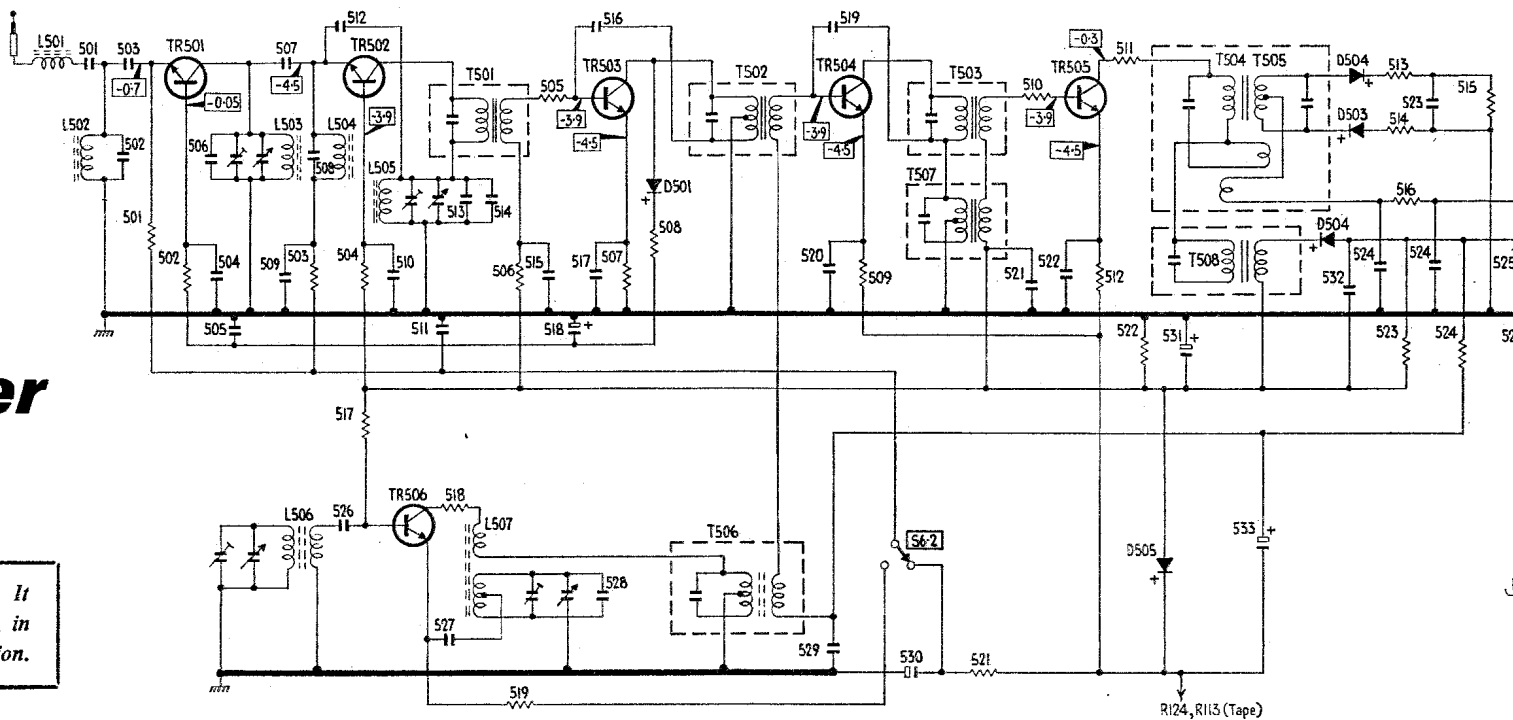
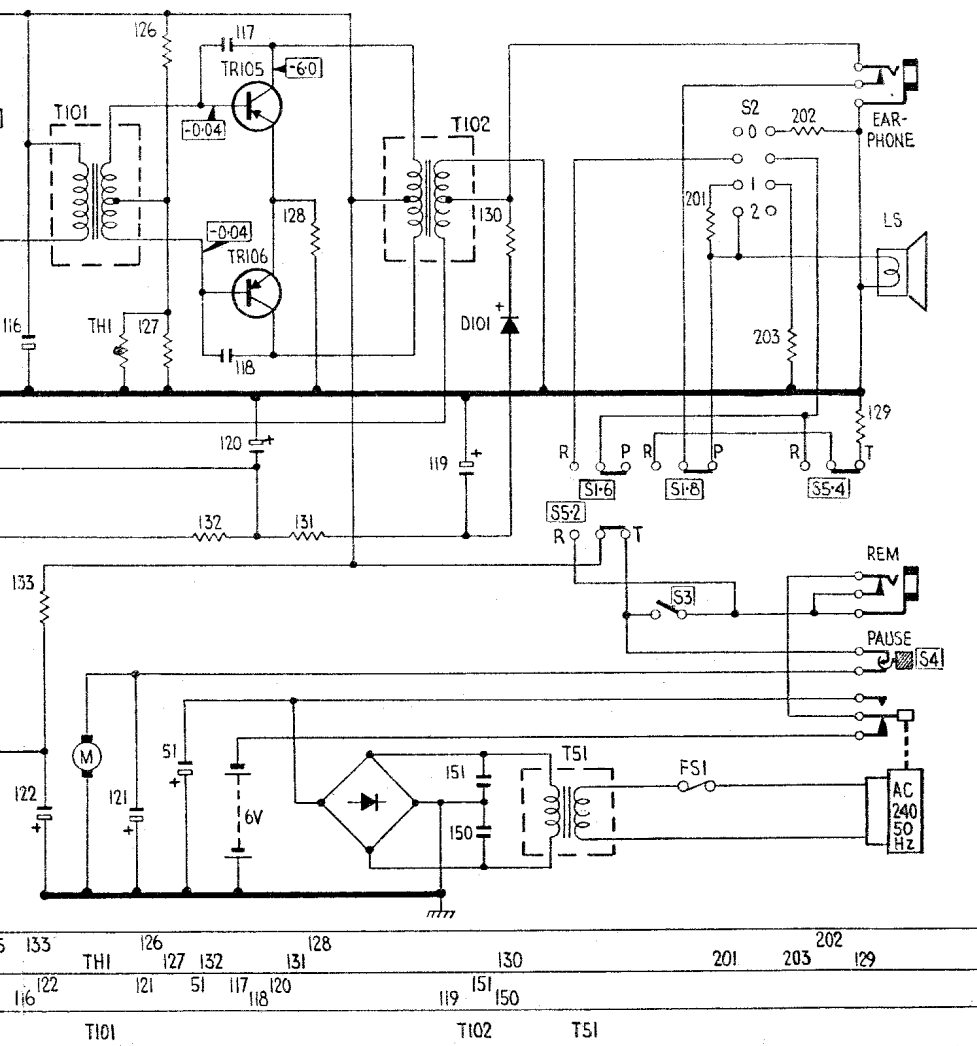


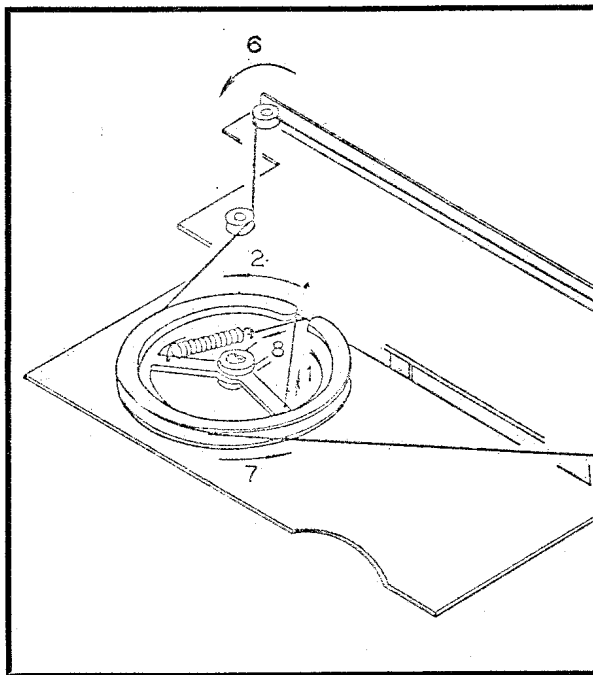
R	501 502	503 504 517	518 519 506 505	507 508	509	521 510	512 511 522	513 516	514 523	524 515							
C	501	503 505	506 504	507 509	508 512	510 511	513 527	514 515	516 517 516 528	520 529	519	530	521 522	531	533	532 524	523 524
L	501 502	503 506 504	505	T501 507	T506 T502	T507 T503	T504 T505 T508										



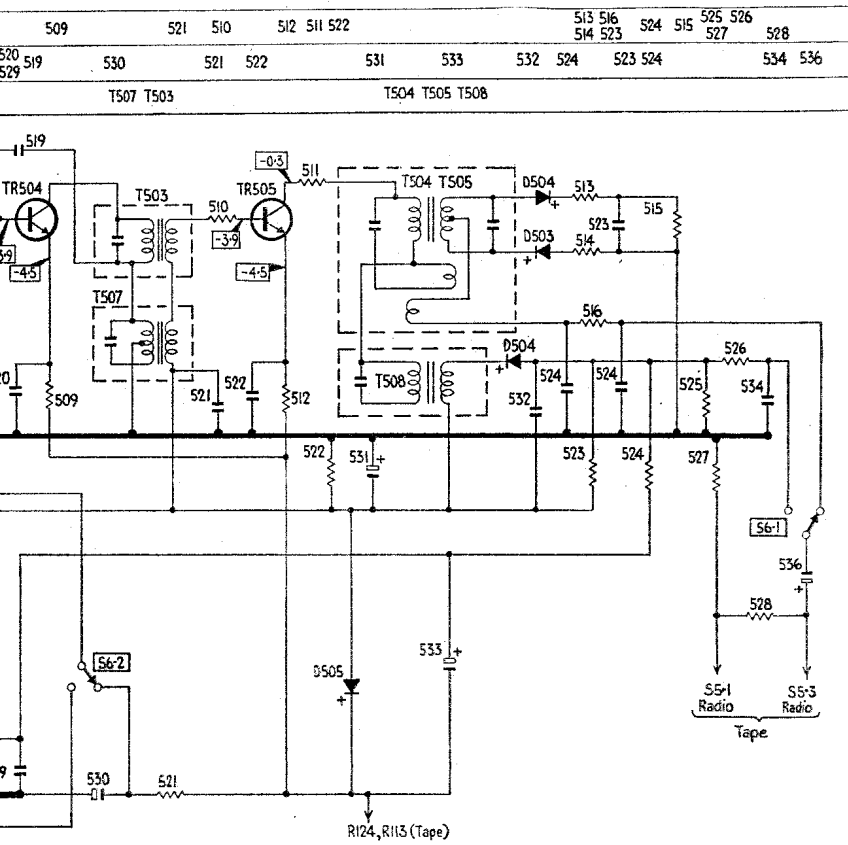
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RESISTORS					
R1	2k2		R117	1k	1C
R2	3k3		R118	22	1C
R3	220k		R119	2k2	1C
R101	470		R120	2k2	2C
R102	82k		R121	18k	1C
R103	12k		R122	330	2C
R104	2k2		R123	33	2C
R105	120		R124	150	2C
R106	22k		R125	3k3	2D
R107	3k3		R126	1k	2C
R108	3k3		R127	330	2C
R109	2k7		R128	0R5	2C
R110	1k8		R129	470	2D
R111	27k		R131	2k2	2D
R112	3k9		R132	10k	2D
R113	1k		R133	100	2D
R114	1k		R134	47k	2D
R115	5k6		R135	330k	2D
R116	22k		R136	68k	2D



133	TH1	126	127	132	128	130	201	203	129
122	121	51	117	118	120	119	151	150	
	T101					T102		T51	



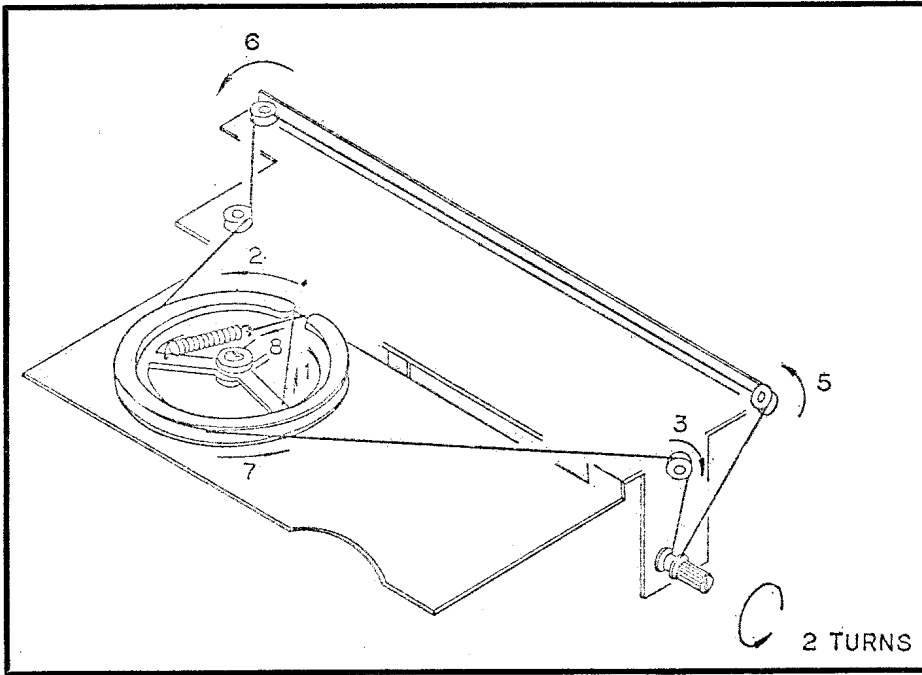
R518	220	1B
R519	1k5	2B
R521	100	2A
R522	2k7	2B
R523	12k	2B
R524	10k	2B
R525	100k	2B
R526	1k	2B
R527	680	2B
R528	220k	2B
Vol. Control	10k	—

CAPACITORS

C1	1μ	1D
C101	10μ/6.3	1D
C102	10μ/6.3	2D
C103	220μ/10	1D
C104	2n2	1D
C105	10μ/6.3	1D
C106	470p	1D
C107	33μ/6.3	1C
C108	10μ/6.3	1D
C109	6n8	1D
C110	47n	1D
C111	10μ/6.3	1D
C112	1000μ/10	2C
C113	33μ/6.3	1C
C114	10μ/6.3	1C
C115	33μ/6.3	2C
C116	330μ/10	2C
C117	10n	2C
C118	10n	2C
C119	47μ/6.3	2D
C120	220μ/6.3	2D
C121	330μ/10	2D
C122	220μ/50	2D
C123	220μ/50	2D
C150	10n	—
C151	10n	—
C501	10p	1A
C502	33p	1A
C503	1n	1A
C504	10n	1A
C505	10n	1A
C506	33p	1A
C507	3p	1A
C508	10p	1A
C509	330p	1A
C510	10n	1A
C511	10n	1A
C512	3p	1A
C513	18p	1B
C514	5p	—
C515	1p	2B
C516	10n	1B
C517	22n	1B
C518	10μ/6.3	1A
C519	1p	2B
C520	22n	2A
C521	22n	2B
C522	40n	2A
C523	10μ/6.3	2A
C524	10n	2B
C526	10n	2A
C527	10n	1B
C528	5p	1B
C530	100μ/10	2A
C531	33μ/6.3	2B
C532	22n	2B
C533	10μ/6.3	2B
C534	1μ/6.3	2B

RESISTORS

R1	2k2	—	R117	1k	1C	R137	47	2D
R2	3k3	—	R118	22	1C	R138	100	1D
R3	220k	—	R119	2k2	1C	R201	15	—
R101	470	1D	R120	2k2	2C	R202	8R2	—
R102	82k	1D	R121	18k	1C	R203	12	—
R103	12k	1D	R122	330	2C	R501	10k	1A
R104	2k2	—	R123	33	2C	R502	220	1A
R105	120	1D	R124	150	2C	R503	2k2	1A
R106	22k	1D	R125	3k3	2D	R504	3k3	1A
R107	3k3	1D	R126	1k	2C	R505	220	2B
R108	3k3	1C	R127	330	2C	R506	3R2	2A
R109	2k7	1D	R128	0R5	2C	R508	1k5	1A
R110	1k8	1D	R129	8R2	2D	R509	680	—
R111	27k	1D	R130	470	2D	R510	220	2B
R112	3k9	1D	R131	2k2	2D	R511	220	2B
R113	1k	1C	R132	10k	2D	R512	390	2A
R114	1k	1D	R133	100	2D	R514	1k	2A
R115	5k6	1C	R134	47k	2D	R515	10k	2A
R116	22k	1C	R135	330k	2D	R516	1k	2B
			R136	68k	2D	R517	3R3	2B



THE Murphy BA209, and similar model Dansette DR8405 are fully transistorised AM FM radio receivers combined with a cassette tape recorder. Power can be from either a 6V DC supply or from the mains; recording is via a self contained condenser microphone, and cassette operation is by five push buttons mounted on the top of the set.

Circuitry is contained on two boards; one for the power supply and one for the radio/amplifier section. Aerials comprise telescopic FM and ferrite rod for AM, volume is controlled by slider, and tuning by large rotary control on the edge of the set.

Cabinet is moulded plastic, with aluminium control panel and full width carry handle.

Mains. 240V AC 50Hz.

Battery. 4 × 1.5V cells.

Wavebands.

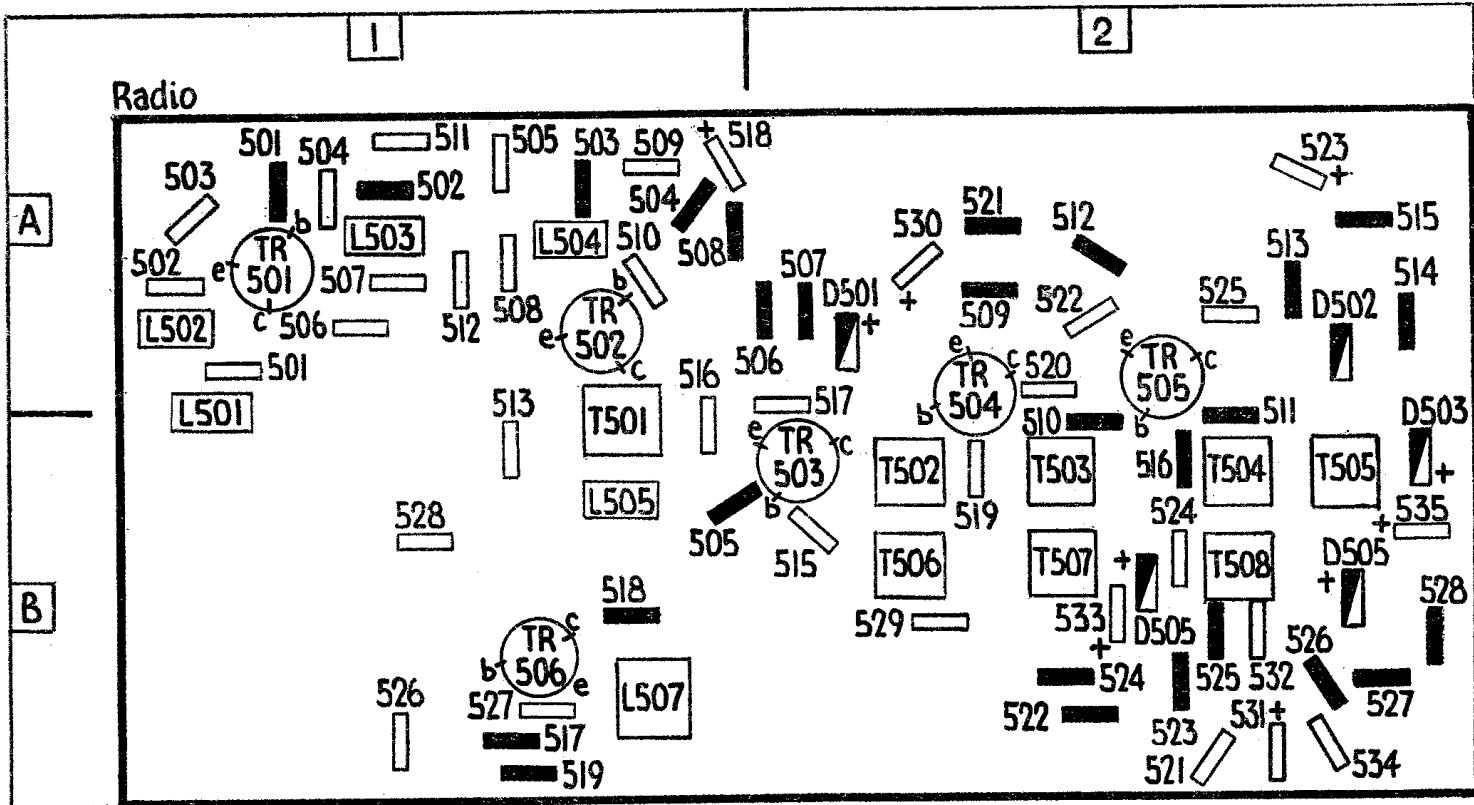
MW 183-576m (1640-520kHz).

FM 87-5-108MHz.

IF

AM 465kHz.

FM 10.7MHz.



Aerials.

FM telescopic.
AM ferrite rod.

Tape speed. 1½ ips (47.5mm).

Tracks. 2 track mono.

Frequency response. 150Hz-6,000Hz.

S N ratio. 30dB at 1kHz.

Wow and Flutter. 0.45 per cent.

Microphone. self contained.

Transistors.

- TR101 2SB303
- TR102 2SB186
- TR103 2SB186
- TR104 2SB186
- TR105 2SB405
- TR106 2SB405
- TR501 2SC829
- TR502 2SC829
- TR503 2SC829
- TR504 2SC829
- TR505 2SC829

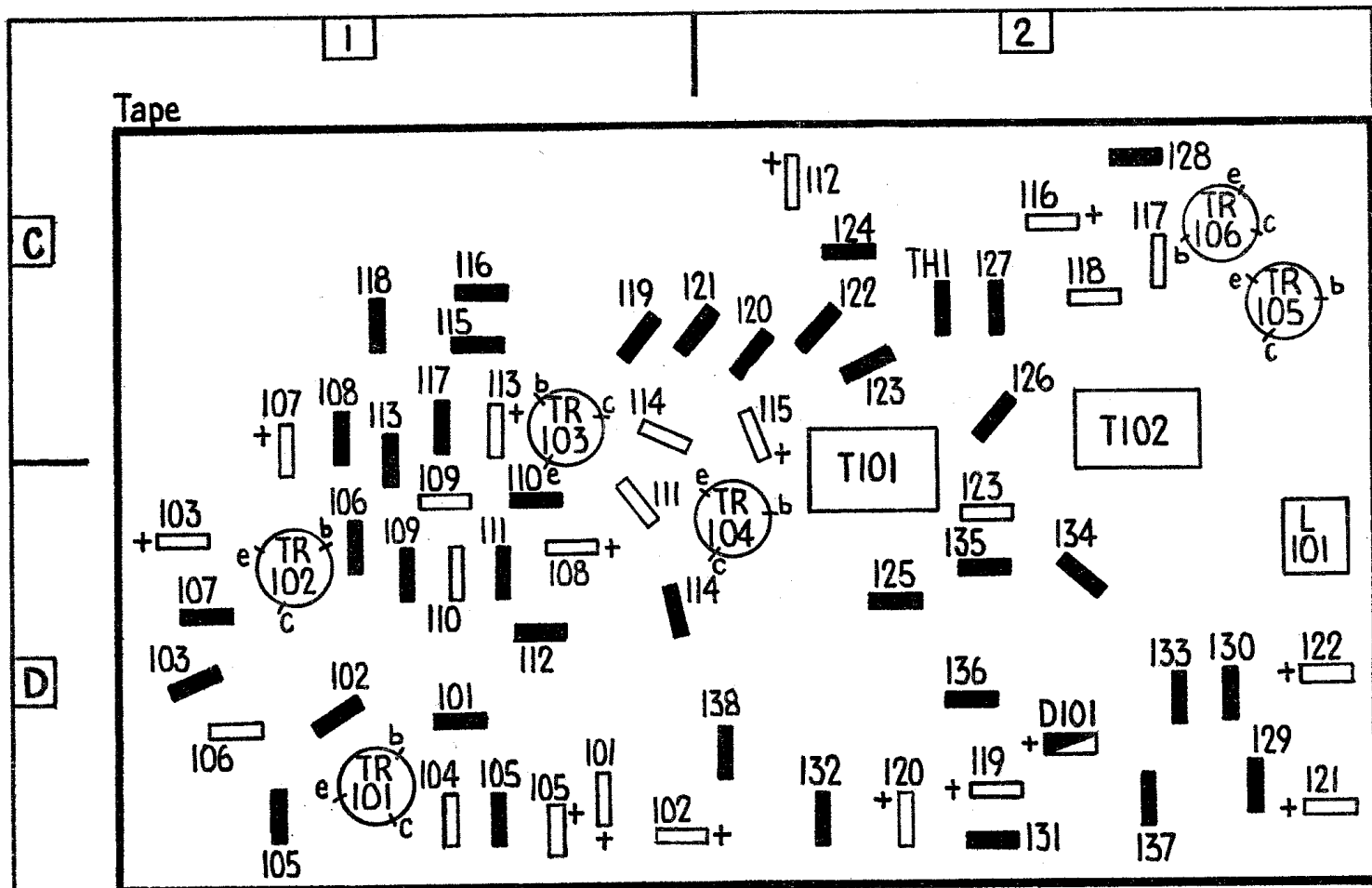
Diodes.

- D101 1S188
- D501 1S188
- D502 1S188
- D503 1S188
- D504 1S188
- D505 MV-13

Thermistor. TH1-SDT-0.4.

Cassette type. C30, C60, C90.

Speaker. 77mm(3in.) circular, 3ohms.



Output. 500mW at 10 per cent 7HD.

Outlets.

- (1) Earphone jack socket.
- (2) Remote control jack socket.

Inputs.

- (1) Microphone jack socket.
- (2) Auxillary jack socket.
- (3) Mains socket (power).

Fuses. F1 50mA.

Manufacturer. Rank Radio International, P.O. Box 596, Power Road, Chiswick, London, W4. Tel: 01-994 6491.

Service dept. RRI, Watton Road, Ware, Herts. Tel: Ware 3966.

Refer to the diagram below, (Fig. 1), for the removal of any section of this set.

Equipment Required.

- (1) AM/FM signal generator with 10.7 MHz marker signal.
- (2) FM Sweep generator.
- (3) Oscilloscope.
- (4) Coupling loop.
- (5) Multi-meter or Value voltmeter and DC milliammeter.

AM IF.

Couple signal generator to loop around ferrite rod, output meter across speaker, set Tape/record switch to radio the FM/AM switch to AM and the tuning pointer to the LF end of the scale.

Now set generator to 465kHz modulated

30 per cent at 400Hz and align the IF transformers T506 (yellow), T507 (yellow) and T508 (black) for maximum output.

AM RF.

Connect equipment as for the IF adjustments and carry out the following procedures:

Sig. gen. frequency	Tuning setting	Adjust for max. output
510kHz 1650kHz	LF end HF end	L507(Red) AM osc. trimmer
600kHz 1400kHz	600kHz 1400kHz	L506 AM aerial trimmer

Repeat operations 1-4 for best results.

FM IF.

Switch to FM and connect sweep generator and 'scope as shown in Fig. 2. Detune T505 (blue).

Set sig. generator to 10.7MHz, tuning capacitor to LF end and adjust T501 (violet), T502 (Orange), T503 (Green) and T504 (Pink) for max. and symmetrical response.

Finally adjust T505 (blue) for the symmetry of 'S' shaped curve.

Fig. 2

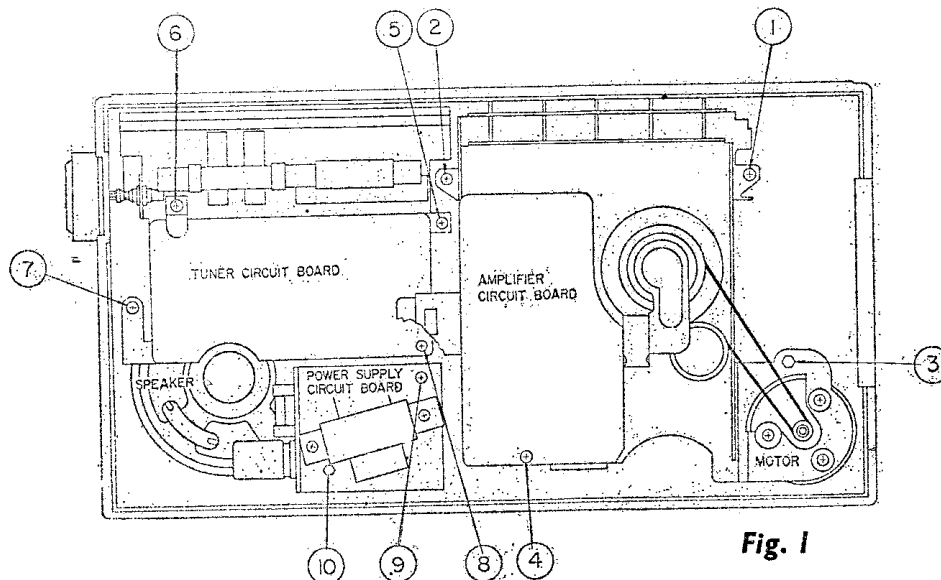
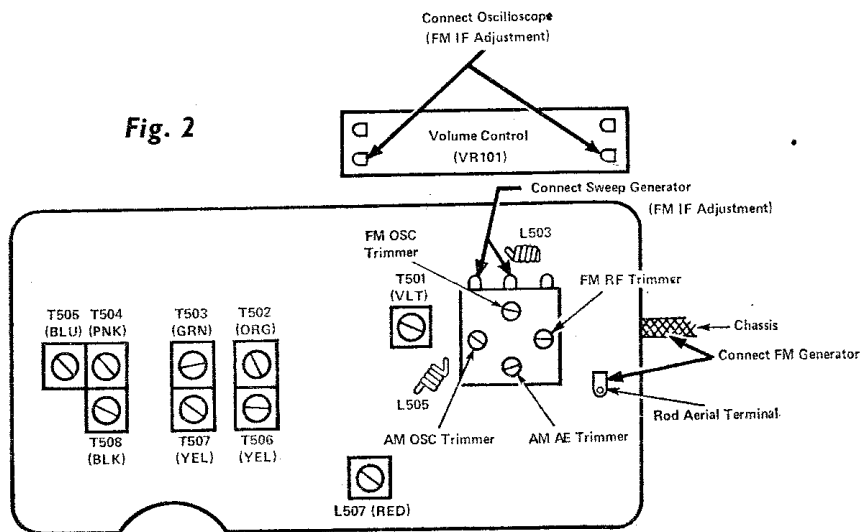


Fig. 1

FM RF.

Connect the FM signal generator to the telescopic aerial and the output meter across the table shown below:

Sig. gen. frequency	Tuning setting	Adjust for max output
87.5MHz	LF end	L505 (FM osc.)
109MHz	HF end	FM osc. trimmer
90MHz	76MHz	L503 (FM RF)
106MHz	90MHz	FM FR trimmer

- 1 Chassis Assy.—less Reel Table
- 2 Rewind Slider Assy. with Roller
- 3 Spring—Rewind and Eject Slider (A)
- 4 Fast Forward Lever Assy.
- 5
- 6
- 7
- 8 Record Slider
- 9 Spring (G)
- 10 Brake and Leaf Switch Slider
- 11 Spring (F)
- 12 Friction Lever Assy.
- 13 Spring (E)
- 14 Spring (F)
- 15 Leaf Switch
- 16 Bearing—Capstan Shaft
- 17 Cassette Brace
- 18 Head and Pressure Roller Slider Assy.
- 19 Lever—Shut-off
- 20 Spring—Shut-off Lever
- 21 Pressure Roller Assy.
- 22 Record/Playback Head
- 23 Spring—Record/Playback Head
- 24 Erase Head
- 25 Clamp, Lead Wire—on Erase Head
- 26 Spring—Head and Pressure Roller Slider
- 27 Lever—Erase Foolproof
- 28
- 29 Reel Table Assy.
- 30 Cap-Reel Table
- 31 Shut-off Slider Assy.
- 32 Spring (H)—Shut-off Slider
- 33 Flywheel
- 34 Retainer—Flywheel
- 35 Felt-Capstan Shaft
- 36 Motor
- 37 Bracket—Motor Mounting
- 38 Rubber Mounting—Motor
- 39 Spacer—Rubber Motor Mounting
- 40 Drive Belt
- 41 Push Button Assy.—incl. Knobs
- 42 Eject Slider
- 43 Bracket—Amplifier Mounting (A)—Heat sink attached
- 44 Bracket—Amplifier Mounting (B)
- 102 Loudspeaker
- 108 Clamp Cable
- 116 Telescopic Aerial
- 125 Condenser Microphone—EM35A—Built-in-mike
- 126 Jack Sockets Mounting Plate—Moulded
- 128 A.C. Socket Mounting Plate—Moulded
- 129 Mains Socket
- 130 Upper Trim, Control Legends.
- 131 Bracket—Power Supply P.C. Board
- 132 Push Switch—PAUSE
- 152 Holder—Ferrite Aerial
- 153 Slide Switch—Monitor.—S2
- 153 Slide Switch—FM/AM and TAPE/RADIO
- 154 Tuning Shaft Assy.
- 157 Insulator—over tape and wavechange switch
- 158 Scale
- 160 Pointer
- 162 Drum-Tuning
- 163 Pulley
- 164 Washer, between Scale and Chassis
- 201 Washer—Vinyl (D)
- 203 Washer, Spring
- 204 Washer, Spring
- 206 Washer, Vinyl
- 207 Nut Plate-20x15—for Handle Shaft
- 210 Washer, Plain
- 211 Circlip
- 212 Circlip
- 213 Circlip On Tuning Shaft
- 223 Screw, Pan
- 224 Screw—Azimuth Adjustment
- 226 Screw—Motor Mounting
- 227 Screw—Erase Head
- 230 Screw, Pan, Black, Back Fixing
- 232 Screw, Oval-Black, Handle Retainers
- 233 Screw, Tapping, for Pivots
- 234 Screw, Tapping, Loudspeaker Clamps
- 239 Screw, Drum Fixing
- 229 Screw, Fixing Aerial Holders
- 241 Nut
- 242 Screw, Countersunk

