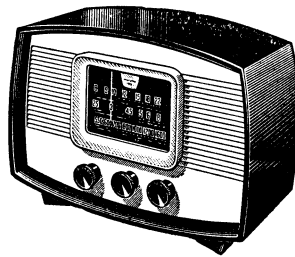


TAI92L

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# MURPHY SERVICE INSTRUCTIONS



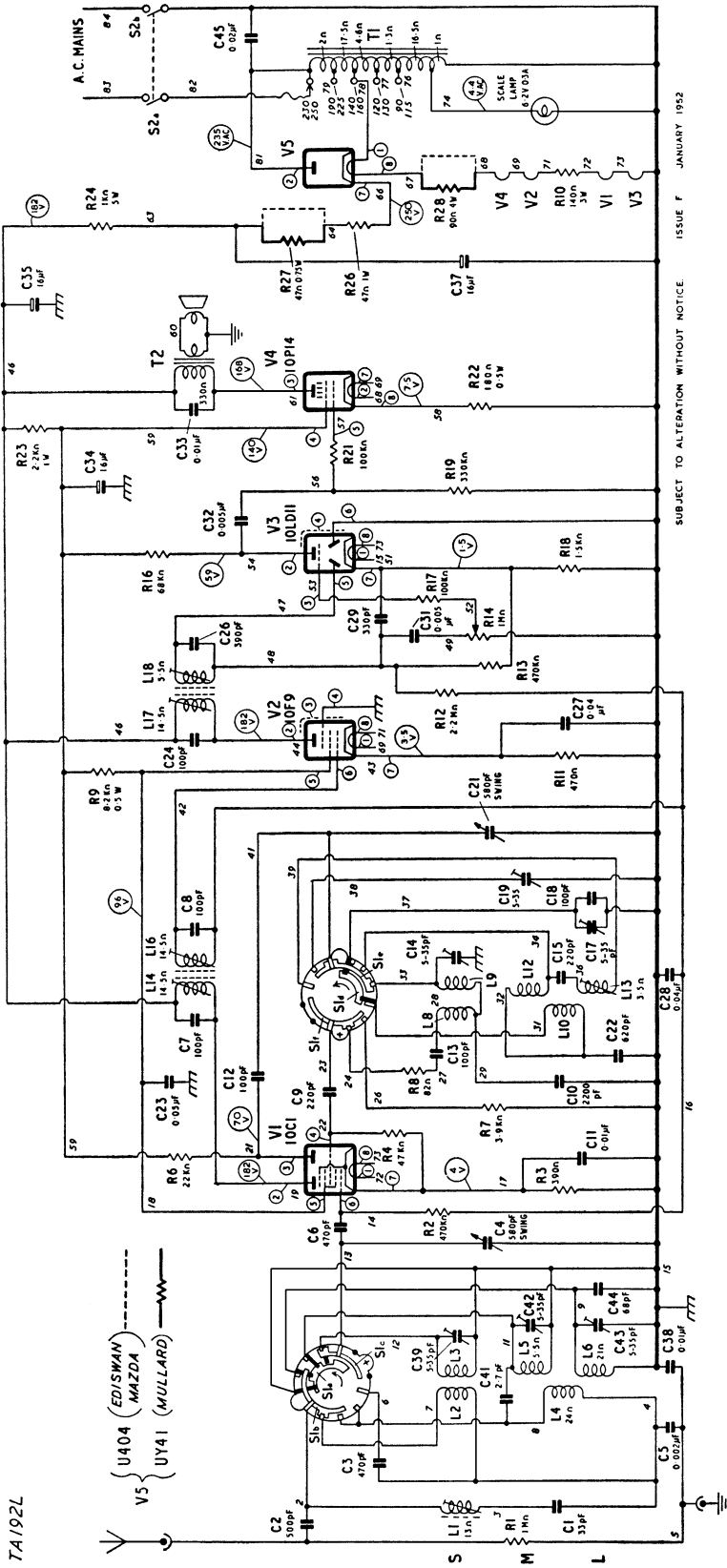
## SPECIFICATION

MAINS SUPPLY:	90-160 and 190-250 volts, a.c., 40-100 c/s
CONSUMPTION:	38 watts (approx.)
WAVE BANDS:	{ Long: 146-310 Kc/s (2050-967 metres) Medium: 520-1630 Kc/s (576-184 metres) Short: 5.9-18 Mc/s (51-16.7 metres)
INTERMEDIATE FREQUENCY:	470 Kc/s
VALVES:	Ediswan-Mazda 10C1, 10F9, 10LD11, 10P14, U404 or Mullard UY41
SCALE LAMP:	6.2 volts, 0.3 amp. (M.E.S.)
SPEECH COIL IMPEDANCE:	3 ohms
CABINET DIMENSIONS:	14½ in. (37 cms.) wide, 10½ in. (26 cms.) high, 7¼ in. (18.5 cms.) deep
WEIGHT:	12 lb. (5.5 Kgs.)

*Issued by*

**MURPHY RADIO LTD · WELWYN GARDEN CITY  
HERTS · ENGLAND PHONE: WELWYN GARDEN 800**

**FOREIGN TELEGRAMS AND CABLES: RADMURPHY, LONDON**



SUBJECT TO ALTERATION WITHOUT NOTICE

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TA/192L

V5 { U404 (EDISWAN)  
 (MAZDA)  
 UY41 (MULLARD)

The switch wafers are drawn as seen from the rear of the receiver, and the lugs marked with a cross are the nearer to the chassis. The blank positions and inner rotors are on the hidden sides of the wafers. Blank positions and anchoring tags are shown by a spot.

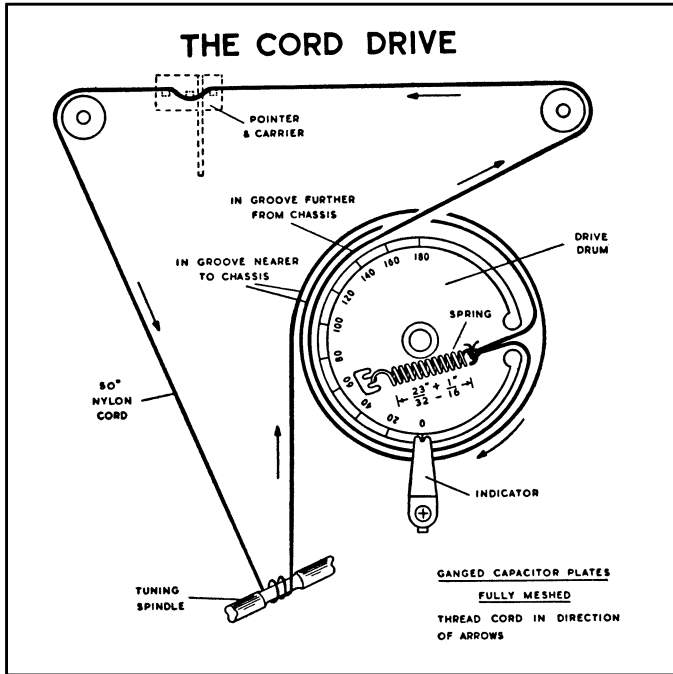
The Waveband Switch is shown in the S position; rotate anti-clockwise for M and L.

When measuring the voltages, the receiver was switched to the

M band, with no signal input. A 20,000  $\Omega/V$  meter was used and the readings are given in the large circles on the diagram.

The valve pin numbers and connecting leads are shown in the small circles. Component terminals and connecting leads are identified by test point numbers which correspond with those appearing on the chassis drawings.

Coil resistances are omitted where the values are less than one ohm.

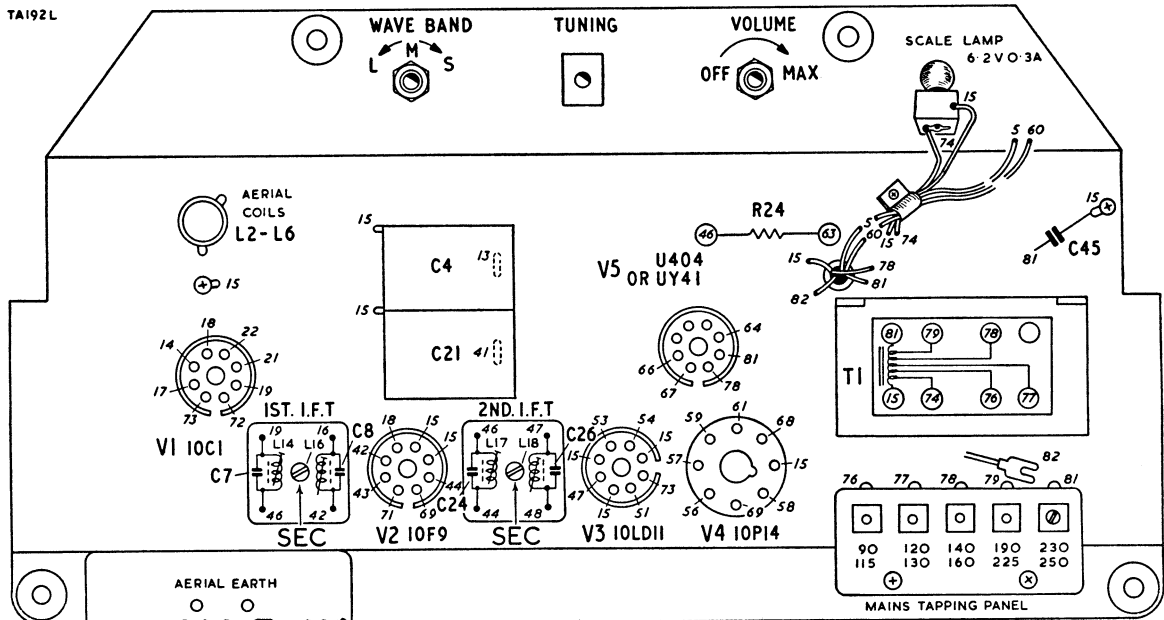


## PARTS LIST ABBREVIATIONS

- cer. — ceramic
- elec. — electrolytic
- i.s.tub. — insulated sealed tubular (metal cased)
- m.tub. — metallized paper tubular
- p.s.m. — protected silvered mica
- tub. — paper tubular
- v.w. — voltage working
- w.w. — wire wound

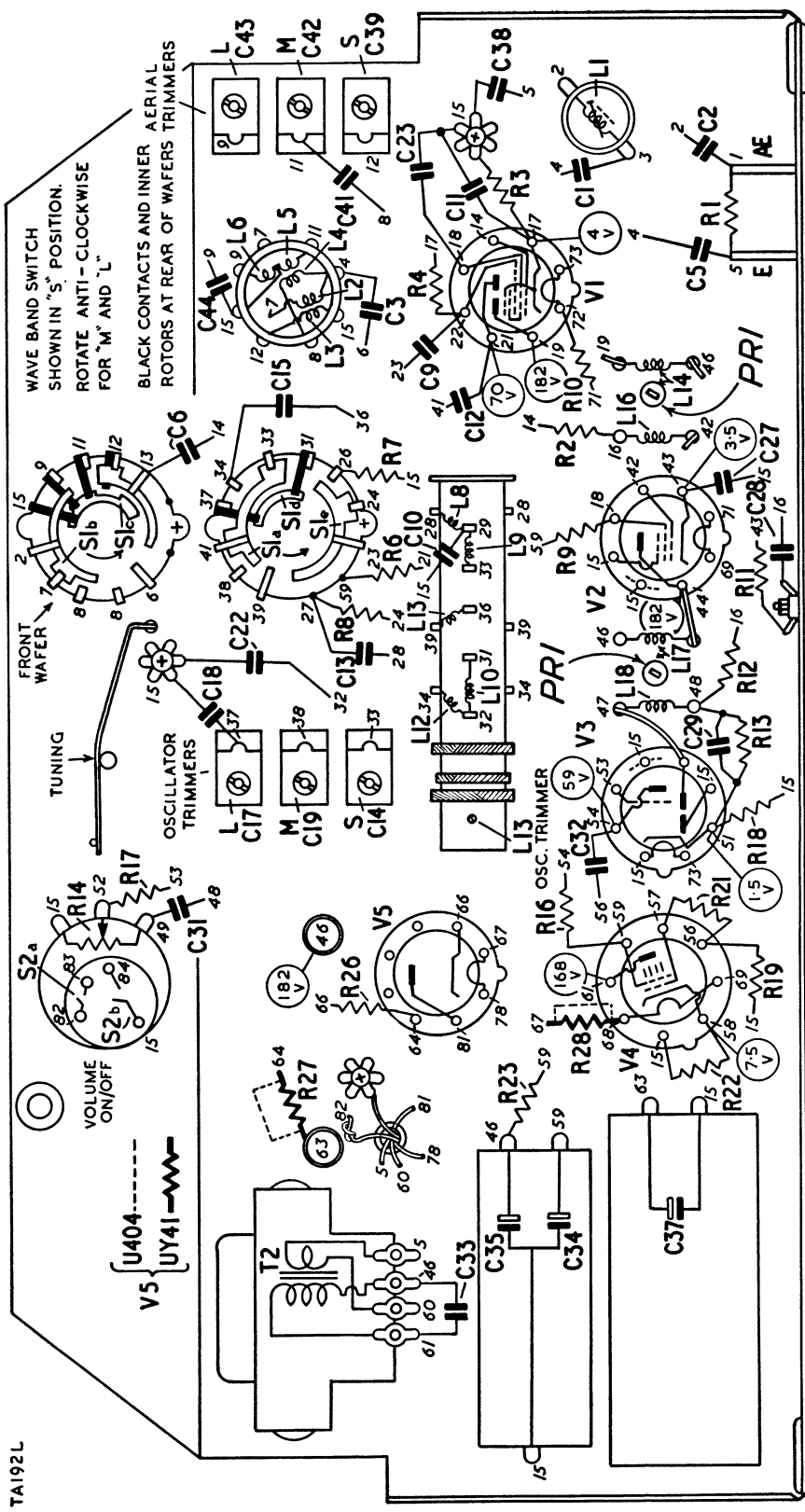
C	7	8	$\frac{4}{24}$	26			45	C
L	2-6	14	16	17	18			L
R						24		R

TA192L



*The layout of the top of the chassis*

C	33 35 34 37	31	17 32 19 14	29	18 13	22	10	28	27	9	3	4	5	11	4 <sup>1</sup> 23	2	38	43	C
L			12	18	10	13	9	8	16		3	14	2	4	5	6	1		L
R			23	27	26	16	14	17	13	12	8	11	9	6	7	10	4		R
MISC	T2	S2a S2a V4	V5	V3	V2	S1a S1a S1c S1d S1e	VI												MISC



The layout of the underside of the chassis

Note: The long inner contact on the front wafer is connected to the chassis (t.p. 15) and not to test point 4 as shown.

# CIRCUIT ALIGNMENT

**Output reading.** Connect an output meter to the loudspeaker speech coil. Turn the volume control to maximum output. Make all adjustments for maximum output. Adjust the signal generator attenuator so that the output does not exceed 180mW (0.7V).

**Drive drum setting.** Check that the ganged capacitor plates are fully meshed (i.e. maximum capacitance) when 0° on the drive drum registers with the "V" on the indicator.

**Tuning pointer adjustment.** The pointer should register with the

spots at the left of the tuning scale when the ganged capacitor plates are fully meshed.

**Replacement s.w. coils.** The inductance of the tuned windings of replacement S band aerial and oscillator coils may be adjusted after fitting as follows. Refer to the alignment table and where it states "No Adjustment", adjust the spacing of the end turns of the S band aerial and oscillator coils. Readjust the trimmers at the h.f. end of the wave band. Make final adjustments to the coils and then seal the windings with wax.

# CIRCUIT ALIGNMENT TABLE

*Note: On all wave bands the local oscillator frequency is higher than the signal frequency*

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 0.01 µF capacitor	V2 signal grid (pin 6)	0° M Band	L17 (pri.) under chassis L18 (sec.) top of can DO NOT RE-ADJUST PRI. CORE
1st i.f.t.	As above	As above	As above	V1 signal grid (pin 6)	As above	L14 (pri.) under chassis L16 (sec.) top of can DO NOT RE-ADJUST PRI. CORE
L	Repeat these adjustments until there is no further improvement	176.5 Kc/s (1700 m.)	Dummy aerial	Aerial socket	62°	L osc. coil (L13)
M		300 Kc/s (1000 m.)	As above	As above	168°	L osc. trimmer (C17) L ac. trimmer (C43)
		1363.6 Kc/s (220 m.)	As above	As above	155°	M osc. trimmer (C19) M ac. trimmer (C42)
S	Set osc. trimmer to lower capacitance peak	600 Kc/s (500 m.)	As above	As above	37°—39°	No adjustment
		15.2 Mc/s (19.75 m.)	As above	As above	156°	S osc. trimmer (C14) S ac. trimmer (C39)
		6.7 Mc/s (44.8 m.)	As above	As above	34°—36°	No adjustment

## PARTS LIST (Electrical Components)

PART NO.	CIRCUIT NO.	VALUE	TOLERANCE AND REMARKS	PART NO.	CIRCUIT NO.	VALUE	TOLERANCE AND REMARKS
28299	C1	33 pF	2%, p.s.m., 350 v.w.d.c.	27205	R4	47 KΩ	20%, 0.4W
57773	C2	500 pF	25%, m.tub., 300 v.w.a.c.	25445	R6	22 KΩ	10%, 0.4W
28243	C3	470 pF	2%, p.s.m., 350 v.w.d.c.	25157	R7	3.9 KΩ	10%, 0.4W
55079	C4	580 pF swing	gang capacitor, ae. section	24517	R8	82 Ω	10%, 0.4W
57774	C5	0.002 μF	20%, m.tub., 300 v.w.a.c.	25293	R9	8.2 KΩ	10%, 0.5W
54083	C6	470 pF	20%, cer., 500 v.w.d.c.	51062	R10	140 Ω	5%, 3W, w.w.
52630	C7	100 pF	5%, p.s.m., 350 v.w.d.c.	26821	R11	470 Ω	20%, 0.4W
52630	C8	100 pF	5%, p.s.m., 350 v.w.d.c.	27525	R12	2.2 MΩ	20%, 0.4W
52630	C9	220 pF	20%, cer., 350 v.w.d.c.	27397	R13	470 KΩ	20%, 0.4W
54074	C10	2200 pF	10%, p.s.m., 350 v.w.d.c.	52776	R14	1 MΩ	v.c with switch
23656	C11	0.01 μF	25%, m.tub., 150 v.w.d.c.	27237	R16	68 KΩ	20%, 0.4W
49447	C12	100 pF	20%, cer., 500 v.w.d.c.	27269	R17	100 KΩ	20%, 0.4W
54070	C13	100 pF	20%, cer., 500 v.w.d.c.	26917	R18	1.5 KΩ	20%, 0.4W
54070	C13	100 pF	20%, cer., 500 v.w.d.c.	27365	R19	330 KΩ	20%, 0.4W
37480	C14	5-35 pF	trimmer, S osc.	27269	R21	100 KΩ	20%, 0.4W
28223	C15	220 pF	2%, p.s.m., 350 v.w.d.c.	24653	R22	180 Ω	10%, 0.5W
37480	C17	5-35 pF	trimmer, L osc.	26972	R23	2.2 KΩ	20%, 1W
23607	C18	100 pF	10%, p.s.m., 350 v.w.d.c.	51051	R24	1 KΩ	5%, 5W, w.w.
37480	C19	5-35 pF	trimmer, M osc.	40480	R26	47 Ω	20%, 1W, w.w.
55079	C21	580 pF swing	gang capacitor, osc. section	26653	R27	47 Ω	20%, 0.75W
28241	C22	620 pF	1%, p.s.m., 350 v.w.d.c.	51057	R28	90 Ω	5%, 4W, w.w.
41403	C23	0.05 μF	20%, tub., 350 v.w.d.c.				
52630	C24	100 pF	5%, p.s.m., 350 v.w.d.c.				
52633	C26	390 pF	5%, p.s.m., 350 v.w.d.c.				
49454	C27	0.04 μF	25%, m.tub., 150 v.w.d.c.				
49454	C28	0.04 μF	25%, m.tub., 150 v.w.d.c.				
49460	C29	330 pF	10%, m.tub., 600 v.w.d.c.				
49456	C31	0.005 μF	25%, m.tub., 150 v.w.d.c.				
50962	C32	0.005 μF	20%, i.s.tub., 500 v.w.d.c.				
41419	C33	0.01 μF	20%, tub., 1000 v.w.d.c.				
46511	{ C34 C35 }	{ 16 μF 16 μF }	{ +50% -20 % elec., 350 v.w.d.c.				
46510	C37	16 μF	+50% -20%, elec., 350 v.w.d.c.				
51766	C38	0.01 μF	20%, i.s.tub., 275 v.w.d.c.				
37480	C39	5-35 pF	trimmer, S ae.				
52143	C41	2.7 pF	20%, cer., 350 v.w.d.c.				
37480	C42	5-35 pF	trimmer, M ae.				
37480	C43	5-35 pF	trimmer, L ae.				
23606	C44	68 pF	10%, p.s.m., 350 v.w.d.c.				
41423	C45	0.02 μF	20%, tub., 750 v.w.d.c.				
27461	R1	1 MΩ	20%, 0.4W	52940	T1	42 Ω Total	mains transformer
27397	R2	470 KΩ	20%, 0.4W	52478	T2	330 Ω	pri. sec. } 1st i.f.t.
24773	R3	390 Ω	10%, 0.4W				pri. sec. } 2nd i.f.t.
							pri. sec. } output transformer

## PARTS LIST (Mechanical Components)

PART NO.	DESCRIPTION	REMARKS	PART NO.	DESCRIPTION	REMARKS
57431	Back	for cabinet	56453	Lampholder	
57424	Bracket	for lampholder	51813	Loudspeaker	
57483	Cabinet		53694	Panel, mains tapping	
48506	Channel, rubber (4)	for scale fixing	37974	Plug	for aerial
53019	Clamp	for C34, C35, C37	37975	Plug	for earth
55897	Clamp	for oscillator coil	57932	Pointer and carrier	
50062	Clamp	for aerial coil			
57315	Clamping piece	for L1	57497	Scale, tuning	
2033/5	Cord, for drive	50 in. length (127 cms.)	103267	Screw (2)	for chassis fixing
53774	Drive drum	for cord drive	19642	Screw, grub	for drive drum
57484	Escutcheon		10413	Screw, grub (3)	for control knobs
57422	Guide rail	for pointer	57419	Spindle, tuning	
57418	Indicator	for cord drive	19460	Spring	for cord drive
58715	Knob	for On/Off, Volume Control	51171	Spring	for tuning spindle
53035	Knob	for Tuning Control	57571	Switch	for wave band
57496	Knob	for Wave Band Switch	40134	Tag (5)	for mains tapping panel
57498	Label	for back	40135	Terminal, spade	for mains adjustment
16880	Lamp	6.2V, 0.3A	51451	Valve holder, B8A (4)	
			5687	Valve holder, I.O.	
			34588	Washer, felt (3)	for control knobs
			49910	Washer, cup (2)	for chassis fixing