



REGENTONE Service

MODELS

ARG 79, ARG 89, A 155
173FM (RADIO SEC.)

DESCRIPTION.

The receiver is a four wave-band model, with facility for use as gram. amplifier, consisting of a seven valve circuit for use on A.C. mains only. The chassis incorporates an internal ferrite rod aerial, for use on Medium and Long wave-bands, and also a tuning indicator operative on all bands.

WAVEBANDS.

Long Wave 150— 300 Kc/s.	2000—1000 metres.
Medium Wave 545—1600 Kc/s.	550— 187 metres.
Short Wave 6—17.5 Mc/s.	50— 17 metres.
Ultra Short Wave (F.M.) 87— 100 Mc/s.	3.45— 3 metres.
A.M. I.F. =	470 Kc/s.	F.M. I.F. = 10.7 Mc/s

FITTED TERMINALS.

At rear of chassis, reading from right to left are the following sockets:—

1. EXT. L.S.
2. P.U.
3. TEST PANELS (Pts. A., B. and C. on circuit)
4. DI-POLE AERIAL.
5. STANDARD A.M. AERIAL.
6. MAINS SELECTOR PANEL.
7. GRAM. MOTOR SUPPLY.

OPERATING VOLTAGES.

200-225V. and 226-250V. 50-100 c.p.s. A.C. Mains.

CONTROLS.

1. L.H. concentric control—
outer—tone control, max. treble when fully clockwise.
inner—volume control, on/off switch.
2. R.H. concentric control—
outer—F.M. tuning.
inner—A.M. tuning.
3. Push buttons—five-way reading L. to R.
L.W. M.W. S.W. U.S.W. GRAM.

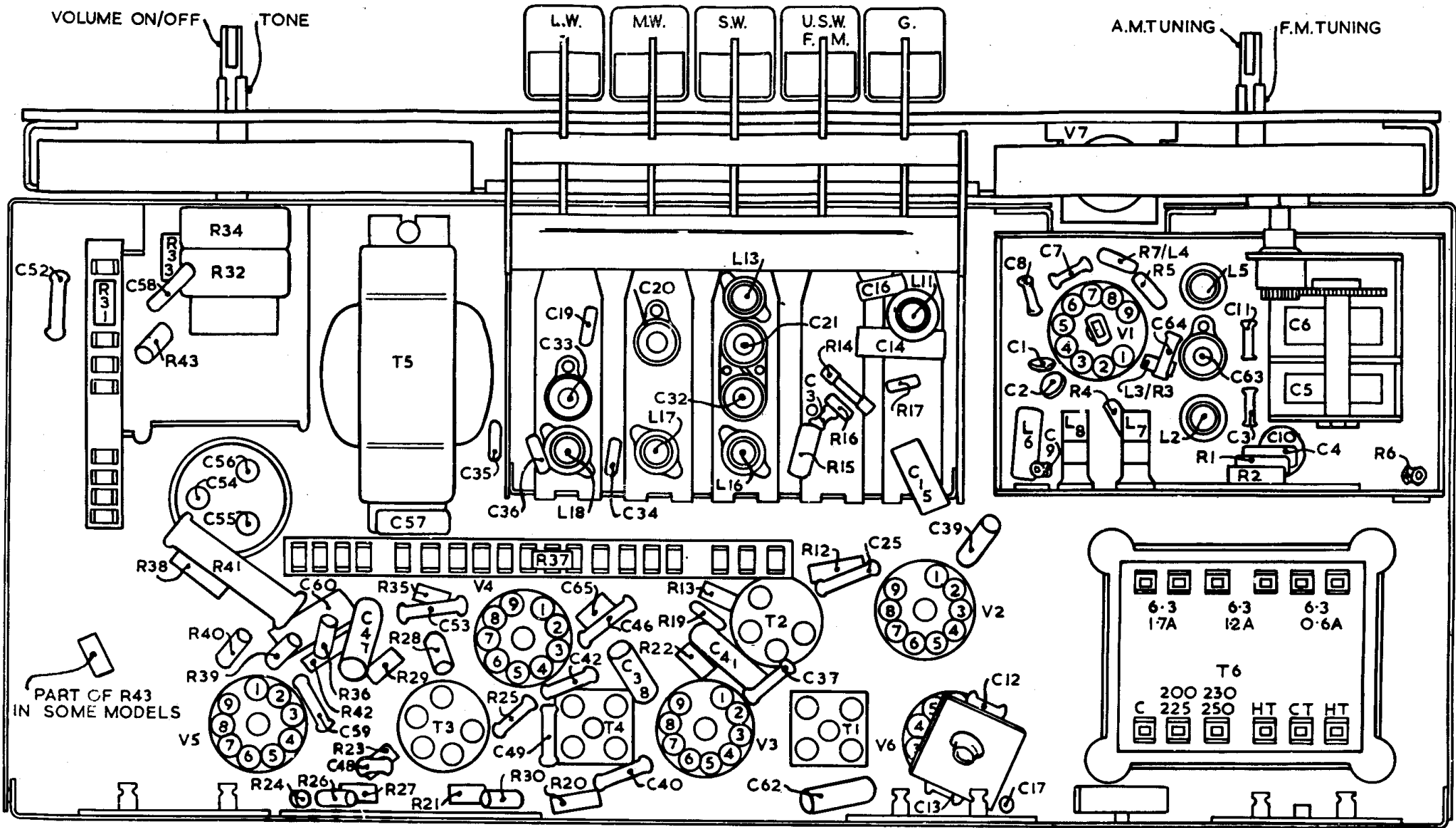
VALVE COMPLEMENT.

V1	ECC 85	Double Triode.	U.S.W. R.F. Amplifier and Oscillator/Mixer.
V2	ECH 81	Triode Heptode.	A.M. Frequency Changer and F.M. I.F. Amplifier.
V3	EF 85	R.F. Pentode.	I.F. Amplifier.
V4	EABC 80	Triple Diode Triode.	F.M. Discriminator, A.M. Detector, and A.F. Amplifier.
V5	EL 84	A.F. Pentode.	Output Pentode.
V6	EZ 80	Double Diode.	Full Wave Rectifier.
V7	EM 80	Tuning Indicator.	—

REPLACEMENT PARTS

079/0001	Bush Drive Spindle	R.125566	Pulley Idler	EX.500348	Coil S.W. Ae.
130555	Cond. 100pF 2% (Side wires)	801/0001	Spindle Drive Inner	349	" S.W. Osc.
213/0004	" 4μF 100 V.W.	801/0002	" " Outer	350	" M.W. Osc.
215/0001	" 32.32.8 μF 350 V.W.	820/0001	Switch P.B. Unit	351	" L.W. Osc.
213/0003	" 25 μF 12 V.W.	905/0001	Trans Mains	352	" I.F. Filter
217/0001	" 2 Gang A.M. Tuning	908/0001	" O.P.	353	Core Ferrite
204/0502	Coil L.W. Ae.	901/0001	Tuner Unit F.M.	354	" H.F. Iron
204/0503	" M.W. Ae.	620/0006	Panel Dipole	A.155 only	
206/0008/2	" 2nd I.F.T. F.M.	620/0007	" Test Point	417/0001/1	Frame L.H.
206/0008/3	" 3rd " F.M.	620/0003	" Mains Adj.	417/0002/1	" R.H.
207/0002/1	" 1st " A.M.	620/0009	" P.U. Ext. L.S.	R.190561	Speaker
207/0002/2	" 2nd " A.M.	620/0005	" Tuner Unit Mtg.	ARG.79 only	
197/0004	Clip Inner Drive Spindle	620/0001	" Insulating.	375/0001/1	Escutcheon Radio
197/1001	" Outer " "	R.157500	Lamp Holder	375/0002/1	" Gram.
230/0001	Core rod ae.	520/0001	Knob Inner	757/0001/A	Scale Glass
324/0001	Drum Drive	520/0002	" Outer	ARG.89 only	
R.138501	Plug 2 Pin Shorting	206/0008/2	Coil 2nd I.F.T. F.M.	R.172531	Escutcheon Gram. Light
654/0004	Pointer F.M.	206/0008/3	Coil 3rd I.F.T. F.M.	A.155 & ARG.89	
654/0003	Pointer A.M.	217/0003	2 Gang Cond. F.M.	757/0008/A	Scale Glass
651/0002/2	Pot. Dual Vol. & Tone			ARG.79 & ARG.89	
				790/0005	Speaker

077/0002/3/4

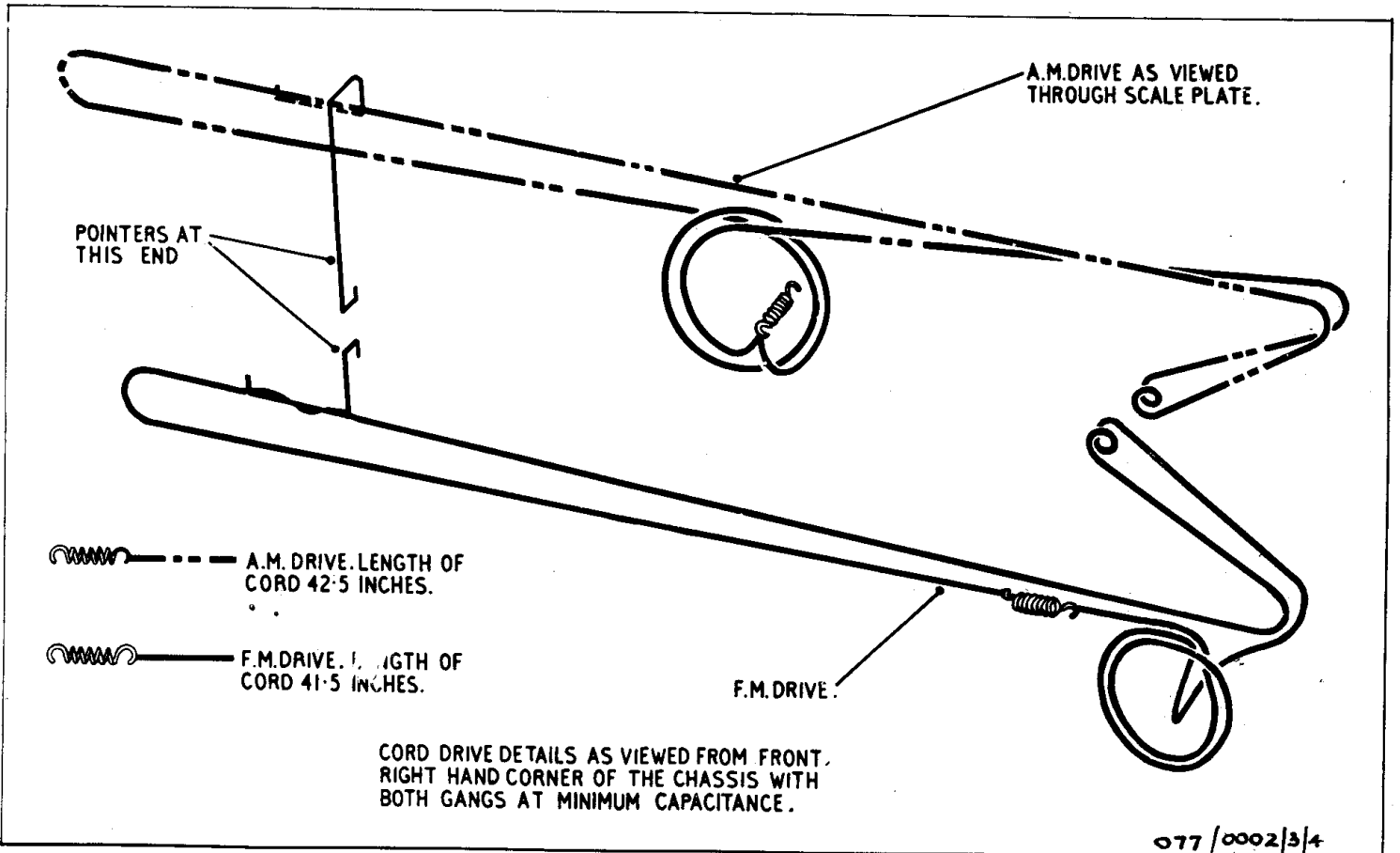
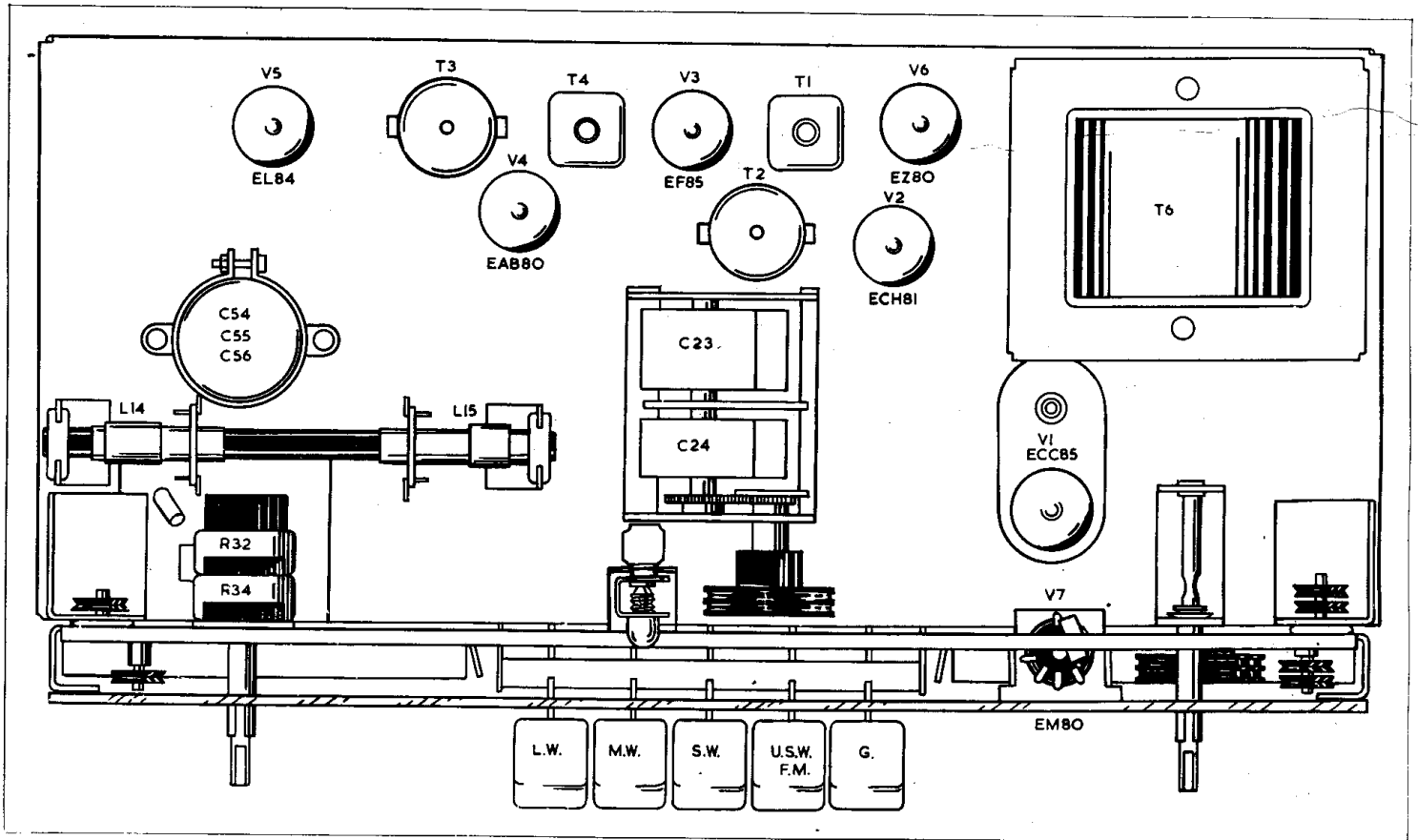


EXT. L.S. & P-U

TEST PANEL

A.E. & DIPOLE

MAINS SELECTOR



TEST AND ALIGNMENT INSTRUCTIONS

1. I.F. ALIGNMENT.

1. 470 Kc/s.

- (a) With wobulator set to 470 Kc/s (check by internal calibration) connect H.F. signal input between point E on circuit and chassis with receiver switched to M.W. and tuned to 1600 Kc/s.

Connect wobulator input lead between point A (via test panel at rear of receiver) and chassis.

- (b) Tune I.F. Transformer cores in following order:—
L.28. L.27. L.20. L.19.

The cores are tuned for max. signal and symmetry of waveform, as shown in curve No. 4 relating to figures given in Specification Para. 5.

- (c) Repeat (b) until best result is obtained.

2. 10.7 Mc/s.

- (a) With wobulator set to 10.7 Mc/s. (check by internal calibration) with A.M. signal, connect H.F. input between point E and chassis, with receiver switched to F.M. band, and tuned to 92 Mc/s.

Connect wobulator input lead between point B and chassis (via test panel at rear of receiver).

- (b) Tune I.F. Transformer cores in following order:—
L.26. L.24. L.23. L.21. L.22.

Core L.26 is tuned for centre frequency of curve. Core L.24 is tuned for max. amplitude.

Cores L.23, L.21, L.22 are tuned for symmetry, as shown in curve No. 6.

- (c) Repeat (b) until best result is obtained.

- (d) Disconnect condenser C47 and connect wobulator input lead between point C and chassis (via test panel at rear of receiver). Switch wobulator to C.W. signal. Check that curve obtained is of form shown in curve No. 5 relating to figures given in Specification Para. 6. If necessary adjust cores L.23, 21, 22 slightly, in that order, to obtain symmetry.

- (e) Change the H.F. input lead to point F (alternately by induction with insulated probe inserted through cover of F.M. tuner unit) and adjust cores L.8 and L.7 to give a similar curve to that obtained in (d), with max. gain.

- (f) Re-connect condenser C.47.

NOTE.—It is essential that the bandwidth of this I.F. amplifier system is maintained.

2. A.M. R.F. ALIGNMENT.

- (a) M.W. (1) Connect R.F. supply via standard D.A. to receiver. Switch to M.W. and set receiver to 575 Kc/s. Adjust core L.17 for maximum output.

(2) Set receiver to 1500 Kc/s and adjust trimmer C33 for maximum output.

(3) Feed receiver with 470 Kc/s signal and adjust L11 for minimum output.

(4) Repeat (1) and (2) until no further adjustment is necessary.

(5) Set receiver to 575 Kc/s and adjust position of L14 on ferrite rod for maximum output.

(6) Set receiver to 1500 Kc/s, and adjust trimmer C.20 for maximum output.

(7) Repeat (4) and (5) until no further adjustment is necessary.

(8) Check alignment.

(9) Check sensitivity against minimum pass level standards.

(10) Seal L.14 to rod.

- (b) L.W. (1) Set receiver to 225 Kc/s and adjust core L.18 for maximum output.

(2) Adjust position of L.15 on ferrite rod for maximum output.

(3) Check calibration.

(4) Check sensitivity against minimum pass level standards.

(5) Seal L.15 to rod.

- (c) S.W. (1) Set receiver to 6 Mc/s and adjust core L.16 for maximum output.

(2) Set receiver to 15 Mc/s and adjust trimmer C.32.

(3) Repeat (1) and (2) until no further adjustment is necessary.

(4) Set receiver to 6 Mc/s and adjust core L.13 for maximum output.

(5) Set receiver to 15 Mc/s and adjust trimmer C21 for maximum output. If necessary "rock" the gang to obtain maximum output.

(6) Repeat (4) and (5) until no further adjustment is necessary.

(7) Check alignment.

(8) Check sensitivity against minimum pass level standards.

3. F.M. R.F. ALIGNMENT.

- (a) Connect generator to receiver via 300Ω matching pad. Set receiver and generator to 94 Mc/s.

(b) Adjust core L.5 for maximum output. (Centre peak.)

(c) Disconnect generator, connect diode voltmeter to point F. by means of probe, and adjust trimmer C.63 for minimum reading.

(d) Repeat (a) and (b).

(e) Adjust core L.2 for maximum output.

(f) Check calibration.

(g) Check sensitivity against minimum pass level standards.

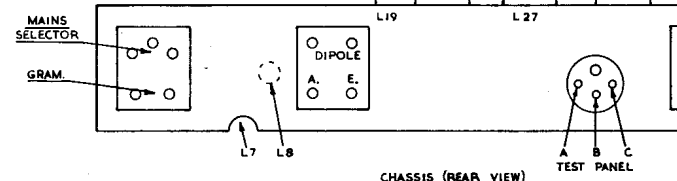
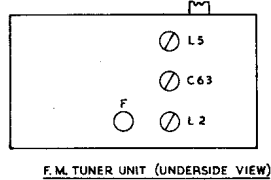
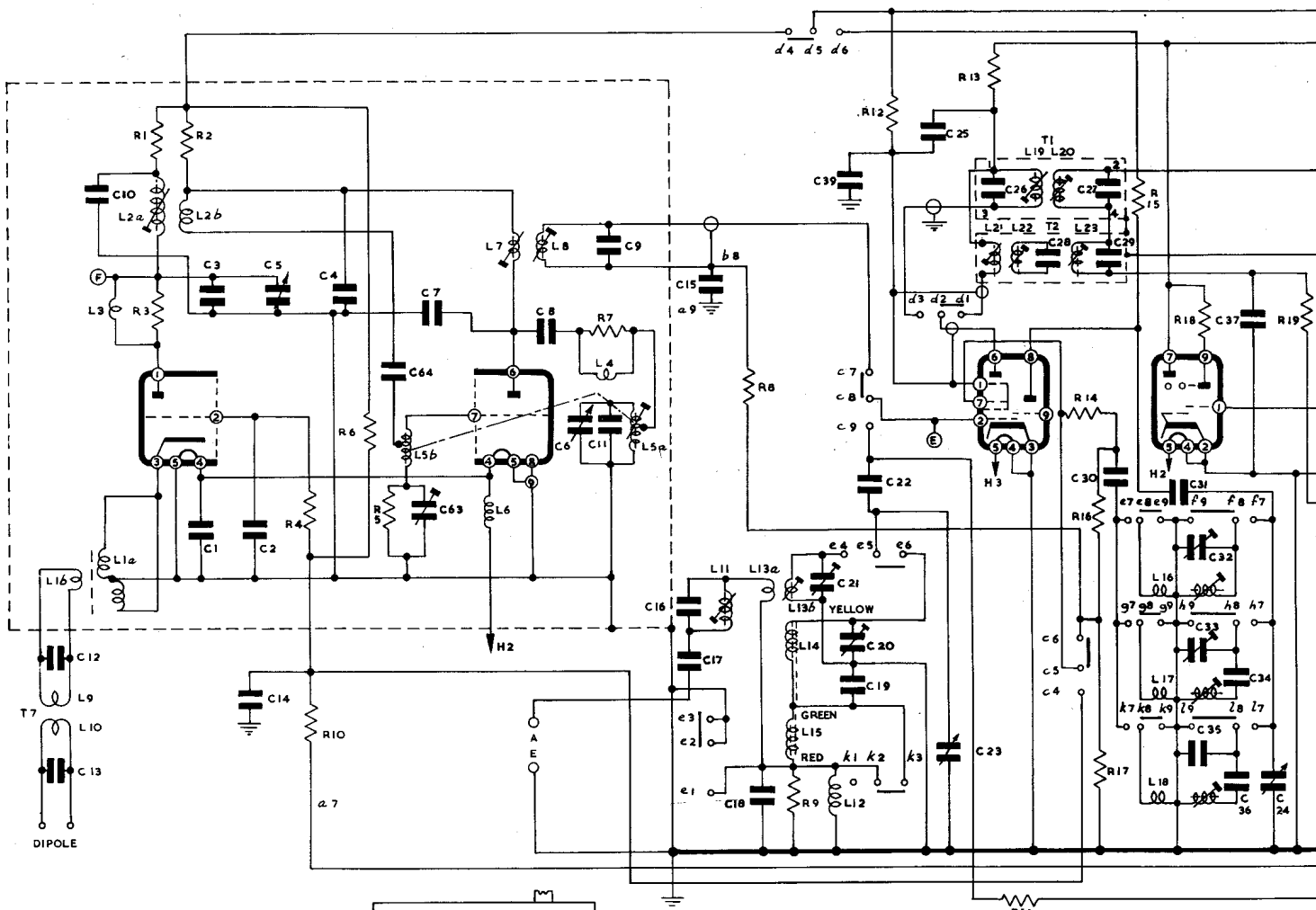
NOTE.—All cores are to be coated with Rocol No. 8 core locking compound before alignment. No further sealing of cores or trimmers is necessary. L.14 and L.15 to be fixed to rod with Sellotape.

TUNER UNIT

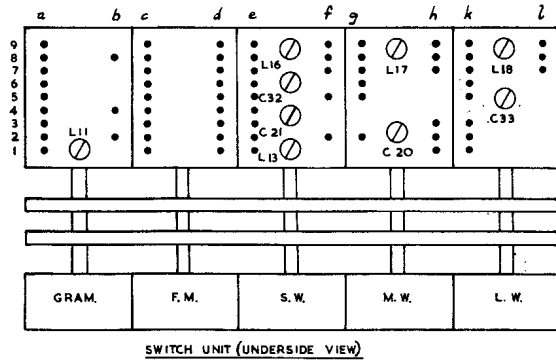
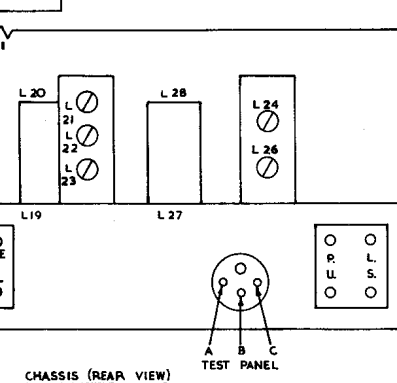
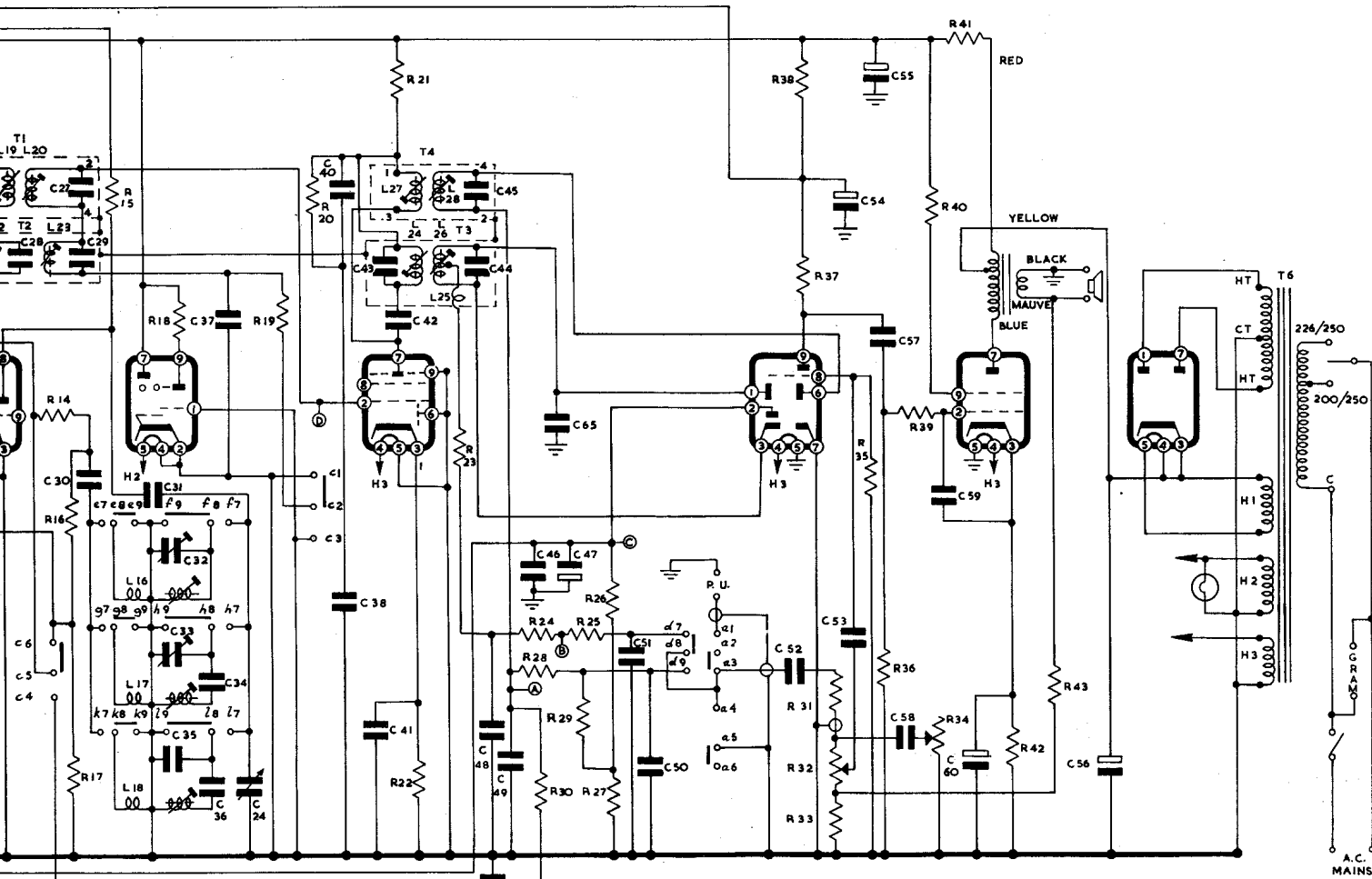
Part No.	Value	% Tol.	W.V.
EX.500357	60	2	500V.
358	10	1/2P	"
359	18	1/2P	"
361	5000	20	"
362	1000	20	"
363	15	5	"
364	35	5	"
365	500	5	"
366	3-15p	Trimmer	"
367	Coil Ae. F.M.		
368	" Osc. "		
369	" I.F. "		
370	" Ae. Tuning F.M.		
371	Core H.F.		
372	" H.F. Iron		
373	"		
374	Choke 100Ω		

SWITCH UNIT

Part No.	Value	% Tol.	W.V.
EX.500338	1000p	10	125
339	170p	10	"
340	130p	2 1/2	"
341	200p	2 1/2	"
342	385p	2 1/2	"
343	5000p	10	"
344	.05	20	"
345	2-10p	Trimmer	"
346	2x10-45p	"	"
347	6-30p	"	"



NO.	COMPONENT	NO.	COMPONENT	NO.	COMPONENT	NO.	COMPONENT	NO.	COMPONENT	NO.	COMPONENT	NO.	COMPONENT	NO.	COMPONENT	NO.	COMPONENT	NO.	COMPONENT
R1	20K Ω 1W	R21	1K Ω 1/4 W 10%	R41	1.5K 2W 10%	C1	.0014F 500V	C21	10-45pF	C41	.05μF 350V	C61		L1	FM AE COIL	L21	2ND FM IFT PRIM.	V1	ECC 85
R2	10K Ω 1W	R22	220 Ω 1/4 W 10%	R42	180 Ω 1/2 W 10%	C2	.0014F 500V	C22	170pF 125V	C42	100pF 5% 750V	C62	.05μF 350V	L2	FM RF COIL	L22	2ND FM IFT COUP.	V2	ECH 81
R3	100 Ω 1/4 W	R23	39 Ω 1/4 W 10%	R43	1.2K 1/4 W 10%	C3	10pF 500V	C23	500pF	C43	15pF 500V	C63	2-10pF	L3	VHF CHOKE	L23	2ND FM IFT SEC.	V3	EF 85
R4	500K Ω 1/4 W	R24	10K Ω 1/4 W 10%			C4	500pF 500V	C24	440pF	C44	50pF 125V	C64	60pF 500V	L4	VHF CHOKE	L24	3RD FM IFT PRIM.	V4	EAB 80
R5	500K Ω 1/4 W	R25	47K Ω 1/4 W 10%			C5	10-5pF	C25	5000pF 20% 350V	C45	100pF 2%	C65	12-5pF 10%	L5	FM OSC COIL	L25	3RD FM IFT COUP.	V5	EL 84
R6	3M Ω 1/4 W	R26	22K Ω 1/4 W 10%			C6	10-5pF	C26	100pF 2%	C46	.014F 20% 350V			L6	HEATER CHOKE	L26	3RD FM IFT DIS.	V6	EZ 80
R7	100 Ω 1/4 W	R27	10K Ω 1/4 W 10%			C7	10pF 500V	C27	100pF 2%	C47	.44F 100V			L7	1ST FM IFT PRIM.	L27	2ND AM IFT PRIM.	V7	EM 80
R8	500K Ω 1/4 W	R28	100K Ω 1/4 W 10%			C8	15pF 500V	C28	35pF 125V	C48	500pF 20% 350V			L8	1ST FM IFT SEC.	L28	2ND AM IFT SEC.		
R9	10K Ω 1/4 W	R29	220K Ω 1/4 W 10%			C9	10pF 500V	C29	15pF 500V	C49	100pF 5% 750V			L9	FM AE TRANS SEC.				
R10	300K Ω 1/4 W	R30	12M Ω 1/2 W 10%			C10	.005pF	C30	100pF 500V	C50	50pF 125V			L10	FM AE TRANS PRIM.				
R11	1M Ω 1/4 W	R31	100K Ω 1/4 W 10%			C11	18pF 500V	C31	500pF 500V	C51	.0014F 125V			L11	AM IF TRAP				
R12	33K Ω 1/2 W 10%	R32	1/2 M Ω LOG			C12	40pF 500V	C32	10-45pF	C52	.014F 350V			L12	MOD CHOKE				
R13	1K Ω 1/4 W 10%	R33	39 Ω 1/4 W 10%			C13	40pF 500V	C33	6-30pF	C53	.014F 350V			L13	SW AE COIL				
R14	200 Ω 1/4 W	R34	1/2 M Ω LOG			C14	.05μF 125V	C34	385pF	C54	B-4 F 350V			L14	MW AE COIL				
R15	30K Ω 1 W	R35	5-6 M Ω 1/4 W 10%			C15	.05μF 125V	C35	130pF	C55	324F 350V			L15	LW AE COIL				
R16	100K Ω 1/4 W	R36	560K Ω 1/4 W 10%			C16	.0014F 125V	C36	200pF	C56	324F 350V			L16	SW OSC COIL				
R17	50K Ω 1/4 W	R37	220K Ω 1/4 W 10%			C17	500pF 500V	C37	5000pF 20% 350V	C57	.05μF 350V			L17	MW OSC COIL				
R18	470K Ω 1/4 W 10%	R38	2.2K Ω 1/4 W 10%			C18	.0054F 125V	C38	3000pF 10% 500V	C58	5000pF 350V			L18	LW OSC COIL				
R19	47K Ω 1/4 W 10%	R39	47K Ω 1/4 W 10%			C19	.65pF 125V	C39	1800pF 10% 500V	C59	100pF 5% 750V			L19	1ST AM IFT PRIM.				
R20	82K Ω 1/4 W 10%	R40	39 Ω 1/4 W 10%			C20	2-10pF	C40	5000pF 20% 350V	C60	254F 12V			L20	1ST AM IFT SEC.				



- CODING.**
- a 7 WHITE
 - c 2 WHITE
 - e 3 BLACK
 - e 9 BLACK
 - c 8 GREEN
 - d 7 MAUVE
 - d 9 MAUVE
 - a 8 PINK
 - ae C16-C17 GREY

NO.	COMPONENT	NO.	COMPONENT
21	2ND FM IFT PRIM.	V1	ECC 85
22	2ND FM IFT COUP.	V2	ECH 81
23	2ND FM IFT SEC.	V3	EF 85
24	3RD FM IFT PRIM.	V4	EAB 80
25	3RD FM IFT COUP.	V5	EL 84
26	3RD FM IFT DIS.	V6	EZ 80
27	2ND AM IFT PRIM.	V7	EM 80
28	2ND AM IFT SEC.		
T1	1ST AM IFT		
T2	2ND FM IFT		
T3	3RD FM IFT		
T4	2ND AM IFT		
T5	OUTPUT TRANS.		
T6	MAINS TRANS.		
T7	FM AE TRANS.		

VOLTAGE & CURRENT TABLE

	ANODE		SCREEN		CATHODE		GRID	
	V	mA	V	mA	V	mA	V	mA
V1 OSC.	150							
V1 AMR	90							-0.3
V2 P	230	2-3	65	4				
V2 T	105	4						
V3	220	7-5	9.5	1-5	1-9	9		
V4	70	.6						
V5	260	36	235	4-5	7-5	40-5		
V6	225	46			280	75		
V7	235							
	140							

**FM/AM RECEIVER
315/0002**

READINGS WITH AVO MODEL 8. 230V. INPUT. V/C MINIMUM. AE. SHORTED
 RESERVOIR CURRENT = 85 mA.
 POWER CONSUMPTION = 220 mA AC.