration room their will be a comprehensive display of microphones, headsets and accessories.



### TANDBERG (Stand 17, Demonstration Room 222, Office 223).

*Elstons Electronics Limited, 81, Kirkstall Road, Leeds 3, Yorkshire.*

The latest of the Tandberg range of recorders, the Series 12, will be introduced at this year's show.

The new model, described fully in "New Products" this issue, is a three-speed four-track stereo recorder running at 7½, 3½, 1½ ips.

Main features comprise duplication of all input and output connections to accommodate British, American and Continental requirements, and the incorporation of a Multiplex filter in each channel preparing the Series 12 for eventual stereo broadcasting pickup. The price is 105 guineas.

Also on show will be the Tandberg Series 6, 8 and 9 tape recorders, available in two and four-track versions in prices ranging from 69 guineas (Series 9), 54-62 guineas (Series 8) and 110 guineas (Series 6); with carrying cases for all models at £6 extra.

Various accessories will also be shown together with the recently announced loudspeakers and the Tape-Slide synchroniser at 24 guineas.



### TANNOY (Stand 54, Demonstration Rooms 544 and 547, Office 546).

## TAPE RECORDER MAINTENANCE (Stand 71, Demonstration Room 314).

*Tape Recorder Maintenance Limited, 323, Kennington, London, S.E.11.*

Their wide range of tape recorder accessories including pre-packaged connections leads, plugs and sockets will be showing by TRM making their Audio Fair debut.

Their comprehensive stocks includes the unique system of inter-connecting leads for mono and stereo applications and covering some 700 possible combinations, together with a head demagnetiser, and various tape recorder spares.



## TAPE RECORDING MAGAZINE (Lounge 153).

*Print & Press Services Limited, 7, Tudor Street, London, E.C.4.*

The Editor and Staff of *TAPE* will be available during the run of the show to welcome readers and other friends and give advice wherever possible.

Current and back copies of *TAPE* will be on sale, together with the just-published 1966 edition of the "Tape Recording Yearbook" and copies of our series of tape recording handbooks as advertised on page 186. Also available will be the Tape Time Calculator providing an at-a-glance timetable for speeds from 15/16 ips to 15 ips, and the special Binders for protecting your file copies of *TAPE*.



## TELEFUNKEN (Stand 68, Demonstration Room 202, Office 201).

*A.E.G. (Great Britain) Limited, 27, Chancery Lane, London, W.C.2.*

A cassette-loaded battery-operated tape recorder will be introduced by Telefunken at the Audio Fair. The new recorder, described fully in "New Products" in this issue, is the M401, a half-track recorder operating at a non-standard tape speed of 2 ips, and selling at 46 guineas.

Also making its debut will be the M204E, a four-track stereo tape recorder running at 7½ and 3½ ips. A wide range of features are incorporated on this transistorised machine which will accommodate spools up to seven inches in diameter. The quoted frequency response is 40-18,000 cps.

Eight other recorders will be shown and demonstrated including the 91-guinea M85, and 104-guinea M98, and the battery/mains operated M300 (49 guineas) with its five-guinea dearer four-track version (M301).

Their range will be completed with five microphones including the TD300, specially designed for use with the M300, and incorporating a meter recording level meter in its stem. It costs £12 10s.



## THORENS (Stand 2).



## TRUVOX (Stand 36, Demonstration Room 548, Office 562).

*Truvox Limited, Neasden Lane, London, N.W.10.*

A loudspeaker, details not yet available, will be the only new item to be shown by Truvox, who will be exhibiting their established range of transistorised tape recorders, tape units, stereo amplifiers and tuner units.

Also to be shown and demonstrated will be their new Series 40 range of tape recorders making their Audio Fair debut following their introduction last November. Their fifth floor demonstration room will

# Telefunken cassette recorder

## -visit 'TAPE' in lounge 153

be used chiefly to show the quality obtainable from the complete Truvox range.

In the room practically opposite, trade visitors will be received and questions answered.

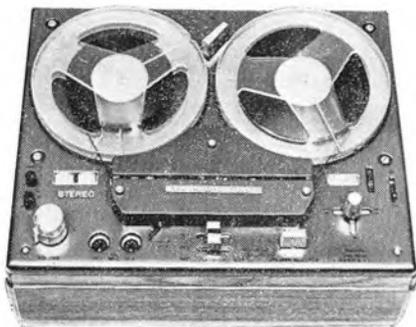


## VORTEXION (Stand 27, Demonstration Room 348, Office 362).

*Vortexion Limited, 257-263, The Broadway, Wimbledon, London, S.W.19.*

Solitary newcomer from the Vortexion stable will be their all-silicon fifty-watt transistor amplifier for 12 and 15 volt working. The new unit, price still to be announced, is the Type CP50A.

Now incorporating the Wearite Series 6 tape deck, the six recorders to be shown include the high and low speed (15, 7½, 3½ ips or 7½, 3½, 1½ ips) versions of the CBL/6 at £180 or £172; and similar versions of the WVA (£107 3s. or £96 7s.) and WVB (£128 or £115 10s.). Their three, four, and twelve-channel mixer units, 10/15 watt mixer-amplifier, 30/50 watt amplifier, C.P. 20A amplifier, plus M8 ribbon microphone will also be exhibited.



The new Series 12 recorder by Tandberg



## WHARFEDALE (Stand 44, Demonstration Rooms 502 and 563, Office 501).

*Rank Wharfedale Limited, Idle, Bradford, Yorkshire.*

A new twelve-inch bass unit, the first chassis incorporating a Flexiprene roll surround to be made available for general use, will be among items being introduced on the Wharfedale stand. Also expected is a new speaker system, but secrecy was being maintained as this report was written. The bass unit will cost £11 15s.

Also to be seen and heard will be the inexpensive concrete column speaker and their range of enclosures including the £25 10s. Dalesman, £18 17s. 4d. Linton, £69 10s. Airedale, and the £31 10s. Dove-dale. Their full range of speakers will include the Super 8/RS/DD at £7.



## WHITELEY (Stand 46, Demonstration Room 204, Office 205).

*Whiteley Electrical Radio Co. Limited, Radio Works, Victoria Street, Mansfield, Nottinghamshire.*

Latest addition to the Whiteley range of loudspeakers is the LC92 incorporating a

nine-inch drive unit. This will be shown in addition to the wide range of Stentorian speakers varying in size from 1½ inches to 13 inches in diameter and available with a variety of cone construction, speech coil impedance and magnet strength to suit all requirements. The universal speech coil is fitted on the three and ten-inch units, providing satisfactory matching to most systems.

Also to be shown will be their range of acoustically designed ready-to-assemble enclosures suitable for use with various speakers. Of bass reflex design, these cabinets can be assembled with the aid of a screwdriver.



## WILLIMAN (Lounge 244).

*K. H. Williman & Co. Limited, Blackford House, Sutton, Surrey.*

Specialist export agents for British equipment, Williman will be representing Armstrong, Kelly, Rogers and Jordan-Watts manufacturers of VHF/FM radio tuners, multiplex decoder units, mono and stereo amplifiers and pre-amplifiers, and loud-speaker systems.



## WILMEX (Lounge 246).

*Wilmex Limited, Compton House, Malden Road, New Malden, Surrey.*

The new Ferrograph Connoisseur 636, existing Series 6, and WyndSOR Vanguard tape recorders plus the new Rectavox loudspeakers will be represented by audio export specialists Wilmex Ltd.



## WORDEN (Demonstration Room 549).

*Worden Audio Development Limited, 54, Chepstow Road, London, W.2.*

The Worden range of Panosona Reproducers will be used to demonstrate complete stereo sound systems incorporating newly developed silicon transistorised amplifiers. Three models will be demonstrated, including a restyled Model C, all of which are now available for use with either Wharfedale or Lowther drive units.

Also being shown are book-shelf and column loudspeakers designed on similar lines, and their articulated pick-up arm.



## WYNSOR (Stand 61, Demonstration Room 118, Office 123).

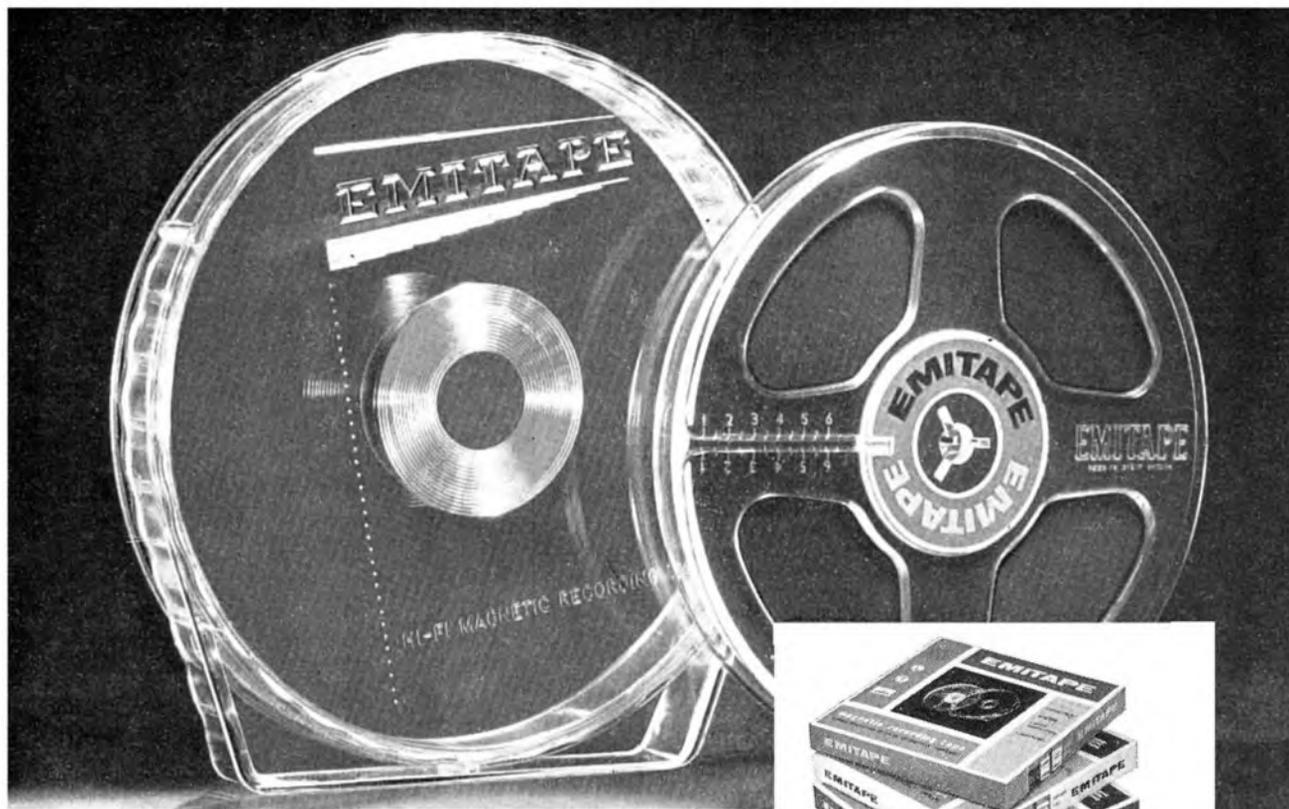
*WyndSOR Recording Co. Limited, 2 Bellevue Road, Friern Barnet, London, N.11.*

Their latest tape recorder, the Vanguard ("New Products," January 1966) will be shown for the first time at the Audio Fair by WyndSOR.

Also demonstrated will be the 2 and 4-track version of the 707 mono recorder retailing at 32 and 35 guineas respectively. Incorporating the BSR TD10 tape deck with three speeds of 7½, 3½, and 1½ ips, the 707 features accommodation for seven-inch spools, parallel-track playback (707-IV only) and loudspeaker monitoring. Its stablemate the half-track Sabre is a single-speed recorder (3½ ips) featuring the BSR TD2 tape deck and selling at 24 guineas.

# EMITAPE

## SETS A NEW SOUND STANDARD



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NEW EMITAPE the most advanced magnetic recording tape in the world. Automated control and rigid inspection at all stages of manufacture, using the most specialised equipment in the latest magnetic tape factory in Europe, ensures that every reel of the new range of EMITAPE is of superlative quality for your recorder.

New magnetic oxide coating techniques, combined with new high strength polyester base films, provide:

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- ★ IMPROVED UNIFORMITY
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– together with all the long established EMITAPE features acknowledged by the BBC and other leading broadcasting and recording organisations throughout the world.

### NEW PACKS

All four grades of EMITAPE – Standard, Long, Double, and the new Triple Play are packed in special dustproof library cases at *No Extra Cost*. These library cases have the added advantage of being self-standing for compact storage and transparent for easy reference.

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**A**T the date of writing this column two major events are pending, one of which will be over by the time these words are in print. The first of these is, of course, the general election, and the other is the Audio Fair.

Politics has no place in this magazine. The colour of your political opinion does not matter to me nor mine to you. For the record and the benefit of the pollsters I tend to favour a misanthropic grey just before an election myself. But in my column in the March issue I raised what is definitely a political question by asking, "When are we going to have a proper local broadcasting service?" By "proper" I mean legal and therefore controlled, and the reason why I asked the question, at some length, was because such a service would be of vital importance to us as specialists in sound recording.

Since my reference to local broadcasting several things have happened, as I rather guessed they would. First of all, the government issued the inevitable statement that an "early decision" could be expected. Next came, surprisingly, the promised statement. Unfortunately it was nearly all about the proposed colour television service—the decision on local broadcasting was to defer a decision on the grounds of cost. Once again the issue was shelved as it has been repeatedly for years.

But this time something quite unexpected happened. Within hours of the official statement the B.B.C. published a pamphlet saying they were all ready to go ahead with a local service using up to nine stations. The timing of the publication was perfect—in the twinkling of an eye we had the possibility of a first-class political row, and what fun that would have been. But the row didn't break; instead came the news of the election and the controversy faded into the background. The comic capers of Messrs. Brown and Hogg stole the headlines and the subject was dropped.

Then came the most surprising move of all. Local broadcasting hit the headlines once again. A private company announced the setting up of yet another pirate station off the coast but these people have the initiative to state that their programmes will be based on the structure of the ill-fated B.B.C. local stations. Instead of endless "pop" as we get from the other pirates we are promised programmes of local news and local interest specially prepared to relate to the area covered by the transmission.

# CROSS TALK

*By Audios*

Any law-abiding citizen must condemn an unlawful act, but this particular act will be watched with curiosity and sympathy by a great many people. The fight for legal local stations is not over. I hope it continues to make as fascinating a tale as it has done over the past few weeks. This column will continue to keep you in touch with news and comment.

\* \* \*

**R**ECENTLY I held my own private Audio Fair in miniature. From 2.30 to 8.30 p.m. on a sunny Saturday afternoon, and that was more than enough for me. Following the well-tryed formula as used at the Russell Hotel there was a static exhibition together with hourly demonstrations before audiences of about twenty at a time. The whole thing was laid on for the G.L.C. and was the third of its kind I have organised.

The public demonstration of live recording techniques is a hazardous occupation, which is why so few will risk it at the Audio Fair proper. Something will inevitably go wrong.

I shall never forget an earlier demonstration of the principles of stereo. Walking about on the stage as my voice was recorded I had told the audience that my voice would be heard coming from the left-hand speaker when I spoke on that side of the stage and from the right-hand speaker when I moved over to that side. We played the tape back and the words, "You will now hear the sound of my voice coming from the speaker on your left," came only too obviously from the speaker on the right. . . . I wondered, mournfully, what would go wrong this year.

Our first item was a simple voice recording when I asked the audience to compare the sound of my actual voice with the quality of the recorded voice. To make it more interesting we did some filtering and added reverberation at appropriate points in the recording. As soon as the tape was played back I knew something was wrong. The reproduced voice sounded nothing like the actual voice—the quality was awful. Getting more and more red in the face as this frightful sound went droning on in front of twenty wooden faces I prayed that the floor would open up and swallow the lot. It didn't, but I spotted the trouble. Some kind person had twiddled the knobs on the play-back amplifier; instead of a level response we had maximum bass cut.

One does silly things at such a time. I tried to move the control into its proper position surreptitiously. The change in the sound quality was dramatic and obvious. But the odd thing is there was not a flicker of an indication on the faces of the public to show that they realised anything had been amiss.

\* \* \*

**A**NOTHER of the items in our demonstration was the recording of a short dramatic sketch. The dialogue was read and recorded in front of the audience, but at the same time we were fading in pre-recorded effects which, of course, they didn't hear until the tape was played back. This was very popular, even receiving applause, although it calls for very precise cueing and fading. We all thought that would be the item to go wrong, but in fact it went off perfectly every time.

Talking of effects, I've found a way of improving my very unconvincing tape of marching men. The original sound was made by shaking peas in a box. Dried peas, by the way, not soggy cooked ones. We made an endless loop of the section where the rhythm was reasonably stable and dubbed it off in length. It was still unrealistic, so we re-recorded the loop, mixing in the copy at the same time. The two rhythms gradually moving into synchronisation and then out of synchronisation again. From this tape we made another loop from the section where the two sounds coincided. Result, vast improvement when we dubbed off this loop in length. But the first requirement, as always, is patience and yet still more patience.

\* \* \*

**O**VERHEARD at last year's Audio Fair was a disgruntled customer complained to manufacturer. ". . . so I think the trouble is in the wire—it's got too many of them ohms in it. . . ."

## COMING TO THE AUDIO FAIR?

Then you must see the full range of Sony tape recorders, transistorised radios and portable T.V. sets, which will be demonstrated at the Sony U.K. Sales Division Showrooms, 70-71 Welbeck Street.

Our special trade preview day for this three-day demonstration will be 14th April, and experts will be available to advise you between 11 a.m. and 7.30 p.m. on 15th and 16th April.

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# Making the most of your speeds

**T**APE recorders which offer a choice of several speeds open up new possibilities in sound manipulation, although to take full advantage of these possibilities needs the use of a second recorder. Here then is a good opportunity for several tape enthusiasts to get together and pool their resources in order to carry out some interesting experiments in creative work.

I do not propose to take up space by describing the obvious uses of the different speeds, the better quality at high speed or greater economy, for certain purposes, of slow speeds as these have already been covered in past issues of this magazine. Instead I want to deal with some of the other uses to which an enterprising tape enthusiast can put his speed changes.

It should be common knowledge amongst tape users that the standard tape speeds are 15,  $7\frac{1}{2}$ ,  $3\frac{1}{2}$ ,  $1\frac{7}{8}$  and  $15/16$  ips, and each upward step doubles the speed, while each step down halves the speed. In addition to this, or rather because of it, a recording which is played back at the next higher speed to that at which it was made will sound an octave higher in pitch. This is because the sound vibrations reaching the ear have also been doubled. Likewise, when a recording is played back at the next lower speed the pitch will fall an octave. All the tricks to be described in this article depend upon the above facts.

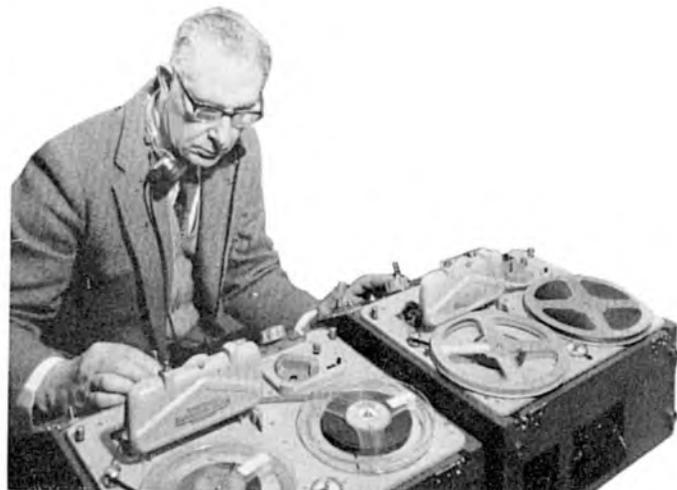
## Dubbing programmes

Too many owners of multi-speed tape recorders never make use of the higher speeds at all; they operate their machines as though only one speed was available. No doubt the increased tape consumption at the higher speeds has something to do with it, as this can prove very expensive when normal recording is concerned. Most of us anyway find the popular speed of  $3\frac{1}{2}$  ips quite satisfactory for many purposes. However, when higher speeds are provided on your machine it is possible to make use of them for many other purposes without using any extra tape at all. This is achieved by ensuring that the higher speeds are used only to manipulate sounds during the intermediate stages, and the final recording is made at our usual operating speed.

One example of this arises when we want to make a straightforward copy of a recording. So long as playback and re-recording are done at the same speed it does not matter if the dubbing is made a step or two higher up the speed range. By utilising the highest speed which is common to both the machines in use a great deal of time will be saved. Of course if you try to monitor during this process results will sound most peculiar (although you can get used to this!) However, when the new copy is played back at its correct speed it sounds perfectly normal again.

## Speed conversions

A variation of this technique makes it possible to play recordings which were made at some standard speed which is not provided on either of your machines. There is no need to rush out and borrow another recorder which does have the required speed as it is a simple matter to convert the recording from one speed to another. Suppose you receive a tape which has been recorded at  $1\frac{7}{8}$  ips whilst the only speeds available on your recorder are  $3\frac{1}{2}$  ips and  $7\frac{1}{2}$  ips, and you want to convert it to  $3\frac{1}{2}$  ips. Remember the effect of speed change, and



work the problem out in terms of doubling or halving the speed of the original tape.

Here the procedure would be to double the speed of the recording by playing it back at twice the speed and record this at the *next* highest speed. Now it is obvious that if this copy is played back one step lower in the speed range the speed will again be halved, which leaves things as they were on the original tape in spite of the fact that it is being played back at the next highest speed. In practical terms this means first playing your  $1\frac{7}{8}$  ips tape back at  $3\frac{1}{2}$  ips (doubling the speed), and making a copy at the next higher speed ( $7\frac{1}{2}$  ips). This produces a  $7\frac{1}{2}$  ips copy which *sounds* at double speed with regard to the original (although the actual tape is moving four times as fast) and is also an octave higher in pitch. Now play this tape back at the lower speed of  $3\frac{1}{2}$  ips to halve the speed and restore pitch to normal, and your  $1\frac{7}{8}$  ips recording becomes available.

## Tape exchange advantage

Conversely, if you want to tapespond with someone who uses only  $1\frac{7}{8}$  ips, whereas you still operate at  $3\frac{1}{2}$  or  $7\frac{1}{2}$  ips, you can proceed in much the same way. First record your message at  $3\frac{1}{2}$  ips, which provides the original tape. Play this back at  $7\frac{1}{2}$  ips which doubles the speed, copy at  $3\frac{1}{2}$  ips to obtain a  $3\frac{1}{2}$  ips recording which *sounds* at double speed, and the job is done. When your friend plays this back at  $1\frac{7}{8}$  ips he halves the speed again and restores the position as in the first example. All this sounds very complicated to describe, but it will become quite clear after a few experiments.

Some years ago a newspaper report described a novel use for this high-speed playback idea operated by a firm which made regular reports to its HQ in America. Using the transatlantic telephone they cut the cost by recording the report and playing it back over the phone at very high speed, thus compressing a lengthy affair into a matter of minutes.

Another use for this process of playing back a recording at speeds other than the original recording speed is the creation of sound effects.

Playing back at a higher speed than the original makes speech sound mere gibberish (which might possibly provide an "excited

# Making the most of your speeds

foreigner" background), but the rise in pitch caused by the higher speed can be put to advantage. A male voice could impersonate a woman or a child, although it would be necessary to adjust the rate of speaking when making the recording in order to make the words intelligible on playback. Theoretically one would need to speak at half speed to counteract the increase, but it is a case of trial and error and should provide plenty of entertainment. You might even try and elaborate the idea into a dialogue between a man and a woman, with the male voice playing both parts! During such manipulations it is possible on many recorders to make use of the tone controls to obtain some coloration of the effect.

Varying the speed can provide many other effects but only a few of which can be mentioned here. You can devise many others from these few suggestions.

For example, even if you are not a very good pianist you can masquerade as a virtuoso of the harpsichord with the help of such trickery! First record a short piano piece normally—Handel's Suites provide suitable material—but play it quite slowly, in fact very slowly. On playback at the next highest speed the performance takes on virtuoso (!) qualities and the piano becomes more like a harpsichord in tone.

On the other hand dropping the speed will produce quite a different range of effects. Speech disintegrates into vowels and consonants with weird results; in fact a deep male voice sounds more like a caged lion, or some monster from outer space! Dropping speed further reduces "speech" to a series of hisses like steam escaping from a railway engine.

The fall in pitch can be utilised if you want to produce a giant's voice for a fairy tale in sound, but in this case owing to the slowing down effect the words must be spoken as quickly as possible when recording.

## Sound effects

Birdsong played at the lower speeds produces a whole new species of wildlife; birds may even be made to sound more like mammals! The cry of a gull, when dropped several steps, sounded so like a dog barking that the family poodle joined in!

Should you ever need the sound of a church bell at short notice and have no opportunity of recording the genuine article, a very good imitation can be produced without leaving home. You will need a glass bowl, or something similar, which has a good "ring" when struck with the handle of a spoon. This is recorded at high speed and played back slowly: greater realism will be given if you can mix in some open-air effects. It may be necessary to use rugs or cushions when recording to absorb sound reflections from walls, etc., or you might have a suitable garden in which to record, which would take care of the background as well.

Another method of obtaining a bell effect is to float the china bowl from a teaset in a plastic washing-up basin half filled with water; as the bowl is struck it heels over and alters the pitch of the note rather like a bell on a windy day.

The slow playback method will also enable you to produce the effect of a body falling into a pond, without the necessity of pushing someone in! Here the actual sound recorded, again at high speed, is produced by dropping something like a wet sponge or a block of wood into a bath full of water. The bath must be full to cut down the resonance of a bathroom, and further "damping" can be obtained by draping towels round the walls. (Towels will be needed later for mopping up!) Many other watery noises may be devised with the aid of the bathroom plumbing, but watch out for unwanted sounds such as tanks and cisterns filling up.

By L. Reid

If you need an explosion it can be arranged quite simply. There is no need to blow up the house; it's cheaper to burst a paper bag! The size of the "explosion" will depend upon the amount by which you drop speed on playback. If you only have two speeds available, and one step does not give a big enough bang you can drop several more steps by a continued process of playing back at the slower speed and re-recording at the higher speed.

## Musical effects

A wide range of more musical effects can be produced with the help of the family piano. Remove the front panel, and if possible the action, in order to obtain free access to the strings; many actions are only fastened by a few thumbscrews and are easily lifted out. If this is not possible all you can do is to depress the sustaining pedals thus lifting the dampers and allow the strings to vibrate freely.

By "plucking" the strings, or drawing your finger or a pencil across them you can obtain a variety of sounds for manipulation by speed change. It is also possible to obtain a sort of echo effect by speaking close to the soundboard and causing the strings to vibrate with the voice.

As well as speed changes, if your recorder has echo facilities, you can use this to obtain a throbbing effect, rather like wind in the telegraph wires, by applying too much echo.

With a variety of speeds to play with you can try and emulate the Radiophonic Workshop, but there is no need to buy expensive equipment such as signal generators, etc. Most of us have on hand a means of providing electronic space age effects in the form of an old AM radio, preferably with short wave reception. The short wave band in particular is rich in whistles, musical notes and rhythmic sounds of all kinds. While many can be used as recorded, the number can be multiplied by speed changes.

## Space ships away!

Another range of useful sounds which could be added to the above whenever you wanted a sound picture of a rocket launching centre, is provided by electric motors of all types. Some of those ex-WD motors which were sold cheaply for use as grinders ran at very high speed. They took quite an appreciable time to reach maximum speed developing a lovely whine like a rocket in the process. Played back at slow speed it sounds most impressive. Vacuum cleaners and other household machinery can also be pressed into service to provide effects.

Never nail down a creaking floorboard or oil a groaning hinge until you have first recorded the sound for possible future use. When played back at slower speeds even quite a light door sounds like a vault being opened, if you need such an eerie effect for a ghost story. Incidentally, you usually get a better creak by moving the door very slowly when recording the sound.

Half the fun of creative tape recording lies in devising such effects and playing round with speech changes to manipulate the sound afterwards, and I hope in this article to have provided enough examples to set you experimenting yourself.

## Recording from television

USING a Ferrograph 631 mono recorder and a low impedance Reslo ribbon microphone and transformer, I find that the output is rather low when feeding radio and TV broadcasts into input 2. To provide a suitable input for the recorder, the radio or TV volume controls have to be increased to a level too loud for comfort.

Is there a suitable pre-amplifier which would make the microphone more sensitive in input 2, or could it be used on input 1 which is normal for speech.

J. M. BASSFORD.

Winchester, Hampshire.

No indication is given as from where the signal being fed into the Ferrograph is taken, but we trust you are not tapping any section of a TV receiver. Unless a receiver is isolated from the mains completely using an isolating transformer, this could be a dangerous practice.

Use of such a transformer, fitted permanently to the TV receiver, an adequate signal can be taken for recording purposes from across the volume control of the receiver. If there is still not sufficient output for the Ferrograph, a signal could be applied via an attenuating resistor. It is advisable to contact your local hi-fi dealer who would be able to advise you.

If possible, it is advisable to use a separate tuner unit in order to obtain the quality results that your recorder is capable of giving.—EDITOR.

## Hit and miss tape exchanges

ALTHOUGH I have had many letters in response to my listing in the "Tape Exchanges" section of *TAPE*, it would appear people are too tired to go any further than letter-writing. Practically all my contacts expect me to send the first tape, and usually these are not returned.

I have established some good friends thanks to your column, but wouldn't it be possible to insert a paragraph about these tardy tape contacts. What was once a pleasant hobby is fast becoming a hit and miss affair. So far I have lost eight three-

inch tapes this year, and I understand that other enthusiasts suffer similarly.

DAVID F. BIRD.

Gillingham, Kent.

Obviously we have little control over the names that appear in our "Tape Exchange" section. Complaints, similar to Mr. Bird's, are welcome. We have and will continue to watch out for those readers whose only interest seems to be the collection of spools of magnetic tape. Misunderstandings can arise, but many have been overcome using only a gentle prod. It is up to each individual to guard against the mis-use of the system, and we will help whenever possible.—EDITOR.

## Letters to the Editor

### On lecturing to tape clubs

DURING the last few months I have visited three tape clubs to lecture on tape recording describing my own particular approach to the hobby. It seems that most clubs have to rely on their own members or trade representatives for their speakers, and I feel here is an opportunity for amateur recordists to assist.

It has been said that Trade Representatives have been upset by the small attendances at their demonstrations, and this is a valid argument for such lecturers who are primarily interested in selling their goods. The amateur recordist, however, is not handicapped in this way; during some fifteen years lecturing to photographic clubs, I have been as happy with an audience of 6-12 as with 200. The smaller audience, in fact, provides the advantage of a more intimate discussion after the lecture. The possible attendance—if this is important to the lecturer—should be discussed before the invitation is accepted.

Apart from this, I am prepared to visit a limited number of clubs providing they are prepared to pay reasonable travelling expenses. Of the three clubs visited so far, only one offered to reimburse me. In future I shall have to see this question of expenses is covered before I attend; there was never any need to do so with the photographic clubs.

RICHARD A. MARGOSCHIS.

Atherstone, Warwickshire.

## What is the cause of squeaky tapes?

IN the Tape Copying Service which I conduct, we use an enormous supply of the inexpensive but otherwise very good tape which is currently available. Hundreds of reels are involved, and we occasionally get trouble from squeaky tapes.

Three reels, which squeak at 3½ ips were exchanged by our source of supply, and the substitutes were perfect.

We have six four-inch reels which are perfect at 3½ ips, but which all squeak at 1½ ips, and a number of our programmes are recorded at this slower speed.

We have established that the three-head system on our Brenell recorders is not to blame, nor is it the tape guides. The squeak occurs on the output when recording, and the same effect can be achieved by slowly moving the tape between finger and thumb. The noise appears to be produced by the oxide coated side of the tape, as I have removed all possible rubbing surfaces from the shiny side of the tape.

E. J. PEARSEY.

West Wittering, Sussex.

This is a real problem, especially with the thinner PVC tapes currently available and the tape tensions employed by many machines. There are two possible reasons. If it happens with a new tape and decreases as the tape is used it is probably due to the coating binder—a feature of manufacture. It can be overcome by tape and tape channel lubrication using one of the proprietary lubricants such as Filmagic or Bib, and fitting an auxiliary guide with felt pad kept moist with the lubricant. The tape picks up the lubricant and carries it past the friction points of heads and guides.

Another possible cause is static friction due to tight spooling of the very smooth tape which causes the tape on the supply spool to rub as it unspools against the tension. The remedy is to completely respool each reel of tape using a decreased tension—provided there is sufficient flange space.

It is assumed that friction points, pressure pads, roller, back torque of supply spool, etc., have all been checked.

Finally, if this is an electrostatic fault, an additional guide with p.t.f.e. surface, or even an auxiliary pressure pad at the left guide made from a small piece of p.t.f.e. will take off the static.—EDITOR.

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# Dramatape

## Miscellany

By PERSPECTIVE

**T**HE production of plays, on tape, is a delightful hobby. Basically, the presentation is very similar to the radio play—we use the same technical elements to achieve results.

I don't mean that we use the same type of equipment. Our studio is usually an ordinary sitting-room; and, more often than not, we boast little more than a medium-price microphone and recorder.

The "technical elements" refer to three general things: aural perspective, acoustics, and sound-effects.

It is these three elements, when properly handled, that create the invisible dimension of drama-on-tape. Without them, our plays would be mere recitations—and our hobby would lack all its magic and fascination.

Can these elements be learnt from text-books and articles? Indeed, yes! But you also have a practical opportunity of trying them out. You can produce sketches of the kind published in *TAPE*.

Possibly, however, you are one of those amateurs who expect "automatic" dramatapes. They take a published play and read it off with little preparation. Then, when a prize-winning dramatape doesn't emerge, they immediately condemn both the script and the hobby. "It's a rotten play," they declare; "it's all a waste of time."

Frankly, both they and the hobby are useless to each other.

### YOUR FIRST DRAMATAPE

Obviously, your first dramatape must be produced in a spirit of experiment and research. Crude as the result may be, it will excite you if you are truly destined for drama-on-tape.

It will be noticeable that certain qualities are missing from the playback—the right type of echo, perhaps, or the right impression of voice-distance. You won't immediately understand how to put such things right—but the challenge of doing so is a major attraction of the hobby.

The production of successive dramatapes will provide the knowledge of

"how to put things right," and this will swiftly improve. You will become expert in those three elements—and will discover their further application. Progress can then be made to aural mime, stereo drama, sound-in-the-round, sound-and-light—all of which represents virtually unexplored territory.

I'm not suggesting that we all wish to travel that far. For most of us, the normal dramatapes offer a fully rewarding pastime.

### GETTING TOGETHER

The day might dawn when you'll consider forming a dramatape society. This is a club that specialises in recorded drama, sound-effect compositions, and the spoken word generally. The programme includes lectures, theatre excursions, discussions, location-work, audio demonstrations—and a great many off-beat items. To belong to a really first-class society is vastly entertaining and worth while.

Unfortunately, several amateurs have tried to start such clubs—and have lost interest in a matter of months. What goes wrong?

The answer, I'm afraid, is tragically simple. Attracted solely by the glamour, they start the society without any experience or knowledge of their subject. They don't even know (in some cases) where to obtain scripts. Who can blame the members for drifting away?

The best way of starting a society, if you are a complete novice, is *not* to start one. Instead, start by producing a dramatape. The better amateur theatrical societies were invariably started in this fashion. The original members didn't meet to form a society—they met to produce one particular play that interested them.

So get hold of a play that really grips your imagination. Avoid a large cast; a two-person piece, for acting with a friend, is a wise preference. It might be a one-act play (such as a hilarious farce by Anton Tchekoff), or a short story (which you can adapt), or a famous scene from Shakespeare.

But never plod through material for the mere sake of "something to record." Whatever you choose, you should never wish to produce anything else—so great should be the intensity of your passion.

After an interval of time, however, you'll find yourself producing another play . . . and then another. And all with the same degree of enthusiasm! Within a year, you'll have a collection of gaily-labelled dramatapes—and a mysterious trunk-load of sound-effect gadgets.

But the essential outcome is this: your group, no matter how small and occasional, will quickly develop its own tradition and routine. If you wish it, you therefore have a proper foundation for planning a more permanent society.

## **Two-minute tape sketch** by David Haines

A monthly exercise in dramatape technique.

**T**HE opening effects in this exercise are easily recorded if you take them separately. Record approaching footsteps on any hard surface, then stop the tape. Next, record an opening doorlatch plus shop-bell (i.e., dangle several forks and spoons on string).

You now record the dialogue and clocks inside the imaginary shop. Simply arrange a few clocks and watches *very close* to the microphone—they will then seem numerous. Dialogue is spoken from a short distance away.

To finish, snip out any time-lags between the opening effects—and splice the tape-sections neatly together.

Collect all your sketches on one tape—announcing each sketch fairly close to the microphone. Separate each sketch with your own chosen form of "aural termination"—e.g., a cuckoo-whistle or softly-tapped gong.

### IN THE CLOCK SHOP

**A** PAIR of footsteps approach from down the street and stop nearby. Shop door opened with jangle of bell, then shut. Inside, dozens of clocks are ticking in loud profusion.

**CUSTOMER:** Service, please! Anyone in? Hoi!

**PROPRIETOR:** Good morning, sir. Can I help you?

**CUSTOMER:** I've got a complaint. I bought this watch only last week—and it doesn't work. I want it repaired—or changed for a new one.

**PROPRIETOR:** Pardon?

**CUSTOMER:** This watch—it doesn't work.

**PROPRIETOR:** Pardon?

**CUSTOMER:** This watch—it needs repairing!

**PROPRIETOR:** It needs what?

**CUSTOMER:** Repairing! The watch needs repairing!

**PROPRIETOR:** I'm sorry, sir—I can't hear a word you're saying. All these ruddy clocks and watches are making too much noise. Go somewhere else.

**T**HE previous articles in this series appearing as they must, in a desultory fashion because of the very heavy demand on editorial space, have shown that one could go on—almost for ever—with an explanation of what is a truly flourishing art.

Tape recording has been much slower to catch on with the general public than, for example, the gramophone disc and its associated equipment: mainly because this is, above all else a creative art: the user must take just a little extra trouble. Even if one is only interested in listening to pre-recorded material, the present tape library lists are comprehensive enough for all but the avid collector. Yet the tape recorder offers so much more than the joy of good listening, and it disappoints the author, and most of his colleagues, when they call upon a client, or an acquaintance, and find the tape recorder, once a new toy and a delight, now gathering dust in the spare room.

The fact that you, dear Reader, are taking the trouble to peruse this, shows that your interest lies a little deeper. So for those who want to know more about the terms and techniques of tape recording we hope this series, irregular as it is, may be of some real help.

**JACK-PLUG and SOCKET.** A type of connector widely used in tape recording because of its rugged form of construction.

## SERVICE BUREAU

# A glossary of tape terms—part 4

BY HARRY MACK

Usual form of the plug consists of a shank, acting as outer or earthy pole, and one or more tip pieces, insulated from the shank and connecting with appropriate spring blades in the socket. Sockets may also have shorting contacts, which are opened by the insertion of the jack-plug, and, in the more sophisticated types, intermediate make-and-break connections.

**JOINTING.** Method of combining two sections of tape to make a continuous section. (See also *SPLICING*).

**LEADER.** Length of non-magnetic tape spliced to the end of a reel, or used as an aid to editing by being inserted between

sections of tape. Leader can be of several different colours, allowing quick identification of tape position.

**LEVEL.** Strictly speaking, the amount of signal applied to the recording head. Loosely used also to refer to the amount of modulation, as a proportion of the peak recording level, which is the maximum permissible before distortion occurs. Inaccurately used to denote the volume of the signal.

Recording level is generally measured at the input to the recording head, with bias rendered inoperative. Recording level indicators allow monitoring of the signal pro-

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portion, either peak value or average of the signal peaks, while a recording is being made.

**MAGAZINE.** Case or cassette which contains the two spools and tape, either in the normal side-by-side mode, or co-axially. The assembly is clipped in place, with the spool centres lining up with the turntables, the tape automatically falling into position across the head channel, and, usually, some form of brake release lever engaging to lock the cassette or magazine for playing. In certain instances, heads have also been built into the magazine for special purposes.

The popular version of magazine loading has for some years been the conventional Garrard method. Latterly, special types of cassette have been marketed and the Philips EL 3300 and subsequent machines have increased the public demand for this type of machine.

More recently, both Grundig and Telefunken have announced machines with cassette loading, but the unfortunate result is a range of machines which are not compatible: i.e., magazines cannot be interchanged, nor can conventional spools be used in their place.

**MAGIC EYE.** A form of recording level indicator, basically a valve with fluorescent screen illuminated by an electron beam which responds to signal input, and is a peak indicator with a very fast response. Various forms of display have been used, the "closing column" style of the EM87 being favoured at present. (See Fig. 1).

**MIXER.** Most input circuits of tape recorders incorporate some sort of mixer (see Fig. 1 of Part 3). But the term mixer is generally used to denote the specially constructed piece of equipment designed to combine several unrelated inputs for application to a single amplifier. The differences between the possible input levels and impedance is quite wide: for example, a crystal microphone may deliver two millivolts at more than 1 megohm, whereas a moving coil microphone may present the input with only a fraction of a millivolt at 30 to 300 ohms, and gramophone cartridges vary widely. Some present only a millivolt or so and needing matching into 50,000 ohms for full energy transfer, while others may give 50 mV at more than a megohm. Similarly, inputs from a radio tuner will generally be at much higher level, say  $\frac{1}{2}$  volt at perhaps 50 to 100,000 ohms, and there are wide differences between these values.

The mixer can be a passive type, which simply matches the source to the tape recorder, attenuating where such matching

requires increase in series impedance, or an active type which has one or two stages of amplification. Separate gain controls for the various inputs are provided and an overall gain control is then added to regulate the signal applied to the main amplifier.

Professional mixers can become very sophisticated devices, with additional controls, monitoring and measuring devices. Simple mixers are easy to construct, provided the factors of level and impedance are followed and the general principles of audio construction are followed.

**MICROPHONES.** The four principal types in use are: crystal, moving coil, ribbon and condenser. James Moir has already said much in these columns on this subject, in the March issue, Burrell Hadden again described the various types in detail: space restrictions preclude repetition, but to sum up, crystal microphones are generally inexpensive, have high output and high impedance, and a fairly good frequency response. Certainly the modern ones are quite as good as many older types of other design. They do not like rough treatment, and their polar response is generally circular.

Moving coil microphones are useful because of their robustness. Made basically from a similar construction to the well-known loudspeaker, with a permanent magnet in whose concentric gap a coil moves, the coil being fixed to a diaphragm. They are necessarily of low impedance, and this has the advantage that the connecting lead can be of greater length. The response is generally cardioid (heart-shaped) because of the mounting, but the famous "ball-and-biscuit" type has a circular (omni-directional) response. Output is generally low, and a transformer is often mounted in the housing to provide a better match to the equipment and prevent losses.

Whereas the crystal type can lose a certain degree of bass response if improperly matched, and some of the cheaper types lose high frequencies, the moving coil microphone can be constructed to give a much better response. It is coming into wider use as transistorised inputs accept the low impedance matching without the need for an additional matching transformer.

Ribbon microphones can be regarded as moving coil instruments with but a single turn of coil, in one sense. They are extremely sensitive, and some care is needed to avoid a direct pressure of air, such as a "puff" upon the ribbon. Modern designs of housing circumvent this. The impedance is very low, and a matching transformer is always required. The output too, is low, but the frequency response can be extremely good and its "figure-of-eight" shape lends itself easily to studio productions.

Condenser microphones are based on the electrostatic principle, with two plates between which an electrolyte is trapped. They have a high impedance, a high output, and a fairly good frequency range, depending again upon construction. The disadvantage is that a d.c. polarising voltage of 100 volts or so is generally needed for this type of instrument.

In any brief talk on microphones it must always be remembered that remarks about frequency response depend on design, and the polar diagram depends greatly on the shape of the housing. There are good and bad of all types, and special applications that may combine one or two of the foregoing features in one instrument.

**METALLISING.** Leader tape may be coated with a conductive layer known as the "metallising." The purpose of this is to provide a short-circuiting path to activate solenoids for those machines employing relay-operated auto-stop devices.

**MODULATION.** The pattern of magnetic signal imposed on the tape by the recording signal is referred to as the modulation. A recorded tape is said to be modulated. The term is also used to refer to the energising signal itself; thus, the amount of modulation is measured or indicated by magic eye or meter, which is actually recording a voltage representative of the signal level.

**MODULATION INDICATOR.** We have already dealt briefly with the magic-eye type of modulation indicator, and the term "meter" has deliberately been excluded. The magic eye responds to peaks of signal. Alternative circuits can be arranged (and are widely used in the USA) which respond to an average level of signal. A more sophisticated version is that which responds initially to peaks then settles to average indication, and can be set to indicate peaks of only more than a certain duration—thus precluding flutter from transients. In general, modulation indicators for modern machines tend to be magic eye where mains power is available and simple moving coil edge meter with transistor machines that are used on batteries. A bridge circuit is often used to obtain greater sensitivity.

**MONITORING.** The term may seem obvious; listening to a recorded signal as it is being made. But there are numerous ways of doing this. One can either take off a portion of the signal at the output of the head amplifier, at a level and impedance

(Continued on page 176)

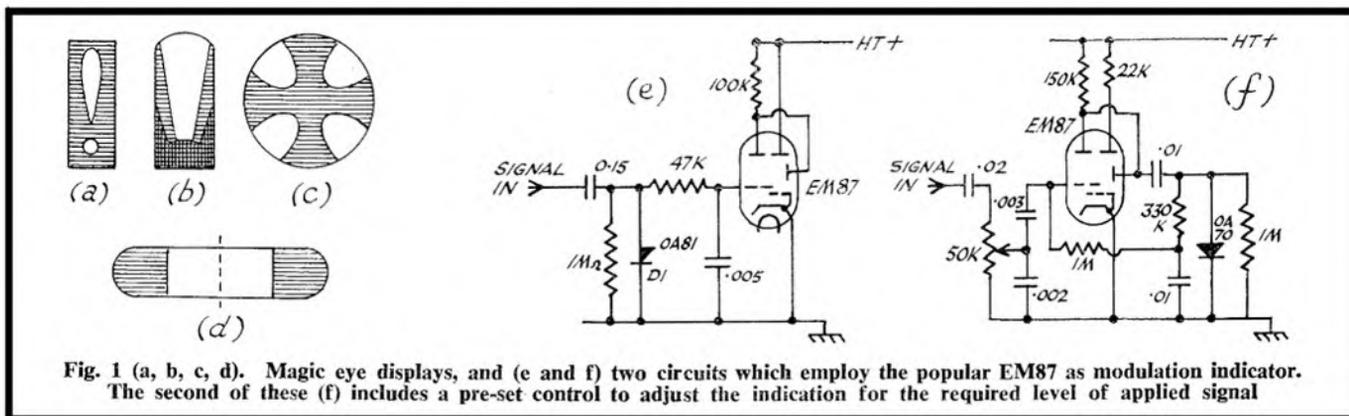


Fig. 1 (a, b, c, d). Magic eye displays, and (e and f) two circuits which employ the popular EM87 as modulation indicator. The second of these (f) includes a pre-set control to adjust the indication for the required level of applied signal

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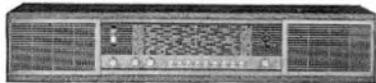
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## Tape records reviewed

### CLASSICS



By Edward  
Greenfield

## A tape full of musical treasures

**STRAUSS, Richard.** "Elektra," Recognition Scene; "Die Frau ohne Schatten," Vault Scene, Act 3; "Der Rosenkavalier," Finale, Act 2. Christa Ludwig, Walter Berry, Seiglinde Wagner with German Opera Orchestra, Berlin, conducted by Heinrich Hollreiser. WRC (TCM 70), 3½ ips, mono, 29s. 6d.

This is one of the most exciting opera tapes for a long time. To begin with the choice of music is most adventurous. Strauss's opera "Elektra," first produced in 1909 scandalised the opera public just as much as his "Salome" had done four years earlier. This time the story was taken not from the Bible but from Greek mythology, but again what so upset conservative opinion was that well-known stories could be retold with unsuspected moral degradation underlined.

"Elektra" underlines the heroine's hatred for her stepmother, for Electra is first seen reduced almost to the level of an animal in the courtyard of her father's palace. Then a stranger arrives. Elektra is strangely excited, but she does not recognise the man. Then finally he tells her. "The dogs at the gate recognised me, but my sister did not."

It is her brother, Orestes, and in that moment she rejoices not only in her love for her brother but in the chance it now gives her of ensuring revenge against her stepmother. It is one of the most powerful moments in all twentieth century opera, and the first side of this tape includes the whole scene from the arrival of Orestes through to Elektra's almost uncontrollable expression of joy. We have long needed a really first-rate performance (in any recorded form) and here Christa Ludwig and Walter Berry sing magnificently. This is savage music, and even today some listeners may find it too dissonant, but the richness of the orchestral colours (beautifully recorded) and the soaring firmness of the vocal lines will appeal to many not normally attracted by opera. The tape is timely when Covent Garden has just reintroduced the opera into its repertory.

The scene from "Die Frau ohne Schatten" brings another treasure. This opera, written after the first world war, contains some of Strauss's finest opera music, but the heavily symbolic story is difficult to understand, and largely for that reason the opera is neglected. The scene included here is magnificent, and again the singing is superb.

The third item is better known, the scene in "Der Rosenkavalier" when Baron Ochs is feeling very sorry for himself after being wounded and then receives a note from the supposed serving-maid "Marianne" asking to meet him. In great glee he waltzes round, and Walter Berry who has only recently graduated to the part sings with great spirit. In this band he is joined by Seiglinde Wagner, not so firm a singer as Christa Ludwig, but still very stylish.

**HANDEL.** Water Music. Jean-Francois Paillard Chamber Orchestra conducted by Jean-Francois Paillard. WRC (TT 474), 3½ ips, mono, 29s. 6d.

The suite of six dances that Hamilton Harty collected and called "The Water Music Suite" is among the best-known Handel music of all, but in fact the original suite was much longer and had more biting orchestration, less colourful by nineteenth century standards but far more suitable for this courtly music written for a magnificent entertainment for King George I on the river in 1717. This original suite of twenty or so movements is what is recorded here.

Unfortunately the French players are rhythmically rather stodgy, and this account cannot compare with the rival version on tape in which Yehudi Menuhin directs the Bath Festival Orchestra. That too uses the original full suite, and conveys far better the feeling of genial, light entertainment for a royal occasion.

**SCHUBERT.** Piano Quintet in A. "The Trout." Drole String Quartet and Karl Engel. WRC (TT 469), 3½ ips, mono, 29s. 6d.

If any chamber music has managed to overcome the long public prejudice that this is music for the few, it is Schubert's "Trout" Quintet. Schubert's melodies are so beguiling that not even the most prejudiced listener can resist for long. In any case there is the variation movement which is based on one of Schubert's most attractive songs "The Trout," and which gives the work its nickname.

It is surprising that no tape of so immediately attractive a work has been available till now, but curiously it has proved an elusive work in the recording studio. Few recorded performances have ever caught the carefree quality that is really basic to the work, but this one by the Drole Quartet and Karl Engel is both lively and warmhearted. Only in the third movement, a rollicking scherzo, does the combination become a little too heavy, but that is a small defect. Recording quality good.

## Nat King Cole covers new ground

### POPULAR



By Don  
Wedge

**WILD IS LOVE.** Nat King Cole with orchestra conducted by Nelson Riddle. WRC (TT498), 3½ ips, mono, 29s. 6d.

The late Nat King Cole was in a rut. As a singer he was adored and as famous as any. The world's foremost songsmiths had written for him. He had worked through the repertoire of the world's greatest songs.

He wanted something new. Not for him the challenge of films like Frank Sinatra and Dean Martin, no fantastically-paid TV series like Perry Como and Andy Williams.

Searching for new ground he met two virtually unknown song writers, Ray Rasch and Dotty Wayne. Impressed with their material, he commissioned them to write a musical especially for him to record.

*Wild is Love* is the result. The songs, good if not all memorable, tell of what love does to a man and are attractively linked by Cole's own narrative.

Such artists are rarely heard speaking and this alone makes it something of a collectors' piece.

#### BRIEFLY

The usually prolific EMI made no tape releases in March but a host of good material had been issued earlier in the year to carry us through spring.

Frank Sinatra's last years with Capitol are revisited in **The Connoisseurs' Sinatra** (Capitol, TA-T 20734; 35s.). It features some songs taken from memorable Sinatra albums made between 1958 and 1963, with such orchestra leaders as Billy May, Gordon Jenkins, Nelson Riddle and Axel Stordahl. Everything from his revival of *This Love Of Mine to Young At Heart*, is done in a subdued vein. Most are slows which he no longer sings so well.

The rip roaring flavour of the James Bond films is missing from the soundtrack album from the latest 007 movie **Thunderball** (United Artists TA-ULP 1110; 35s.). Instead it's the mysterious, sensual aspects of Bond's adventures which dominate the music. Also included is Tom Jones' title song vocal.

The Shadows pretty pretty beat music wears remarkably well. **More Hits!** (Columbia TA-33SX 1791; 35s.) features most of their singles released since 1963. Numbers like *Foot Tapper*, *Shindig*, *Rhythm And Greens* and *Shazam*. It's very good popular music rather than the pop which dominates the hit parade today.

**Up Jumped a Swagman** (Columbia, TA-33SX 175, 35s) is the record version of Frank Ifield's first feature film and includes one of his biggest hits, *I Remember You*, as well as a host of songs specially written for the movie. Ifield sounds a little less virile than usual.

Many of the big pop hits of recent years—*Tonight*, *Misty*, *More*, and *All the Way*—are chosen for **Gene Pitney Sings The Great Songs of Our Time** (Stateside, TA-SL 10156, 35s.). Pitney, a very dedicated singer, is slightly over-reaching himself with such material. However, what he lacks in maturity, he makes up for in his feeling for a song.

*More* is also featured by Nancy Wilson in her **Gentle Is My Love** (Capitol, TA-T 2351, 35s.). An acquired taste, singer Nancy Wilson is winning a wide reputation and could emerge with the status of an Ella Fitzgerald. She chooses good songs, gives them new meaning and is thoroughly musicianly.

Despite the strong (forced?) accent, charm captivates **Maurice Chevalier Sings Broadway** (WRC TT 470; 29s. 6d.). The ageing French star twinkles through such songs from hit musicals as *I Love Paris*, *Just In Time* and, rather unusually, *A New-fangled Tango*.

The tapes reviewed this month are issued by the following companies:

"Capitol," "Columbia," "Parlophone," "Stateside," "United Artists" and "Verve"; E.M.I. Records Ltd., 20, Manchester Square, London, W.1.

"W.R.C.": World Record Club, Box 11, Park-bridge House, The Little Green, Richmond, Surrey.

Quite a different treatment of show songs is **Mel Tormé Swings Shubert Alley** (WRC TT 473; 29s. 6d.). Partnered by an orchestra led by Marty Paich, Tormé's greatest collaborator, the record is much to my taste. Even if Tormé is to be admired rather than to be enjoyed, even though he gives satisfaction rather than pleasure, his distinct voice and intelligent treatment puts him—and this record—in the highest class.

*Manuel And The Music Of The Mountains* is the intriguing if a little misleading title Geoff Love gives to his orchestra—a blend of strings, Latin-American rhythm and heavenly choir. In **Exotica** (Columbia TA-33SX 1770; 35s.) it makes very good listening and romantic back-ground music.

British composers are well featured in **The Hits Of Yesterday** (Parlophone TA-PMC 1265; 35s.) a collection of Matt Monro singles, first issued in disc form last autumn, to coincide with the success of his recording of Lennon and McCartney's *Yesterday*. Monro, our best ballad singer, has recorded some very good songs in the past five years and this neatly brings the best of them together.

#### JAZZ

**Brilliant balance between hope and bitterness**



By Mike J. Gale

**TAKE THIS HAMMER. Leadbelly. Verve (TA-VLP 5002), 3 1/2 ips, mono, 35s.**

Lonnie Donegan had a massive hit with *Rock Island Line* in the fifties but it was only an imitation. On this album you can hear the original sung and played with a twelve-string guitar by Huddie Ledbetter better known as Leadbelly.

He was a real character and in his sixty-four years—he died in 1949—he spent frequent spells in prison. Incidentally, it is on record that he was once pardoned after singing for the Governor of Louisiana.

He learnt his art in the hard and once familiar way; as a young negro near the Texas border at the turn of the century he had ample opportunity to find out what work songs and blues were really all about. Emotion in a two-minute song can sound corny and sentimental and it is a tribute to his great artistry and sincerity that on *Take This Hammer* he makes the majority of work songs now on record sound shallow parodies. His great talent is shown to advantage on *Good Mornin' Blues* where he strikes a brilliant balance between bitterness and hope without any hint of debasement.

There are nineteen items on the album all consistently expressive and even occasionally overpowering. But genuine talent is not always commercially slick—thankfully.

The set consists of: *Yellow Gal*, *Laura*, *Good Mornin' Blues*, *Leavin' Blues*, *De Grey Goose*, *Pick a Bale of Cotton*, *Take This Hammer*, *Bring me li'l Water Silvy*, *Meeting at the Building*, *We Shall Walk Thru the Valley*, *Goodnight Irene*, *Black Girl*, *Sukey Jump*, *Rock Island Line*, *Borrow Love and Go*, *Shorty George*, *On a Monday*, *Old Riley*, and *Pigmeat*.

(Continued on page 176)

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(SEE PAGE 111)

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# Tape records reviewed

(Continued from page 175)

**EARL'S PEARLS. The Earl Hines Quartet.** Personnel: Earl Hines, pno, vcl; Calvin Newborn, gtr; Carl Pruitt, bs and William English, dms. WRC (TT 472) 3½ ips, mono, 29s. 6d.

Earl "Fatha" Hines is one of the truly great jazz giants with a perfect blend of enthusiasm and mastery over his instrument. This session, recorded in New York in 1960, gives him considerable latitude to exploit his outstanding musical conceptions.

Hines is bold and vigorous yet tasteful and disciplined and his sidemen here are in perfect accord. The one member to rise to the occasion who might have failed is Newborn who also plays piano, flute and trombone. His phrasing is exceptional for a man who had never played with Hines before and his extensive solo work is wonderfully complimentary.

Even *Like When the Saints* has been dynamited into a new dimension of personality which is probably the session's highest critical achievement.

The remaining items are *Saint Louis Blues Boogie-Woogie*, *Tea for Two*, *Stealin' Apples*, *Willow Weep for Me*, *I can't believe that you're in love with me*, *Rosetta*, *Satin Doll*, *Manhattan*, *You can depend on me*, *Love me or Leave Me*, and *The song is Ended*.

**STATEMENTS. The Milt Jackson Quartet.** Personnel: Milt Jackson, vibraharp, Paul Chambers, bs; Hank Jones, pno and Connie Kay, dms. WRC (TT 501), 3½ ips, mono, 29s. 6d.

Milt Jackson, who unfortunately was placed only 5th in the "Playboy" readers' poll just announced, has contributed four original compositions out of the eight on this tape—the best to come my way since the MJQ reviewed in January. Hank Jones has summed up my feelings about Jackson "The biggest thing about Milt is feeling. He gets more emotional mileage out of a melody than any other vibist. Others may feel a song as deeply as he does, but somehow he can express more emotion. It's fantastic what he can make out of the most simple line."

The four compositions are *Statement*, *A Thrill From the Blues*, *A Beautiful Romance* and *Put Off*. Naturally, they are stamped with Jackson's personality which has been wonderfully understood by Hank Jones. Indeed, the session's spontaneity and rapport is incredible.

Paul Chambers, too, is in fine form (he came 8th in the "Playboy" Poll, unbelievably) producing both subtle and distinctive contributions in an album full of exciting highlights.

The other items in the set are: *Slowly*, *Paris Blues*, *Sonny Moon for Two* and *Theme:—The Bad and the Beautiful*.

**"I'VE GOT THE WORLD ON A STRING."** Louis Armstrong. Arranged and conducted by Russell Garcia. WRC (TT 481), 3½ ips, mono, 29s. 6d.

One of the few whose fame is such that no biographical notes are needed. My generation has, of course, seen the still glorious career in a very different way from his earlier admirers. It is a sobering thought, often repeated, that Armstrong was a legend by the time he was 30. He had proved

himself in every way and thirty-five years later he is still resilient. I am totally against those who expect him to justify his excursions into the pop world.

If nothing else, his broader conception of music has introduced a great many people into the jazz world, both musicians and followers. In fact it was through the film "High Society" that I became immersed in it!

We are going through an age where media like television quickly creates and then destroys an artiste in a brutal way. As one gets older values should and do change and any man with a record like Armstrong has had more experience, more challenges, more professionalism and more compassion in one year than his limited number of detractors have combined for their whole lives.

It is estimated, for example, that he has recorded between fifteen hundred and two thousand titles which in my book is to be respected.

The wealth of experience is fully utilised here to such a degree that I was surprised and moved. I've never heard *Nobody Knows The Trouble I've Seen* interpreted so sincerely without the slightest trace of cliché. The full range of emotions are introduced: optimism (*I've Got The World On a String*), tenderness (*Little Girl Blue*) and despair (*I've Gotta Right To Sing The Blues*) are a few examples. It is unquestionably, a very fine album.

The remaining items are: *When Your Lover Has Gone*, *You're The Top*, *You Turned The Table On Me*, *Don't Get Around Much Anymore*, *We'll Be Together Again* and *Do Nothin' 'till You Hear From Me*.

**ORGAN GRINDER'S SWING. Jimmy Smith. Verve (TA-VLP 9108), 3½ ips, mono, 35s.**

There are a few instruments I don't like or understand and the organ is one of them. While I shall continue to take the longest path I can to avoid the valley where Sandy keeps his chapel I shall make a point, in future, of listening to Jimmy Smith.

He has managed to convey both his considerable expertise and appetite for melody without swamping the programme with technique. The result is exciting. Strong support comes from Kenny Burrell and Grady Tate who add a major contribution to this unexpectedly interesting album.

*The Organ Grinder's Swing*, *Oh, No, Babe*, *Blues for J*, *Greensleeves*, *I'll Close My Eyes* and *Satin Doll* make up the programme.

**GEE, BABY AIN'T I GOOD TO YOU. Harry Edison Sextet. Personnel: Harry Edison, tmpt; Ben Webster, ten; Oscar Peterson, pno; Barney Kessel, gtr; Ray Brown, bs and Alvin Stoller, dms. WRC (TT 477), 3½ ips, mono, 29s. 6d.**

Harry Edison is a man who, it is claimed, must always be present at a Sinatra recording session and very often at a Fitzgerald one too. He is a remarkable musician with a highly characteristic style based on brilliant improvisations equated with a rigid economy. And he has many imitators who are fooled by the apparent simplicity of his playing.

You can get a good idea of his qualities on this widely varying blues programme which ranges from the introspective on *Blues for Bill Basie* to the powerful driving *Blues for the Blues*. Edison's provocative statements are brilliantly supported by an impressive team of multi-talents.

The remaining items are *Blues for Piney Brown*, *Gee, Baby Ain't I good to You*, *Moonlight in Vermont*, *Taste on the Place* and *You're Getting to be a Habit with Me*.

**AT THE ROUNDTABLE. Turk Murphy and his Jazz Band. WRC (TT 499), 3½ ips, mono, 29s. 6d.**

Melvin E. "Turk" Murphy, born in 1915, was forced seven years ago to comment "It's the only music I can play, without a complete revision of the way I think and everything else." It is a strange comment from a man who is a composer of some ability and a technical giant on his instrument.

This stagnation has been responsible for a great deal of critical disparagement and despite the man's obvious honesty he must stand condemned not for being ahead of his time, but for being behind.

A collection of loud, sometimes too predictable sounds best forgotten.

The set consists of *Red Flannel Rag*, *Oh Daddy*, *Daybreak Blues*, *Cake Walking Babies from Home*, *Chicago Breakdown*, *Down Home Rag*, *Fifty Miles of Elbow Room*, *Nobody wants you when you're down and out*, *I can't Give you Anything but Love, Kamaquit*, and *There'll be a Hot Time in the Old Town Tonight*.

## Service Bureau

(Continued from page 173)

that is thus suitable for headphone listening, or one can replay the recorded signal immediately after it is imposed on the tape. As a simple alternative, an amplified version of the first method is available to many machines whose output valves still operate as such during recording (many double as oscillators in such a way that this cannot be done). Finally, where there are two separate channels, and a method of switching separate "record" and "play" heads, the correct method of monitoring is simple, the recorded signal is replayed as it is made, enabling instant correction.

Where monitoring facilities are not available, it is possible to make up a simple amplifier which takes off the signal from the recording head, bypasses the bias signal, and feeds the amplified results to the internal loudspeaker of the machine. Better still would be a "floating" playback head with circuit and speaker that could be used on any machine. Such constructional devices may be a challenge to our readers—but no prizes are offered!

\* \* \*

**MODULATION NOISE.** This term may occasionally be met in some specifications, and is mentioned in response to questions from one or two readers. This phenomenon is shown by the symptoms of "hiss" when a perfectly "clean" tape is played through the machine. If the gain is turned up high enough, there will always be some hiss, but modulation noise should, for normal tape, be better than 40 to 50 dB below the level of the recorded signal—and thus completely inaudible.

It can be caused by the granular nature of the tape coating, or by a poorly demagnetised tape, and in the worst instance it can cause signal variations in the 1 to 5 Kc/s region, where such variations are most obvious to the ear. Heads and guides should be thoroughly cleaned to make sure this problem does not arise, and the use of a correct lubricant such as Filmagic or Klenzotape helps greatly.



## ELIZABETHAN LZ102

By H. B. Hadden

IT was with considerable anticipation and interest that I unpacked the Elizabethan LZ102, the first machine under this label to be reviewed by any audio journal for some five years.

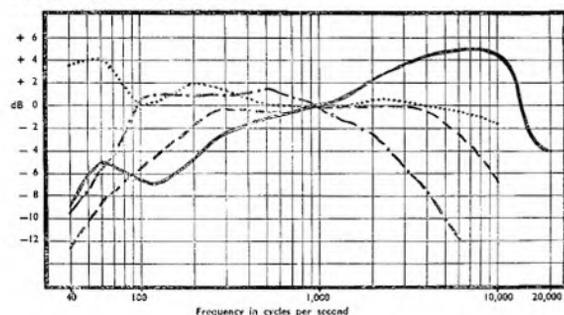
The recent change in ownership of this company has resulted in a much more co-operative attitude towards the audio journals, and we can now look forward to seeing more of their machines on the "Test Bench" for unbiased reports.

The LZ102 model is a mains-operated, fully transistorised recorder incorporating the new Magnavox 363 Studiomatic deck (reviewed last month). Three tape speeds are available, and it will accept tape spools of up to seven inches in diameter. Using the four-track system incorporated this provides a playing time of 32 minutes per track using standard-play tape (1200 ft.) at the fastest speed of 7½ ips; 64 minutes at 3½ ips; and 2 hours 8 minutes at 1½ ips.

Basically a mono machine, the LZ102 will also play stereo tapes if an additional amplifier is provided for the second channel. It is provided with a crystal stick microphone and a lead for recording from external equipment such as a radio tuner or disc player.

Welcome feature, and continuing the trend among the latest machines, the LZ102 features all controls and connecting sockets on the front panel of the machine. Mounted on the deck plate, these are immediately available on removing the lid and overcomes that exasperating problem of fiddling with rear-mounted sockets.

The tape transport is controlled by three piano-type keys which operate in a manner slightly different from the usual method. These "rocker" keys are activated by depressing the front edge to start any particular function and depressing the back edge to cancel it.



Frequency response chart: CCIR playback at 7½ ips . . . ; Record/playback at 7½ ips — — — ; 3½ ips — — — ; 1½ ips . . . . .

The three keys, from left to right, provide fast rewind, play/record, and fast forward wind. A pause control level is immediately to the left of these keys, and the "record" function is selected by operating a spring-loaded knob which works in conjunction with the "start" control. This spring-loading ensures that the machine always reverts to play as soon as the tape is halted, thus guarding against the possibility of accidental erasure.

To the right of the "record" switch is the speed selector, and to the left are the concentrically mounted controls for bass and treble tone selection. These operate on the internal amplifier only.



To the left of these again is the volume control which doubles as the gain control when the equipment is switched to "record". Immediately above is the three-digit tape position indicator and the two buttons for track selection.

The input and output sockets are very simple, and only five in number. Four of these are grouped together between the speed selector and the deck keys, and the fifth, the second channel outlet for stereo, is next to the track selector buttons. The grouped sockets are, from left to right, microphone input, radio input, "hi-fi" output, and external loudspeaker. Inserting a plug in this last socket mutes the internal loudspeaker, and this socket can also be used for monitoring during recording with headphones. The output impedance is 15 ohms.

The output impedance at the "hi-fi" socket is not specified, but the level is quoted as 250mV, this output being unaffected by the volume and tone controls. The microphone input is of high impedance and has a sensitivity of 2mV; the radio input sensitivity is 200mV. Record level indication is by means of a VU type meter.

It is encouraging to see a rather better loudspeaker system than is usual in a machine in this price range. The five-transistor amplifier delivers four watts into two loudspeakers, one a 9 inch x 4½ inch.

The machine was given the usual practical and technical tests, and performed well. My favourite test for good quality reproduction, the piano, was well reproduced at all except the slowest speed, although naturally the 7½ ips was undoubtedly the best. Incidentally, I was pleased to find this speed present; so many otherwise excellent machines these days omit this, and it is really essential if high quality results are to be achieved. In this latter connection, I think it is a pity that this machine is designed to be used with a crystal microphone; a transistor amplifier naturally has a low input impedance, and it would have been very easy to make it suitable for one of the many low or medium impedance microphones now available.

The cost of such a microphone need not be high. The London Microphone Co.'s LM100 reviewed in the March issue for example would have cost the manufacturers scarcely more than the crystal supplied. As it is, the high impedance makes long microphone leads very difficult, if not impossible. Of course, a low impedance microphone can be used with a suitable matching transformer, but it is a pity that this should be necessary.

To return to the machine. Reproduction of tape records was good, and this is borne out by the response curve shown from the CCIR test tape. The record/replay response curves show some deviation from the makers specification, but the quality is still good, especially at the 7½ ips speed. I would have expected better things at 3½ ips, many machines available will do better than this. The response at the slowest speed is acceptable, as the makers suggest in their brief but adequate instruction leaflet, for the background reproduction of party music. The signal-to-noise ratio was just outside the specification at 38dB, but was sufficient to give a useful dynamic range. Wow and flutter were satisfactory.

Other comments; the outward design and appearance of the machine were pleasing and it was well made and finished. I am not too happy that the now standard DIN socket for connection to external equipment was not included, and I felt that the positioning of the input and output sockets was such that the leads interfered with the operation of the controls. But these are minor matters, and I consider the LZ102 to be worth the money at 49 guineas.

### MANUFACTURERS' SPECIFICATION

Frequency response: 60-15,000 cps ± 4 dB at 7½ ips; 60-8,000 cps ± 4 dB at 3½ ips; 60-5,000 cps ± 4 dB at 1½ ips. CCIR playback at 7½ ips, 50-15,000 cps ± 3 dB.

Wow and flutter: Not greater than 0.15 per cent at 7½ ips; not greater than 0.25 per cent at 3½ ips.

Rewind: Approx. Two minutes with tape supplied.

Amplifier output: Four watts.

Signal-to-noise ratio: 40 dB unweighted.

Inputs: Microphone (sensitivity 2 mV), and pick-up (200 mV).

Outputs: External loudspeaker (15 ohms) or monitor headphones; hi-fi (250 mV).

Loudspeakers: 9 x 4½ inch elliptical and one tweeter.

Transistors: AC 107, AC 128, AD 149, OC 75, OC 44.

Dimensions: 16 x 16½ x 9 inches.

Weight: 26 lb.

Manufacturers: Elizabethan Electronics Limited, Crow Lane, Romford, Essex.

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## NEW PRODUCTS

### CASSETTE MODEL BY TELEFUNKEN

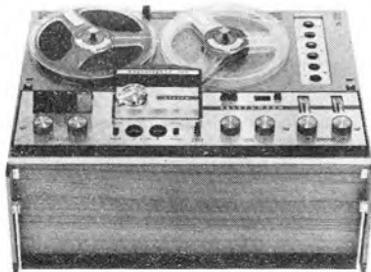
TELEFUNKEN have announced their first cassette-loaded tape recorder. To be shown for the first time at the Audio Fair, the new model is the Magnetophon 401 (illustrated right), a battery-operated recorder which will sell at 46 guineas.

With cassettes conforming to a continental standard, allowing interchangeability, the M401 runs at a new, non-standard tape speed of 2 ips. Quoted frequency range is 40-10,000 cps with signal-to-noise ratio given as 45 dB and wow and flutter as less than 0.4 per cent.

The cassettes provide playing times of 45 minutes for each of the two tracks, with alternative cassettes giving 60 minutes per track. Among the features are facilities for earphone monitoring, and automatic cassette-rejection button. Other features include a combined VU type recording level meter and battery life indicator, and push button controls for record, fast rewind, stop, start, fast wind and pause. Incorporated is a 6 x 3½ inch elliptical speaker, plus inputs for radio or microphone (0.25 mV, 5 K ohms) and outputs for radio (0.6 volts, 15 K ohms) and earphones or amplifier (1.5 volts, 15 K ohms). The amplifier features twelve transistors plus eight semi-conductors and provides two-watt push-pull output.

Six U2 monocells provide the battery power, and the M401 can also be operated from the mains via a special power pack. Measuring 11½ x 8 x 3½ inches, it weighs 7½ lbs.

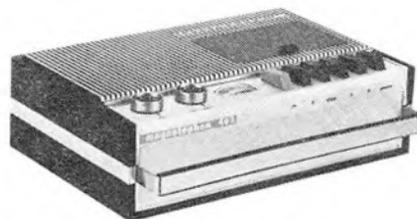
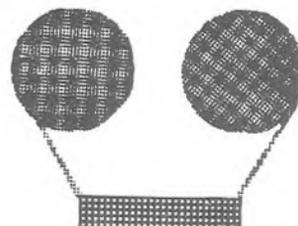
Also new from Telefunken is the M204E (illustrated below), a four-track transistorised stereo recorder operating at 7½ and 3½ ips.



With accommodation for seven-inch spools, it provides a playing time of 64 minutes per track using standard play tape (1,200 ft.) at 3½ ips.

The frequency range is given as 40-18,000 cps at 7½ ips and 40-15,000 cps at 3½ ips; signal-to-noise ratio as better than 50 and 45 dB at the two speeds; wow and flutter as within less than 0.15 and 0.2 per cent respectively; and distortion as less than 6 per cent.

Among the wide range of features are facilities for vertical or horizontal operation, parallel track playback, multiple track recording, separate level controls and VU meters for each channel, safety erase lock,



automatic tape end stop, digital rev. counter, and push-button controls. Three paired inputs are provided for stereo recording from microphones, tuner or pick-up, and three similar outputs for external amplifier, earphones and extension loudspeakers (10 ohms).

The built-in loudspeakers are 7 x 4½-inch ellipticals handling the power output of six watts per channel. The amplifier comprises 18 transistors plus two diodes and a rectifier. Power consumption is rated as approx. 60 watts, and the mains supply is suitable for 110, 127, 220 and 240 volts, AC, 50/60 cycles. The M204E measures 18½ x 13½ x 8½ inches and weighs 30½ lbs. Included in its price of 109 guineas are a reel of tape, spare spool, microphone and audio lead.

A.E.G. (Great Britain) Limited, 27, Chancery Lane, London, W.C.2.

### AKAI ENTER MEDIUM PRICE RANGE

THEIR first mono tape recorder heralds Akai's entry into the medium price range of the UK recorder market.

The new model, to be shown at the Audio Fair, is the 910, a two-speed four-track recorder operating at 7½ and 3½ ips. Accommodation for seven-inch spools provide a playing time of 64 minutes per track using standard-play tape (1,200 ft.) at 3½ ips. The frequency response is given as 40-12,000 ± 3 dB at the top speed, with wow and flutter rated as better than 0.15 per cent RMS.

Among the features are facilities for mixing two inputs (line and microphone), loudspeaker or earphone monitoring, and straight-through amplification. Other features include VU meter recording level indicator, three-digit rev. counter, pause control, and a built-in 6 x 4-inch elliptical loudspeaker handling the power output of 3.2 watts.

The 910, designed for vertical or horizontal operation measures 15½ x 13½ x 7½ inches and weighs 27½ lbs. The price is 62 guineas and an accessory kit including ADM8 microphone and audio lead is available at five guineas. A two-track version is available to special order at the same price.

Pullin Photographic Limited, 11, Aintree Road, Perivale, Greenford, Middlesex.

## TALKING BOOKS BY NEW COMPANY

**F**IRST news of a new range of tape records from a newcomer to the tape market who have introduced a series of 3½ ips "Talking Books."

The initial issue of Heron Hunter Talking Books includes 12 fully dramatised tapes running from twenty minutes each for children's stories to over two hours per tape for a collection of ghost stories. Later issues are to include contemporary and classical short stories and full length novels.

"Mountain on Fire and others" contains stories from the Bush by Arthur Row, and "Ghost stories and weird tales" comprises several well-known short stories including Poe's "Fall of the House of Usher" and "The Pit and the Pendulum". Each of these books (R1 and R2) run for about two hours and cost 36s. each. They are accommodated on 5½ inch spools. Smaller spools are used to accommodate "Alice in Wonderland" (two five-inch reels, 25s. each) running for 50 minutes each part; and the remaining children's issues are accommodated on 3½-inch spools. Titles include the "Peter Pipkin" series for 9s. 11d. (20 minutes each) "Pied Piper of Hamelin," "Jackdaw of Rheims," "Tin Soldier," etc. for 11s. 6d. (25 minutes) and "Peter and the Dolphin" 21s. (50 minutes).

*Heron Hunter Living Literature Limited, Austin House, Croft Road, Crowborough, Sussex.*

## NEW STEREO MODEL BY TANDBERG

**L**AATEST addition to the Tandberg range of Norwegian manufactured tape recorders is the Series 12 to be introduced at the Audio Fair.

The new model, illustrated on page 165, is a three-speed, four-track stereo recorder operating at 7½, 3½, and 1½ ips. It will accommodate seven-inch spools providing a playing time of 64 minutes per track using standard-play tape (1200 ft.) at 3½ ips. Fast wind and rewind for 1200 ft. being achieved within two minutes.

The quoted frequency response is 40-20,000 cps (40-16,000 cps ± 2 dB) at 7½ ips; 40-12,000 cps (60-10,000 cps ± 2 dB) at 3½ ips; and 40-7,000 cps (30-5,000 cps ± 2 dB) at 1½ ips. Wow and flutter figures for these speeds are respectively better than 0.15, 0.2 and 0.3 per cent, and signal-to-noise level is rated at 55dB below maximum recording level.

Two outstanding features of the Series 12 are duplication of all input and output connections for British, American and Continental requirements, and the fitting of a Multiplex filter in each channel, for reception of stereo broadcasts in the U.K.

Other features include electronic beam recording level indicators for each channel, separate bass and treble controls, three-digit rev. counter, and built-in 7 x 4-inch loudspeakers handling the power output of three watts per channel. Maximum power output using 4 ohms external loudspeakers is ten watts per channel, 15 ohm speakers can be used with slight loss of efficiency.

Inputs are provided for low impedance dynamic microphones (200 ohms unbalanced, .15 mV) and two line inputs (1 M ohm, 75 mV and 100 K ohms, 7.5 mV).

Power supply is 220/240 volts, 50 cycles, A.C. (U.S.A. model 115 volts, 60 cycles). Power consumption is rated at 58 watts for 2½ watts output and 100 watts at 20 watts output.

Measuring 15½ x 11 13/16 x 6½ inches, and weighing approx. 23 lbs., the Series 12 costs 105 guineas.

*Elstone Electronics Limited, 81 Kirkstall Road, Leeds 3, Yorkshire.*

## ROBUK RELEASE 'REGAL' RECORDER

**F**URTHER development by Robuk has resulted in the latest of their models, the RK5, which was introduced at the recent Ideal Home Exhibition. The new model (illustrated below) additionally designated the Regal, is a two-track, three-speed recorder featuring the familiar three-motor deck manufactured by Robuk themselves. It is available in half or quarter-track versions at 42 and 45 guineas respectively.

The frequency response is quoted as 40-15,000 cps ± 3 dB at 7½ ips, 50-9,000 cps ± 3 dB at 3½ ips, and 50-4,000 cps at 1½ ips. Wow and flutter is rated as less than 0.2 and 0.3 per cent at the top speeds, signal-to-noise ratio is better than 45 dB, and distortion as three per cent at 3 watts.

The Regal will accommodate seven-inch reels providing a playing time of 64 minutes per track using standard-play tape (1,200 ft.) at 3½ ips; rewind for this length taking less than a minute.

Among the wide range of features are facilities for monitoring, superimposition, straight-through amplification and pause control. Other features include tone control, push-button "piano-key" controls, digital rev. counter with zero resetting, safety erase lock to prevent accidental



erasure, automatic interlock to avoid tape spillage, and a built-in eight-inch elliptical loudspeaker handling the output of 5 watts push-pull.

Inputs are provided for microphone (high imp., 1.8 mV) and radio/pick-up (350 mV, 250 K ohms), and outputs for extension loudspeaker (15 ohms) and external amplifier (one volt).

Housed in a leathercloth covered wooden cabinet with a removable lid, the Regal measures 20½ x 14½ x 8½ inches and weighs 30 lbs. It is supplied complete with tape, take-up spool, microphone and recording lead.

*Robuk Electrical Industries Limited, 559-561, Holloway Road, London, N.19.*

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# News from the Clubs

## BIRMINGHAM

A documentary tape of canal life occupied one of the latest reported meetings of the Birmingham tape club members. Presented by Brian Vaughan, the tape introduced many old barges and canal workers who described their way of life on the waterways in the days when canals were the busy arteries of Britain's commerce.

Further members' programmes followed with Charles Horrell and Alan Crook presenting two of the productions. Charles demonstrated tape and cine synchronisation using magnetic striped film and also explained the optical recording method. His colour films of Jersey, Japan and Bournemouth provided ideal material for this programme. He was followed by Alan Crook who presented another colour film of his Spanish holiday complete with taped commentary.

Among demonstrations enjoyed by members have been a visit by a local dealer who demonstrated the Truvox range of mono and stereo tape recorders including the latest Series 40 machines. This was followed by member Dave Taylor providing an evening's entertainment with his Beocord 2000 recorder and a reel of unusual sounds and music.

Earlier members enjoyed an evening with the Dudley radio hams who visited the club to provide a demonstration of amateur radio transmission and closed circuit television. Highlight of the evening was a two-way conversation between the club house and a mobile transmitter being driven around Birmingham.

The Birmingham members recently assisted a blind member of the Listening Library when they collected his tape recorder, completely stripped it down, cleaned and lubricated it and fitted a new drive belt all within two hours.

Secretary: Alan Bird, 15, Watt Road, Erdington, Birmingham 23, Warwickshire.

## BOURNEMOUTH

A change of secretary is announced for the Bournemouth club where Doreen Slack has relinquished her post to D. G. Hayter.

Secretary: D. G. Hayter, 68, Leybourne Avenue, Bournemouth, Hampshire.

## BRIGHTON

Preparation of the club's entry for the British Amateur Tape Recording Contest and manufacturers' demonstrations have occupied the past few meetings of the Brighton tape club.

First of the visits was in early February when Mr. K. C. Smith and Mr. Freeman of Truvox Ltd. attended to demonstrate this company's tape recorders. This was followed later in the month by a visit to the S.M.E. factory at Steyning where members saw the manufacture of high quality pick-up arms. During their visit they were also shown the Managing Director's own hi-fi set-up.

Out and about again at the beginning of March, members visited the BBC in London where they toured the studios, examined many different types of recorders, and saw "Woman's Hour" being transmitted live. March 9 saw members considering contributions for the club's Contest entry, and listening to types of music enjoyed by

individual members, and this was followed a week later by chairman Ralph Vivian demonstrating his recording equipment. Mr. Vivian inaugurated the first of a new series which is intended to introduce different member's equipment each month.

Other recent activities have included a sound hunt, with members being challenged to obtain a recorded interview; and the presentation of a tape/slide show on his tour of Cornwall by John Tugwell. Lined up for their April meetings was a visit by Grundig, a tour of Brighton Police Station and an organised trip to the Audio Fair in London.

Secretary: Keith Upton, 47, Kingsley Road, Brighton 5, Sussex.

## BRITWELL

Production of a tape/slide show "This is Slough" is the latest venture of the four-year-old Britwell tape society. The members, who are currently organising a campaign to attract more members, are also preparing a demonstration on the evolution of hi-fi and a more ambitious programme on the advantages of stereo recorders for monaural work.

This work is the result of a sudden deficiency of willing workers; it is hoped to attract local enthusiasts with the promise of worthwhile activities. Interested readers are invited to contact the secretary or visit the club on any of the first three Wednesdays in each month at Britwell Tenants' Community Centre, Longfurlong Drive, Britwell, Slough. Meetings start at 8 p.m.

Secretary: B. J. Jackson, 6, Second Crescent, Gloucester Avenue, Slough, Buckinghamshire.

## BROMLEY

An opportunity to test members' recording and presentation technique was arranged for the March 24 meeting of the Bromley tape society. Entitled "Are you with it?", the evening's programme followed, but is not believed to have resulted from an earlier programme "Among your souvenirs," for which members were invited to present their past efforts.

February 24 saw members providing a practical demonstration of tape recordings for members of the local Scout pack, and a fortnight later a further members' participation evening presenting a recording of favourite music and a pet hate.

Scheduled for the April meetings were productions of a drama specially written by the chairman (April 14) and the first part of a new series on building a mixer unit (April 28).

Secretary: Miss J. Rivett, The Old Thatch, The Glen, Farnborough Park, Kent.

## COTSWOLD

Play-reading also for the Cotswold tape club with members devoting an entire evening to recording a short sketch originally designed for broadcasting.

As a recording exercise the sketch, calling for a continuous background of sea, wind and church bells with occasional bursts from seagulls, maroons, hail against windows and fog-horns, was not uncomplicated. For the production three recorders, complete with pre-recorded effects, were operated by Peter Duddridge, Harry Meredith and George Wood. "Conducting" this trio and also responsible for the recording was Eric Jones, while "actors" Olive Martin, Dick Munn and Ronald Gillian grouped around a central microphone with Roy Cave standing by to simulate a fog-horn by blowing across the mouth of a bottle.

The less than serious subject matter of the play together with live sound effect production tended to the hilarious, but still the result, after three or

four trial runs, was described as surprisingly good. Many valuable lessons were learned including the advantage simulated effects have over recordings of the real thing.

More recently, members have enjoyed listening to other members' tapes. Among programmes heard were a feature, presented by Bill Martin, comparing the various notes produced by telephone bells, recordings of his own band by Ray Tingley, cinema organ recordings by Dick Munn and male-voice choir recordings by Dennis Olding. Frank Symes presented his "Desert Island Sounds" tape which provided nostalgic memories for him to take to his exile, and Colin Woods had recorded the process of getting his children to bed via songs and a Dalek recital.

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

## DONCASTER

A demonstration of the use of a Grampian parabolic reflector was presented by R. O. Broome at the February 24 meeting of the Doncaster tape club. Mr. Broome, past winner in the British Amateur Tape Recording Contest, was assisted in his demonstration by a member who paraded the room playing back bird song recordings from the battery-operated Telefunken M300.

A week earlier had seen the club's AGM. Officers were re-elected for a further term of duty and the meeting then proceeded to organise their programme for the following three months. Included in their plans were a demonstration of the Revox stereo tape recorder, a lecture on the various types of plugs and sockets and a demonstration of electronic music.

Among ideas considered for raising the state the club's bank balance was the organisation of a jumble sale. Held early in March, this raised £10 for which sum microphones changed hands for 6s. 6d. and 2s. 6d. respectively whilst a stereo 1p. was sold for 11s.

Secretary: C. K. Young, 28, Chelmsford Drive, Doncaster, Yorkshire.

## JOHANNESBURG

Members of the Johannesburg tape and hi-fi society met representatives of the South Africa Radio League for their January meeting to discuss possible ways of collaboration to mutual advantage. During the evening both parties were entertained to a demonstration of the French Octophone loudspeakers (described in *TAPE*, November 15, 1961) and the American Fairchild fifty-watt transistor amplifier.

The following meeting saw members enjoying an informal music and technical discussion. Colin Thompson also demonstrated his home-built stereo amplifier and pre-amplifier use with a turntable and stereo pick-up and two ten-inch Wharfedale speakers. His set-up intended to demonstrate the type of equipment available at low cost.

Their March meeting included a demonstration of Bang & Olufsen audio equipment by the Victor Taylor Corporation (Pty.) Ltd.

Secretary: Anita Stuart, P.O. Box 11326, Johannesburg, South Africa.

## SOUTH DEVON

The Stockman Cup, to be awarded annually for the best recording produced by a team of members of the South Devon tape club, was won for the first time at the February 2 meeting. Brian Mudge, Mr. and Mrs. Parkin, Bernard Pierce and Peter Wills gained highest number of points to secure the trophy, donated by vice-president Jack Stockman, for their tape "Emmy's Dilemma," a Victorian melodrama. Written by member David Pletts, their tape will most likely be

the club's entry in the 1966 British Amateur Tape Recording Contest.

Earlier, the members had celebrated the fifth anniversary of the club's formation, and marked the occasion with a cake decorated in the form of a tape recorder by Mrs. Furneaux. During the evening Joe Penagely, Peter Cox and John Penty played and discussed some of the recordings they had made during the past twelve months.

Plans for their March meetings included a talk by club president Donald Aldous who will discuss the testing of tape equipment. It was also hoped to include in the programme the playback of some of the 1965 BATRC winning entries. A week later, on March 10, members planned a joint meeting with the Torbay Natural History Society for the showing of three BBC films, and this was to be followed on March 30 by a visit from Graham Balmain of Mastertape. His programme is to include a film on the production of magnetic tape. The club's Ladies' Night is March 16.

Secretary: Gordon Furneaux, 45, Kenwyn Road, Ellacombe, Torquay, Devon.

## TAPE EXCHANGES

**T**APE recorder owners who wish to contact others with similar interests, to exchange news and views by tape are invited to fill in and return the form on page 182 giving their name, age, address, special hobby or interest for this free service.

Details given here also include speeds to be used, spool size, name of recorder, and special area to be contacted.

**Pritchett, Reginald (27).** 74, Lands-  
ser Avenue, Manor Park, London,  
E.12. Comedy tapes and discs. 7k,  
3½ ips. 7-inch spool. Telefunken  
TK85.

**Rabenovitch, Mark (42).** 102, Cam-  
bridge Street, London, S.W.1. Opera  
music. 3½ ips. 8½-inch spool. Ferro-  
graph 5A/N. London only.

**Reed, L. S. (50).** Thackthwaite,  
Loveswater, Cockermouth, Cumber-  
land. Religion and religious music.  
7k, 3½ ips. 7-inch spool. Philips  
EL3549, four-track.

**Richards, E. E. (46).** 33, Marsh  
Lane, Water Orton, near Birmingham,  
Warwickshire. 8mm cine photography,  
stereo recording, travel. 7k, 3½,  
1½ ips. 5-inch spool. Akai X-IV, four-  
track stereo battery portable. Letters  
not required.

## TEENAGE READERS

**Andrews, Michael John (14).** 6,  
Janson Road, Shirley, Southampton,  
Hampshire. Postcard collecting, pop  
music. 3½ ips. 5½-inch spool.  
Grundig TK14, UK.

**Gale, Graham (16).** 199, Walford  
Road, Birmingham 11, Warwickshire.  
8mm and 16mm sound cine photo-  
graphy. 3k, 1½ ips. 5½-inch spool.  
Cossor stereo recorder.

**Hall, William J. (18).** The Hollies,  
Lower Broadmoor Road, Crowthorne,  
Berkshire. Photography, philately,  
cars, pop music. 3½, 1½ ips. 7-inch  
spool. Philips EL3548, four-track.

**Hill, Barry (16).** 74, Hammershill  
Lane, Mark-by-sea, Redcar, York-  
shire. Sound effects, humour, chess.  
7k, 3½, 1½, 15/16 ips. 7-inch spool.  
Philips EL3556 and EL3586, battery  
portable. Female contacts in UK.  
USA.

**Kirson, George (19).** 15, Lowfield  
Avenue, Brambles Farm, Middles-  
brough, Yorkshire. Motorcycling, pop  
music. 3½, 1½ ips. 7-inch spool.  
Philips EL3558, four-track. Female  
contacts preferred in USA, Canada,  
Europe.

(Continued on page 182)

# CLASSIFIED ADVERTISEMENTS

## FOR SALE

FI-CORD 202 with case. Virtually unused, £50 (o.n.o.). S. Markham, 21, Clausentum Road, Winchester, Hants.

For Sale: FI-CORD 202 recorder, purchased 18 months ago. Complete with microphone and leather case. First-class condition. Offers? L. Errington, 26, Cadogan Gardens, London, S.W.3.

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PHILIPS EL3556. Latest model. Reviewed this magazine March. 4-speed, 4-track STEREO PLAYBACK. Three inputs, Cardioid Microphone. Two months old. Absolutely perfect. Cost £65, sell for £50. Owner going abroad. W. Browning, 6, Parsonage Lane, Windsor, Berks.

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## TAPE EXCHANGES

(Continued from page 181)

Pinchbeck, Paul (11). Brigg Road, Barton-on-Humber, Lincolnshire. Geology, pop music. 3 1/2 ips. 3-inch spool. Elizabethan Bandbox.

Pratt, G. (19). 3, Whistler Road, Higham Estate, Tonbridge, Kent. Sound effects, humour, jazz and pop music. 3 1/2, 1 1/2 ips. 4-inch spool. Elizabethan 200 and Philips EL3586, battery portable.

## OVERSEAS READERS

Durow, Neville (26). 1, Durban Road, Pietermaritzburg, South Africa. 8mm cine and 35mm photography, films. 7 1/2, 3 1/2, 1 1/2 ips. 7-inch spool. Akai 44S, National, Kiloctor, and Robuk RK3, two and 4-track mono or stereo.

Finley, Sid (?). Box 1709, Ashville, North Carolina, USA. Amateur radio, motorcycling, jazz music. 7 1/2, 3 1/2, 1 1/2 ips. 7-inch spool. Ampex and Wollensak recorders, two and four-track. Letters not required.

Grant, Morris (23). 3316, Harriet Road, Victoria, British Columbia, Canada. Sound effects. 7 1/2, 3 1/2, 1 1/2 ips. 7-inch spool. Dual, four-track stereo. UK, South Africa, Australia.

Tape recorder owners wishing to make contact with others of similar interests are invited to complete and return this form. (BLOCK LETTERS PLEASE)

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Recorder owned .....

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Paquin, A. Pierre (23). 33, Chicopee Street, New Bedford, Massachusetts, USA. Live broadcasts, classical music. 7 1/2, 3 1/2 ips. 7-inch spool. Sony 250A, England, Germany Austria.

Patel, Sulaiman (20). 41, Gladstone Street, Rose Hill, Mauritius. Underwater exploration, theatre, sports. 3 1/2, 1 1/2 ips. 5-inch spool. National RQ151. English or French speaking contacts required.

Silver, Michael (?). 15114, Dickens Street, Apartment 8, Sherman Oaks, California 91403, USA. British criminal law, classical music. 7 1/2, 3 1/2 ips. 8 1/2-inch spool. UK, Australia.

Wehner, P. (38). 134, Haig Road, Red Hill, Durban, South Africa. Sound effects, 8mm sound cine photography. 7 1/2, 3 1/2, 1 1/2 ips. 7-inch spool. Philips and Sierra cartridge recorder.

## FAMILY EXCHANGES

Pennington, Mr. and Mrs. (41/37). 9, Crookings Lane, Penwortham, Preston, Lancashire. 7 1/2, 3 1/2, 1 1/2 ips. 7-inch spool. Telefunken and Philips EL3541, four-track.

Power, Mr. and Mrs. (45). 10, Berwick Avenue, Urmston, Manchester, Lancashire. Dressmaking, table-tennis, boxing. 3 1/2 ips. 5 1/2-inch spool. Overseas only.

## EDUCATIONAL

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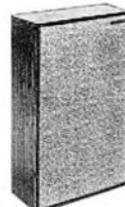
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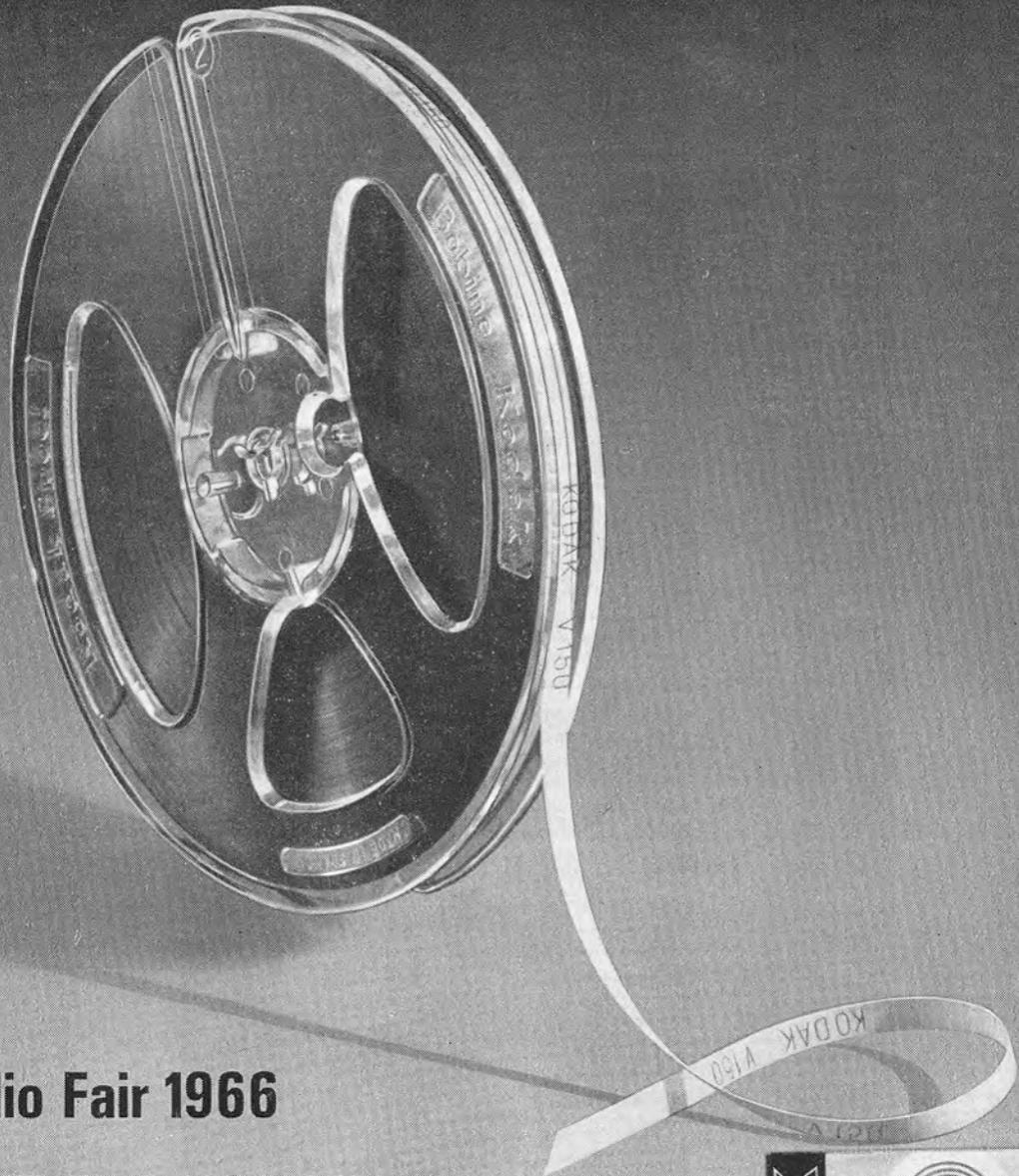
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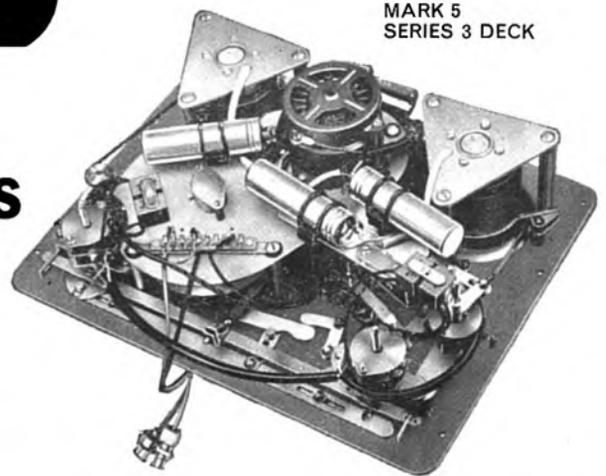
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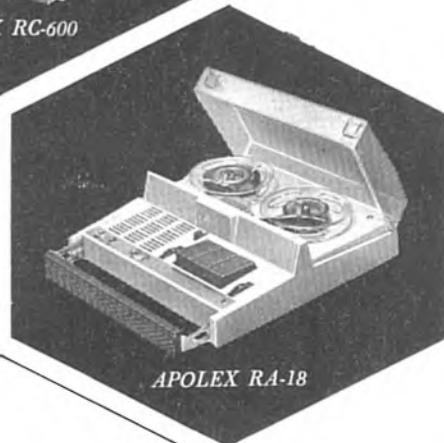
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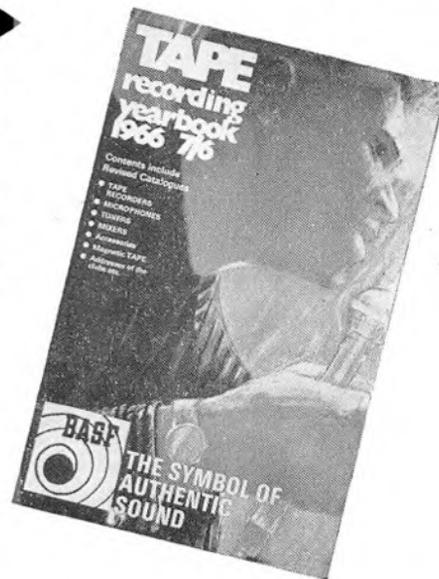
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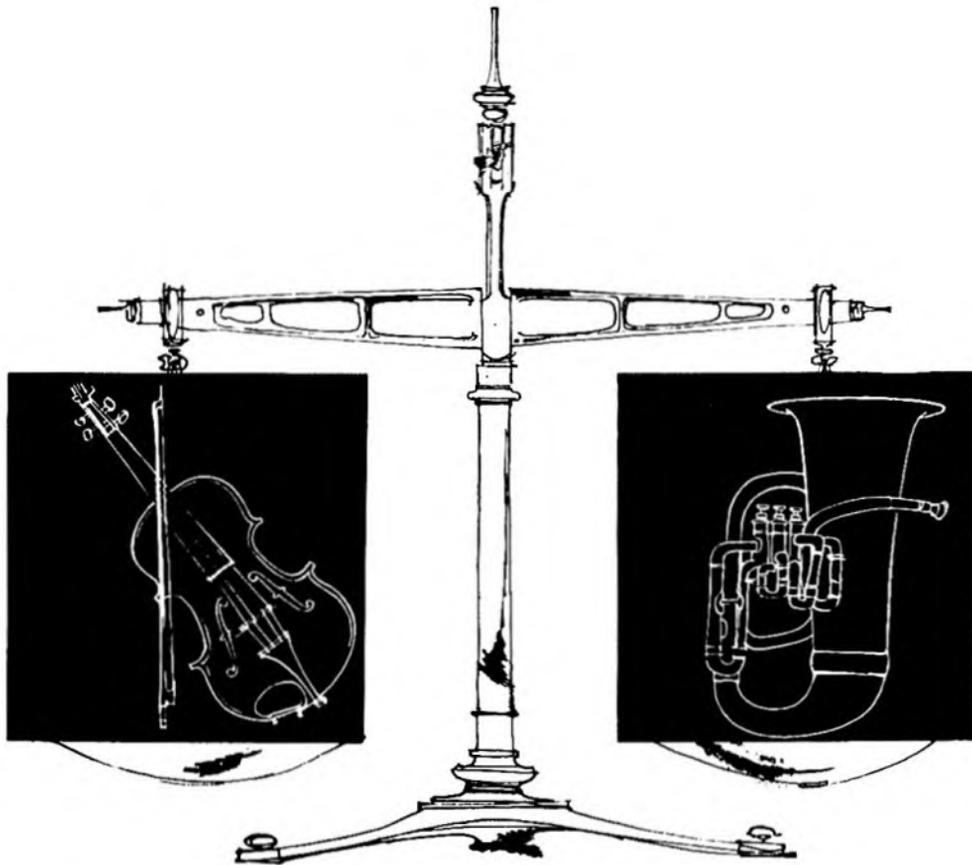
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