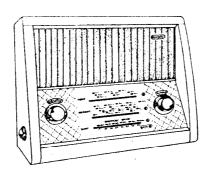
MURPHY www.SaeirwrksGeco.uk INSTRUCTIONS



SPECIFICATION

MAINS SUPPLY:

200-250 volts a.c., 50-100 c/s

CONSUMPTION:

42 watts approximately

WAVE BANDS:

Short: 16.8-50.4 metres

Medium:

187-540 metres

Long:

1000-2000 metres

INTERMEDIATE FREQUENCY:

470 Kc/s

VALVES:

6C9, 6F15 or 6F16, 6LD20, 6P25

SCALE LAMPS:

Two 6.5 volts 0.3 amp. m.e.s.

LOUDSPEAKER:

Type: 8 in. dia., permanent magnet Impedance: 3 ohms

CABINET DIMENSIONS:

19 in. wide, 16 in. high, 8 in. deep

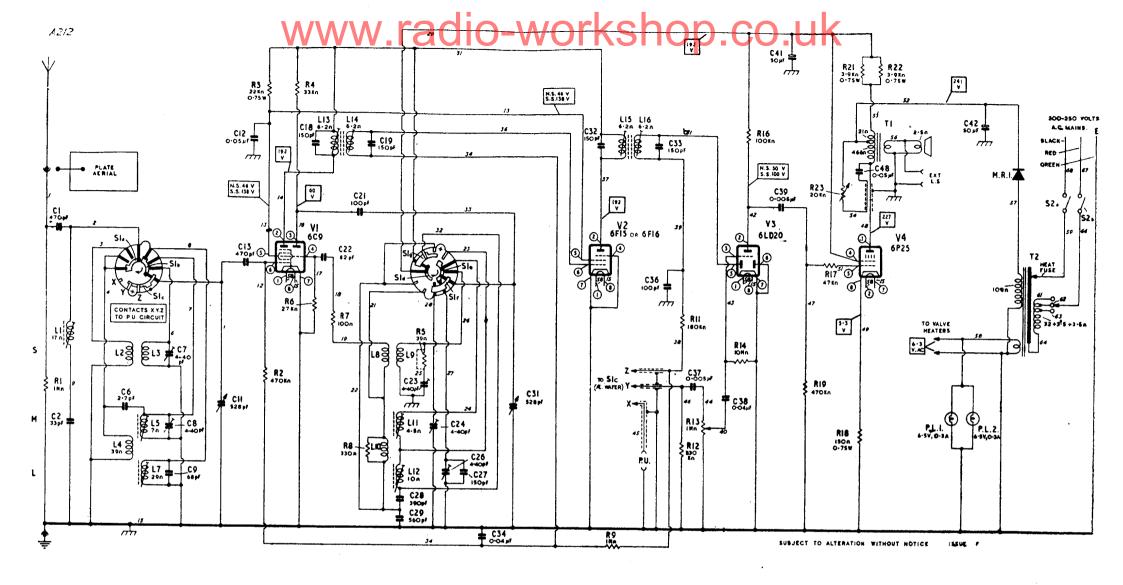
WEIGHT: 18 lb.

Issued by

MURPHY RADIO LTD WELWYN GARDEN CITY HERTS

PHONE: WELWYN GARDEN 3434

May 1954



The wave band switch (S1a-S1g) is shown in the long wave position, and is drawn as seen from the rear; rotate clockwise for medium, short and gramophone. The black contacts and inner rotors are on the hidden sides of the wafers and the lugs marked with a cross are the nearer to the chassis. Blank positions and anchoring tags are shown by a spot.

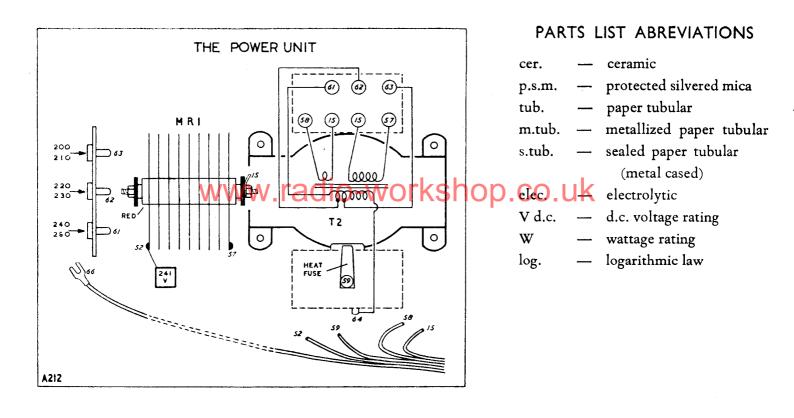
Circuit voltages are shown within rectangles and were measured with a $20 \mathrm{K}\,\Omega/V$ meter while the receiver was switched to the M band. Two read-

ings are quoted for those points where the voltage differs appreciably from No-Signal (N.S.) to Strong Signal (S.S.) conditions.

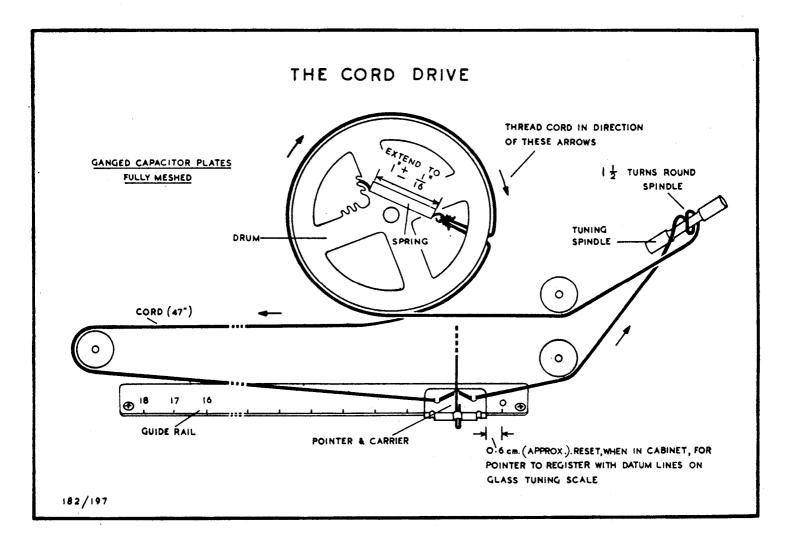
Where the resistance of a coil is less than one ohm, the value is omitted.

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.

Squegging. If squegging occurs with some frequency changer valves, R5 must be brought into circuit by cutting the wire link across it.



When removing the chassis, take care not to scratch the tuning scale. To remove the tuning scale, first remove the loudspeaker and the power unit.



PART NO.	CIRCUIT NO.	VALUE	TOLERANCE AND REMARKS	PART NO.	CIRCUIT NO.	VALUE	TOLERANCE AND REMARKS
54083	C1	470 pF	20%, cer., 500V d.c.	24549	R7	100 Ω	10%, 0·6W
28299	C2	33 pF	2%, p.s.m., 350V d.c.	24741	R8	330 Ω	10%, 0.6W
52143	Č6	2.7 pF	20%, cer., 500V d.c.	27461	R9	1 ΜΩ	10%, 0.6W 20%, 0.6W
56322	Č7	4-40 pF	Trimmer, S ae.	25797	RII	180 KΩ	10% 0.6W
56322	č8	4-40 pF	Trimmer, M ae.	27365	R12	330 KΩ	10%, 0.6W 20%, 0.6W
23606	Č9	68 pF	10%, p.s.m., 350V d.c.	52851	R13	1 ΜΩ	Volume control. log.
59075	čii	528 pF	Ganged capacitor, ae, section,	27653	R14	10 MΩ	20% 0.6W
33075		(swing)	with C31	27269	R16	100 KΩ	20%, 0.6W
41403	C12	0.05 µF	20%, tub., 350V d.c.	27205	R17	47 KΩ	20%, 0 6W 20%, 0 6W 10%, 0 75W
54083	C13	470 pF	20%, cer., 500V d.c.	24621	Ris	150 Ω	10% 0.75W
52631	C18	150 pF	5%, p.s.m., 350V d.c.	27397	R19	470 KΩ	20% 0.6W
52631	C19	150 pF 150 pF	5%, p.s.m., 350V d.c.	25165	R21	3.9 KΩ	109/ 0.75W
54070	C21	100 pF	20% cer., 500 V d.c. — \//	25165 C	R22	3.9 Kn	20%, 0.6W 10%, 0.75W 10%, 0.75W
28179	C21	82 pF	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	52803	R23		Tone control, log.
56322	C22	4-40 pF	5%, p.s.m., 350V d.c. Trimmer, S osc.	32803	KZ3	20 KW	- Tone control, log.
56322	C23	4-40 pF 4-40 pF	Trimmer, S osc. Trimmer, M osc.				
					215 0115		· programme and the second sec
56322	C26	4-40 pF	Trimmer, L osc.	PART	CIRCUIT	RESISTANCE	REMARKS
23622	C27	150 pF	10%, p.s.m., 350V d.c.	NO.	NO.	(D.C.)	
28311	C28	390 pF	1%, p.s.m., 350V d.c.	55050	T .	17.0	Y f -picaton
28270	C29	560 pF	1%, p.s.m., 350V d.c.	55856	LI	17 Ω	I.f. rejector
59075	C31	528 pF	Ganged capacitor, osc. section,	59103	{ L2	_	S ae. coupling
50001	COO	(swing)	with C11		L3		S ae. tuned
52631	C32	150 pF	5%, p.s.m., 350V d.c.	50105	[L4	39 Ω	L & M ae. coupling
52631	C33	150 pF	5%, p.s.m., 350V d.c.	59105	L5	7 Ω	M ae, tuned
49454	C34	0 · 04 μF	25%, m.tub., 150V d.c.		\ L7	29 Ω	L ae. tuned
54070	C36	100 pF	20%, cer., 500V d.c.	59104	{ L8	_	S osc. coupling
41409	C37	0.005 µF	25%, tub., 500V d.c.		\ L9		S osc. tuned
49454	C38	0.04 µF	25%, m.tub., 150V d.c.		(L10		L & M osc. coupling
50962	C39	0·005 μF	25%, s.tub., 500V d.c.	59106	L11	4 ⋅ 5 Ω	M osc. tuned
56152	C41	$50 \mu F$	+50% -20%, elec., 275V d.c.		L12	10 Ω	L osc. tuned
1	C42	50 μF /	. , , , , , ,	55879	{ L13	6 · 2 Ω	Pri. \ 1st i.f.t.
41424	C48	0·05 μF	20%, tub., 750V d.c.	00070	\ L14	$6 \cdot 2 \Omega$	Sec.)
				55879	[L15	$6 \cdot 2 \Omega$	Pri. 2nd i.f.t.
27461	R1	- 1 ΜΩ	20%, 0·6W	000,0	\ L16	6·2 Ω	Sec.
27397	R2	470 KΩ	20%, 0·6W 10%, 0·75W	59102	T1	487 Ω (total)	Pri. output transformer
25453	R3	$22~\mathrm{K}\Omega$	10%, 0·75W	00102		\ -	Sec.) -
25509	R4	33 KΩ	10%, 0·6W		Ì	(39 Ω (total)	Pri.
24389	R5	39 Ω	10%, 0.6W	64304	T2	108 Ω	H.t. sec. \ mains transformer
25477	R6	27 KΩ	10%, 0·6W		1	}(Htr. sec.)
L	1			<u></u>	<u> </u>	<u> </u>	l

PART NO.	DESCRIPTION	REMARKS	PART NO.	DESCRIPTION	REMARKS
61389	Anchor (sleeve)	for mains lead	59675	Panel with tags	for mains adjustment
į į	1		59051	Plate, anchor	for mains lead
64148	Back, complete	for cabinet	37975	Plug (black)	for earth
62076	Badge, Murphy	for front of cabinet	37974	Plug (red)	for aerial
24000			45974	Plug (2)	for loudspeaker
64030	Cabinet		64371	Pointer and carrier	
48466	Can (2)	for i.f. transformers	04040		£1: 4.6 . 4
46903 62416	Can Clip, nut (2)	for L10/L11/L12	64340 59078	Rail, ornamental	for cabinet front
52292	Clip, nut (2) Clip, retaining	for cabinet back fixing for L10/L11/L12	55232	Rail Rectifier, metal (M.R.1)	for pointer Westinghouse 14B986
37973		for leads	59195	Rediner, metal (M.R.1)	for scale
59066	Clip, spring (3)	for anchoring tuning spindle	55779	Renector Retainer (4)	for i.f.t. cores
3962/1	Cord 47 in.	for tuning drive	33779	Retainer (4)	for i.i.t. cores
46911	Core, iron dust (4)	for i.f. transformers	64033	Scale, tuning	glass
46916	Core, iron dust (2)	for L5 and L7	10421	Screw, grub 4BA	for collar on tuning spindle
46913	Core, iron dust (2)	for L11 and L12	10412	Screw, grub (4)	for tuning knobs
1,0010	2010, Hon dust (2)	101 ETT und ETE	14768	Spacer (7)	inside chassis and ganged capa-
59079	Drum, tuning			pacer (1)	citor mounting grommets
			64365	Spindle, tuning	
15633	Eyelet (4)	inside V1 and V3 mounting	19448	Spring, tension	for drive cord
	, , ,	grommets	57315	Strip, clamping (3)	for L1, L2/L3, and L8/L9
			59107	Switch, waveband	
64514	Foil, adhesive	plate aerial		·	
			40134	Tag (3)	for mains adjustment panel
56622	Grommet (7)	for chassis and ganged capaci-	40135	Terminal, spade	for mains voltage adjustment
1 ,,,,,,		tor mounting			
42844	Grommet (4)	for V1 and V3 mounting	51451	Valve holder, B8A (3)	for V1, V2, and V3
60060	77 1: (0)		5687	Valve holder, I.O.	for V4
63468	Knob (2)	volume and tuning	50554	W1(1.6)	for about and around
03408	Knob (2)	wave band, tone	58554	Washer (14)	for chassis and ganged
16882	Lamp (2)	6.5V, 0.3A, m.e.s.			capacitor mounting grom- mets
56453	Lampholder (2)	0 01, 0 0A, III.C.S.	491313	Washer	for tuning spindle
64324	Lampholder (2)	8 in. dia.	58555	Washer, felt (2)	for volume and tuning knobs
34324	Loudspeaker	o III. uia,	58556	Washer, felt (2)	for wave band and tone knobs
64596	Panel with sockets	for aerial/earth, etc.	00000	Washer, left (2)	for wave balle and tone knobs

The layout of the front and rear of the chassis

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Receiver output. Excepting where otherwise stated, make all adjustments for maximum output with the volume control at maximum. Adjust the signal generator attenuator so that this output does not exceed 500 mW., or IV across the loudspeaker speech coil.

Trimming tool. A non-metallic tool must be used to adjust the coil cores. The r.f. coil cores. More than one peak is possible with the r.f. coil cores. In case of difficulty, unscrew the core almost fully and then trim to the first major peak.

The pointer setting. Before aligning the r.f. circuits, make sure that the right-hand edge of the pointer carrier registers with 0.6 cm. on the guide rail when the ganged capacitor plates are just fully meshed (not necessarily against the stop). After the chassis is fitted into the cabinet, the pointer must

be set so that it registers with the datum lines at the right-hand end of the tuning scale when the ganged capacitor plates are fully meshed. The figures in the table refer to the setting of the right-hand edge of the pointer carrier.

Receiver oscillator frequency. On all wave bands, this is higher than the signal frequency.

The scale light reflector. This must be in position during r.f. alignment. Replacement s.w. coils. The inductance of replacement coils must be adjusted after fitting. Referring to the circuit alignment table, commence at the lower frequency end of the S band and adjust the spacing of the end turns (osc. first). Then adjust the trimmers at the high frequency end of the band. Repeat these adjustments until there is no further improvement and finally seal the windings with wax.

CIRCUIT	NOTES	SIG. GEN. FREQUENCY	SIG. GEN. TERMINATION	CONNECT SIG. GEN. TO	POINTER SETTING	ADJUSTMENTS
2nd i.f.t.	Unscrew sec. core (chassis rear) before starting adjustments	470 Kc/s	Via 0·01 μF capacitor	V2 signal grid (pin 6)	0·6 cm.	L15 (pri.) at chassis front L16 (sec.) at chassis rear DO NOT RE-ADJUST PRI.
Ist i.f.t.	As above. Switch to M band	470 Kc/s	As above	C11 (t.p.11)	o∙6 cm.	L13 (pri.) at chassis front L14 (sec.) at chassis rear DO NOT RE-ADJUST PRI.
I.f. rejector	Switch to M band Adjust for minimum output	470 Kc/s	Via dummy aerial	Ae. socket	o∙6 cm.	LI at chassis rear
M	Repeat these adjustments until there	600 Kc/s (500 m.)	As above	As above	2·25 cm.	L11 (osc.) at chassis rear L5 (ae.) at chassis rear
	is no further improvement	1363 Kc/s (220 m.)	As above	As above	11·45 cm.	C24 (osc.) at chassis front C8 (ae.) at chassis rear
L	As above	176·5 Kc/s (1700 m.)	As above	As above	4·1 cm.	L12 (osc.) at chassis front L7 (ae.) at chassis front
	110 40070	300 Kc/s (1000 m.)	As above	As above	12·75 cm.	C26 (osc.) at chassis rear
S	Set C23 to lower capacitance peak. Rock tuning control for maximum	17·8 Mc/s (16·86 m.)	As above	As above	13·9 cm.	C23 (osc.) at chassis front C7 (ae.) at chassis rear
	sensitivity while adjusting C7	6·7 Mc/s (44·8 m.)	As above	As above	2·35- 2·65 cm.	No adjustments