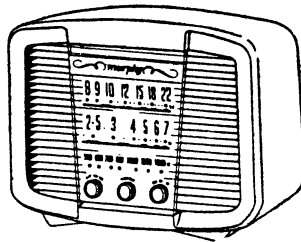


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# MURPHY SERVICE INSTRUCTIONS



## SPECIFICATION

MAINS SUPPLY:		90-160 and 190-250 volts a.c., 40-100 c/s.
CONSUMPTION:		38 watts approximately
WAVE BANDS:	M:	525-1610 Kc/s (571-186 m.)
	S1:	2.16-7.4 Mc/s (139-40.5 m.)
	S2:	7.3-22 Mc/s (41.1-13.6 m.)
INTERMEDIATE FREQUENCY:		470 Kc/s
VALVES:	Ediswan or Mazda:	10C1, 10F9, 10LD3, 10P14, U404
SCALE LAMP:		6.5 volts, 0.3 amp., m.e.s.
LOUDSPEAKER:	Type:	5 in. (12.7 cm.) dia., permanent magnet
	Impedance:	3 ohms
CABINET DIMENSIONS:		10 in. (25.4 cm.) high, 14½ in. (36.8 cm.) wide, 6½ in. (17.1 cm.) deep
WEIGHT:		12 lb. (5.5 Kg.)

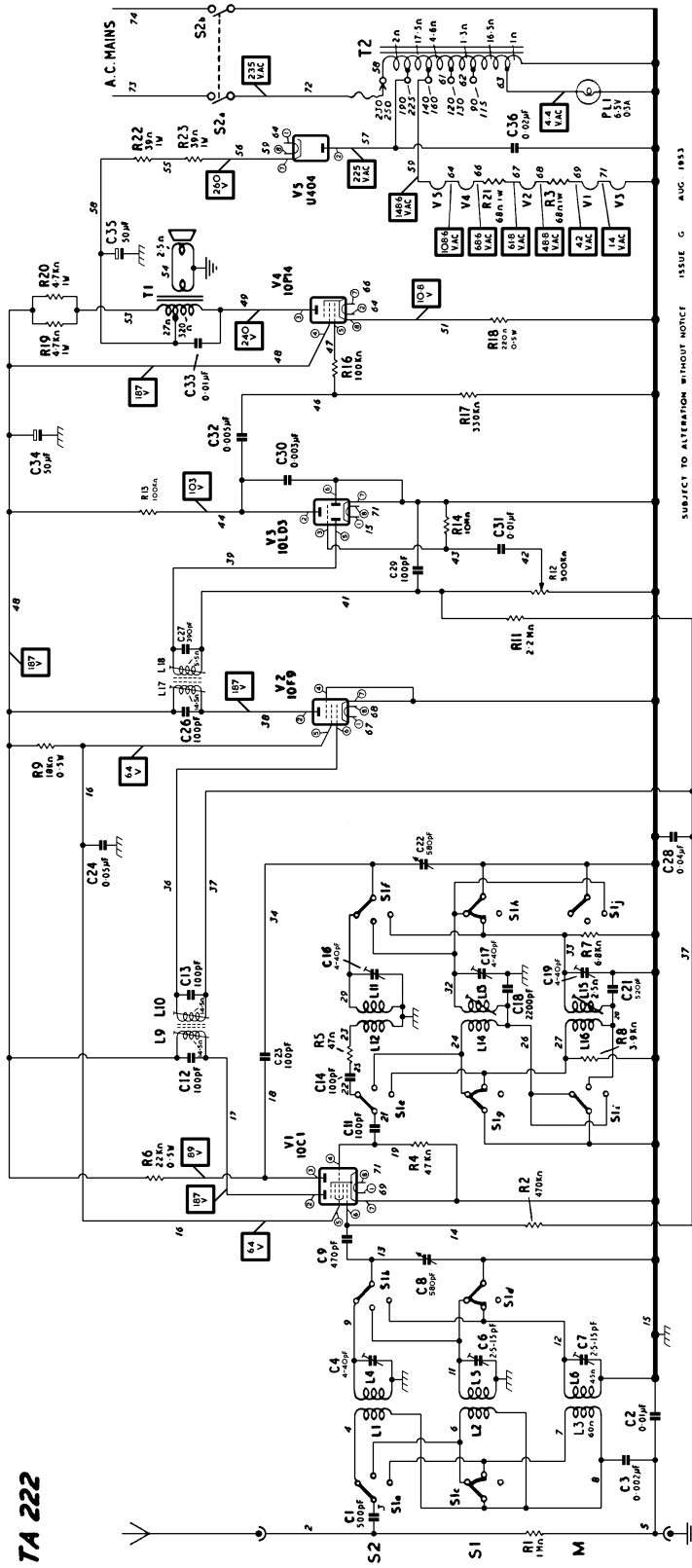
*Issued by*

**MURPHY RADIO LTD · WELWYN GARDEN CITY  
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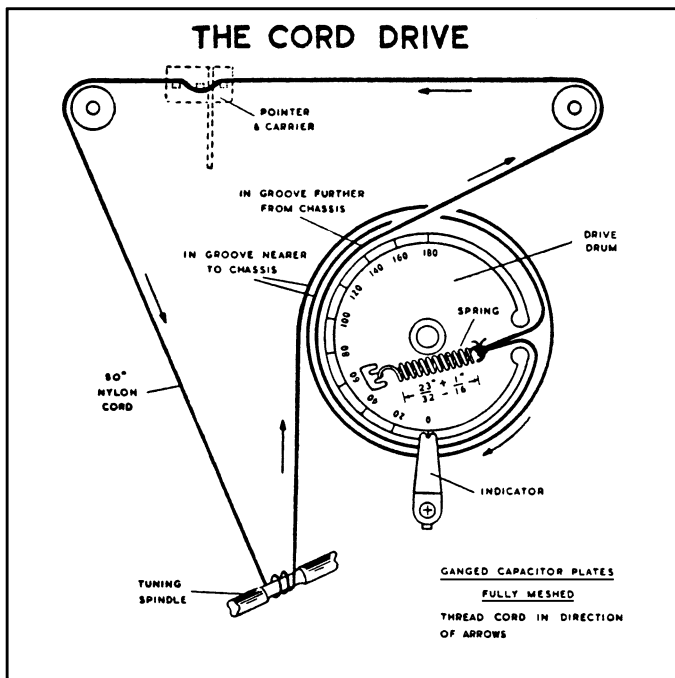
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**In later sets, R22 and R23 are deleted and replaced by one 180Ω, 6W, wire wound resistor Part No. 51082. This resistor is located on the top of the chassis in front of V5.**

Circuit voltages are shown within squares and were measured between chassis and the point indicated using a 20,000 Ω/V meter while the receiver was switched to the M band under no-signal conditions.

Where the resistance of a coil is less than 1 ohm the value is omitted.

Component terminals and connecting leads are identified by test point (t.p.) numbers which correspond with those appearing on the chassis drawings. The valve pin numbers are shown within small circles. All the valves are Ediswan or Mazda types. Alternative valves: V2 — Mullard UF41 V3 — Mullard UBC41

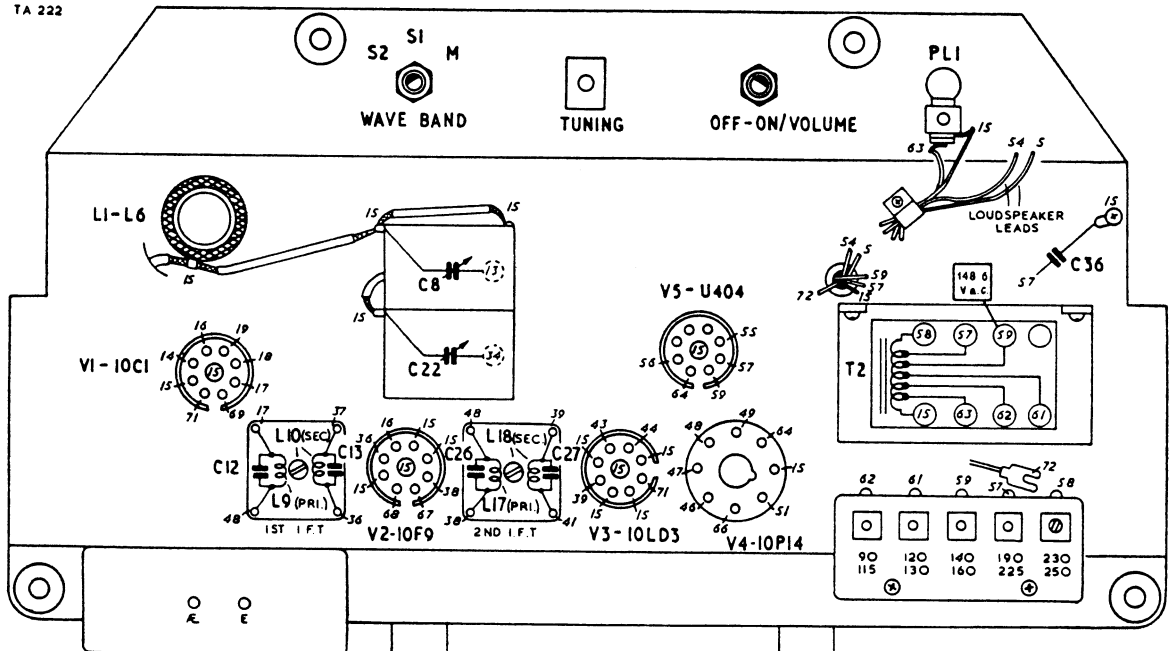


### PARTS LIST ABBREVIATIONS

- cer. — ceramic
- p.s.m. — protected silvered mica
- tub. — paper tubular
- i.s. tub. — insulated sealed paper tubular (metal case)
- m. tub. — metallized paper tubular
- elec. — electrolytic
- w.w. — wire wound
- W — wattage rating
- V a.c. — a.c. voltage rating
- V d.c. — d.c. voltage rating
- log. — logarithmic law

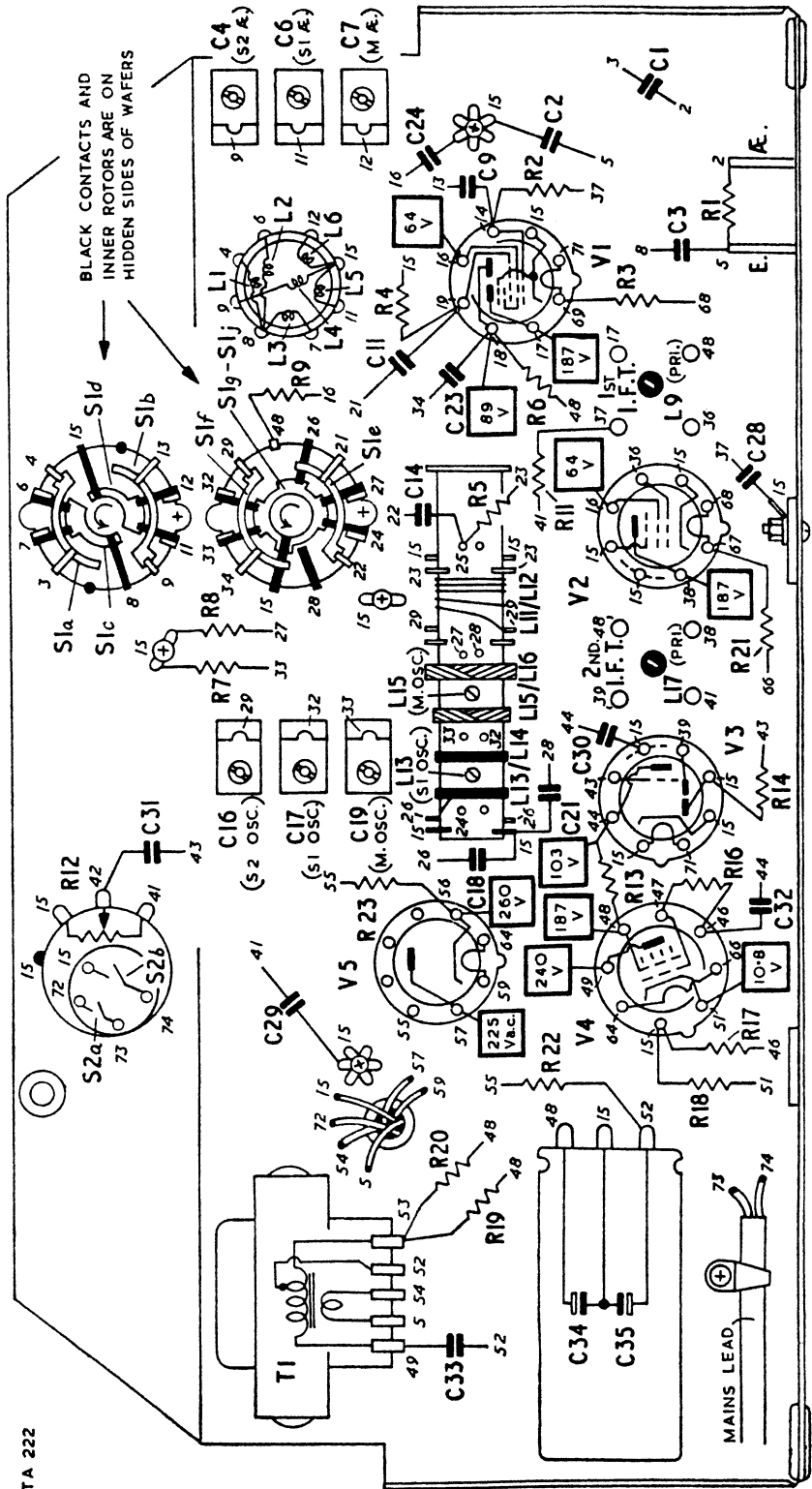
C	12	13	8	26	27	36	C
L	1-6	9 10	22	17 18			L
Misc	V1	V2	V3	V5	V4	T2	PL 1

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The layout of the top of the chassis

C	33	29	31	16	17	30	14	28	11	9	4	6	7	C		
L	34	35	32	18	19	21	13	14	15	16	11	12	3	24	2	1
R	19	20	18	17	23	12	7	8	7	11	9	4	5	6		
MISC	T1	S2a	S2b	V5	V4	V3	S1a	S1c	V2	S1f	S1b	S1d	V1			
							S1e	S1g-S1j								



The layout of the underside of the chassis

# CIRCUIT ALIGNMENT

**Drum and pointer settings.** Before aligning the r.f. circuits, make sure that 0° on the drive drum registers with the V on the indicator when the ganged capacitor plates are fully meshed (not necessarily against the stop). After the chassis is fitted in the cabinet, the pointer must register with the short vertical lines at the left-hand end of each tuning scale; if necessary, move the pointer carrier along the cord.

**Receiver output.** Make all adjustments for maximum output with the volume control at maximum. Adjust the signal generator attenuator so that this output does not exceed 180 mW, or 0.7V across the loudspeaker speech coil.

**Trimming tool.** A non-metallic tool must be used for adjusting the i.f. transformer cores.

**Receiver oscillator frequency.** This is higher than the signal frequency on all wave bands.

**M & S1 oscillator coil trimmers.** For maximum inductance, the adjusting slot must be at right-angles to the axis of the coil former.

**Replacement oscillator and aerial coils.** The inductance of the S1 and S2 aerial and S2 oscillator tuned windings must be adjusted after the coil is fitted to the chassis. Referring to the circuit alignment table, commence at the low frequency end of the band concerned and adjust the spacing of the end turns of the winding. Then adjust the trimming capacitors at the high frequency end of the band. Repeat these adjustments until there is no further improvement and finally seal the winding with wax.

## CIRCUIT ALIGNMENT TABLE

CIRCUIT	NOTES	SIG. GEN. FREQUENCY	SIG. GEN. TERMINATION	CONNECT SIG. GEN. TO	DRIVE DRUM SETTING	ADJUSTMENTS
2nd i.f.t.	Unscrew sec. core (top of can) before starting adjustments	470 Kc/s	Via 0.01µF capacitor	V2 grid 1 (pin 6)	0°	L17 (pri.) under chassis L18 (sec.) top of can DO NOT RE-ADJUST PRI.
1st i.f.t.	As above. Switch to M band	470 Kc/s	As above	M ac. trimmer (C7)	0°	L9 (pri.) under chassis L10 (sec.) top of can DO NOT RE-ADJUST PRI.
M	Repeat osc. circuit adjustments until there is no further improvement	600 Kc/s (500 m.)	Dummy Aerial	Aerial Socket	40°	L15 (osc.) under chassis
S1	As above. Set C17 to lower capacitance peak	1364 Kc/s (220 m.)	As above	As above	159°	C19 (osc.) under chassis C7 (ac.) under chassis
		2.5 Mc/s (120 m.)	As above	As above	36.5°	L13 (osc.) under chassis
S2	Set C16 to lower capacitance peak. Rock tuning control for maximum sensitivity while adjusting C4	6.1 Mc/s (49.2 m.)	As above	As above	159°	C17 (osc.) under chassis C6 (ac.) under chassis
		17.79 Mc/s (16.87 m.)	As above	As above	149°	C16 (osc.) under chassis
		21.6 Mc/s (13.9 m.)	As above	As above	172°	C4 (ac.) under chassis
		8.5 Mc/s (35.3 m.)	As above	As above	37°-39°	No adjustments

