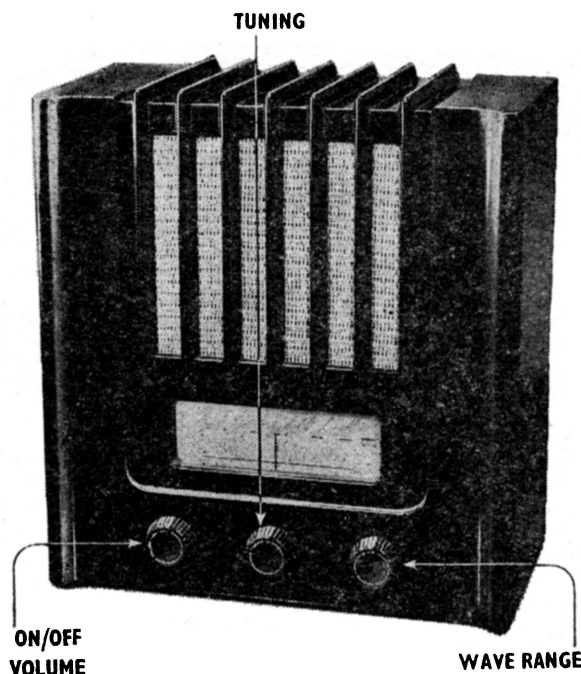


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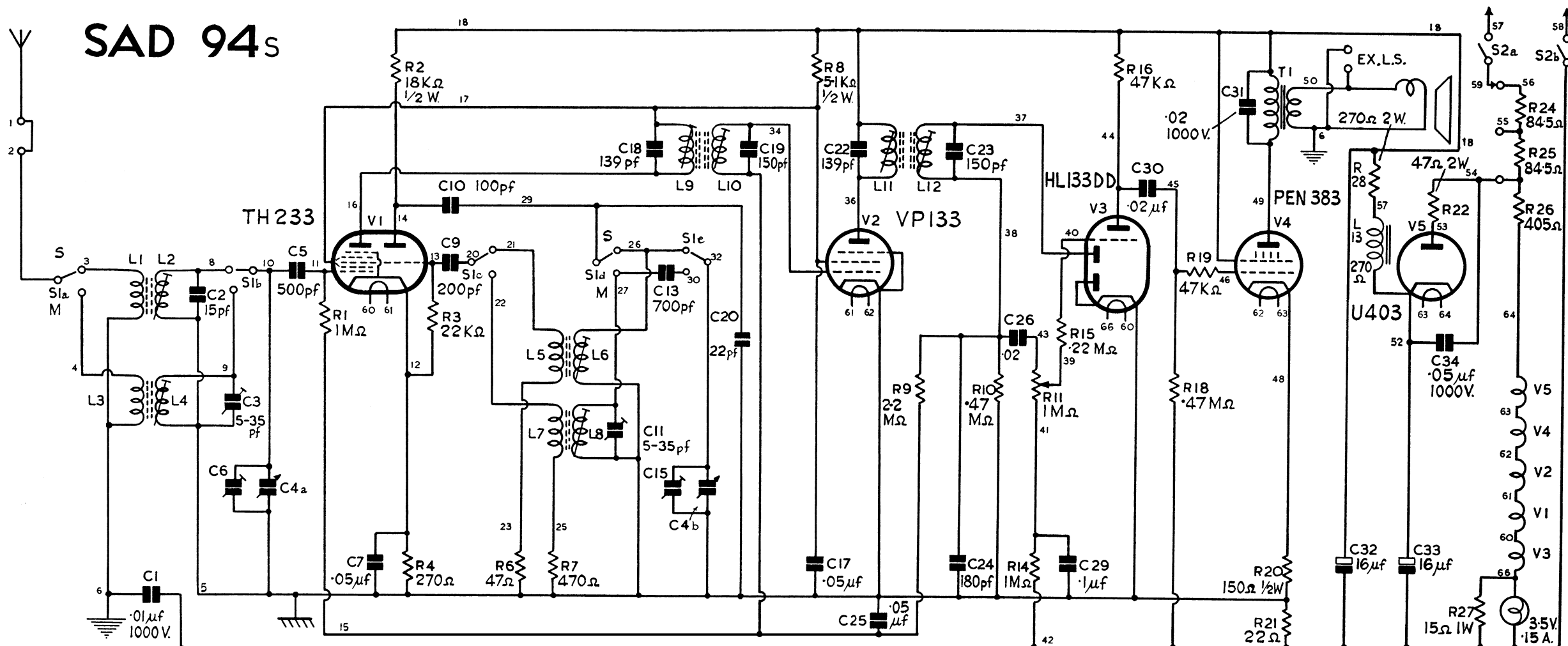
MURPHY RADIO SERVICE INSTRUCTIONS



MAINS SUPPLY:	200 to 250 volts D.C. 200 to 250 volts A.C., 25 to 100 cycles.
WAVE RANGES:	16.7 to 50 metres. 200 to 550 metres.
INTERMEDIATE FREQUENCY:	465 Kc/s.
VALVES:	Mazda TH233, VP133, HL133DD, PEN383, U403.
PILOT LAMP:	3.5 volt, 0.15 amp. M.E.S.
SPEECH COIL IMPEDANCE:	3 ohms.
TOTAL WEIGHT:	13 lb.
CONSUMPTION:	Approx. 60 watts on 230 volts.
CABINET DIMENSIONS:	13 $\frac{5}{8}$ " $\times$ 12 $\frac{5}{8}$ " $\times$ 6 $\frac{3}{4}$ "

Issued by

MURPHY RADIO LTD • WELWYN GARDEN CITY
HERTS • ENGLAND **TEL: WELWYN GARDEN 800**



COILS	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	L ₉₋₁₂	TI Prim	TI Sec.	Sp. Coi
OHMS	0.65	2.6	0.23	0.12	0.88	1.5	6	74	0.27	3.0

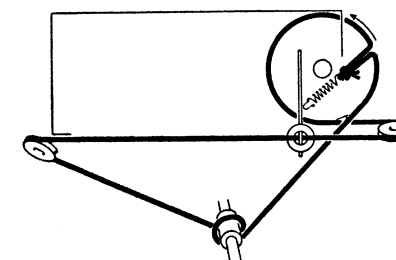
DISMANTLING

1. Remove the knobs.
2. Remove two screws in back of chassis.
3. Ease chassis back as captive screws in front edge of chassis are released. Loudspeaker leads are long enough to allow chassis to be inverted for testing.

Inspect the drive drum and variable capacitor to make sure that the hole in the drum through which the cord passes, is as indicated in the diagram when the plates are fully in mesh. Start with approximately thirty-six inches of cord (light gauge plaited and waxed Italian hemp) and anchor one end temporarily to the right-hand captive chassis bolt. Thread the cord around the pulleys as shown in the diagram, starting by leading the end of the cord

over the top of the drive drum, as indicated by the arrow. When the cord is in position, free the anchored end, feed both ends through the hole in the drive drum and thread on the spring. Knot the cord approximately half an inch from the inner edge of the drum. Fit the pointer and its carriage, and ease the end of the spring on to the securing lug with a small screwdriver, cut off the surplus cord. Ease the pointer along the cord until it registers with the vertical lines at the L.F. end of the scale when the variable capacitor plates are fully in mesh.

i. Baffle board is secured to the cabinet by four screws. Note that the bracket on the loudspeaker holds the choke (L13) and resistor (R28); the output transformer is mounted on the receiver chassis.

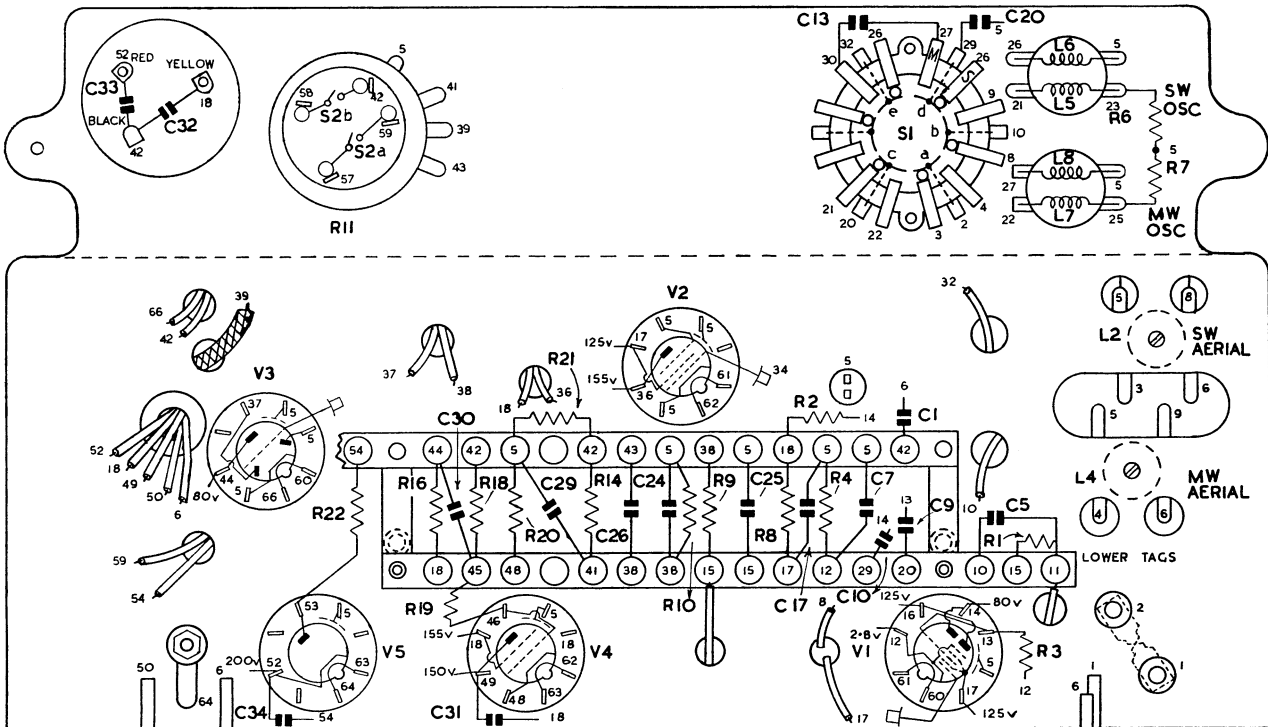


CONNECTIONS FOR MAJOR COMPONENTS

COMPONENT	LEAD	TEST PT.	CONNECTION
Loudspeaker	White	50	T ₁ Sec.
L ₁₃	Black	6	T ₁ Sec.
R ₂₈	Centre Tag	52	V ₅ Cathode
Output Trans: (T. ₁)	L ₁₃ Upper Tag	18	T ₁ Prim.
	Prim.	{ 49	V ₄ Anode
		18	R ₂₈ & V ₄ Screen
	Sec.	{ 50	L.S. & Ext. L.S. socket
		6	L.S. & Ext. L.S. socket
Condenser Bank (C _{32/33})	C ₃₃ (Red)	52	V ₅ Cathode
	(Black)	42	R/C Rack (12th upper)
	C ₃₂ (Yellow)	18	R/C Rack (16th lower)
Note that case is insulated from chassis			
Wave Range Switch	S _{1c}	{ 21	L ₅
		20	R/C Rack (4th lower)
		22	L ₇
	S _{1a}	{ 3	L ₁
		2	Filter socket
		4	L ₃
	S _{1b}	{ 8	L ₂
		10	R/C Rack (3rd lower)
		9	L ₄
	S _{1d}	{ 26	S _{1e} and L ₆
		29	R/C Rack (5th lower, and C ₂₀
		27	L ₈ and thro' C ₁₃ to S _{1e}
	S _{1e}	26	S _{1d}
		32	C _{4b} (variable)
		30	Thro' C ₁₃ to S _{1d}

COMPONENT	LEAD	TEST PT.	CONNECTION
Volume Control	(case)	5	Diode Tag V ₃
		41	R/C Rack (12th lower)
		39	V ₃ Top Cap (screened lead)
		43	R/C Rack (8th upper)
	S _{2a}	57	Mains Lead (Red)
		59	Adjustable lead to Mains Res.
	S _{2b}	58	Mains Lead (Black)
		42	P. lamp and R/C Rack (12th upper)
Variable Capacitor	C _{4a}	10	R/C Rack (3rd lower)
	C _{4b} Chassis	32	S _{1e}
		5	L ₂ and R/C Rack Chassis tag
Aerial Coil S.W.	L ₁	3	S _{1a}
		6	L ₃
	L ₂	8	S _{1b} and C ₂
		5	L ₄ , C ₂ , and Var: Cap:
Aerial Coil M.W.	L ₃	4	S _{1a}
		6	L ₁ and Earth Socket
	L ₄	9	S _{1b}
		5	L ₂
Oscillator Coil S.W.	L ₅	21	S _{1c}
		23	R ₆
	L ₆	26	S _{1d}
		5	L ₈ and C ₂₀
Osc. Coil M.W.	L ₇	22	S _{1c}
		25	R ₇
	L ₈	27	C ₁₁ and S _{1d}
		5	L ₆ and Chassis tag

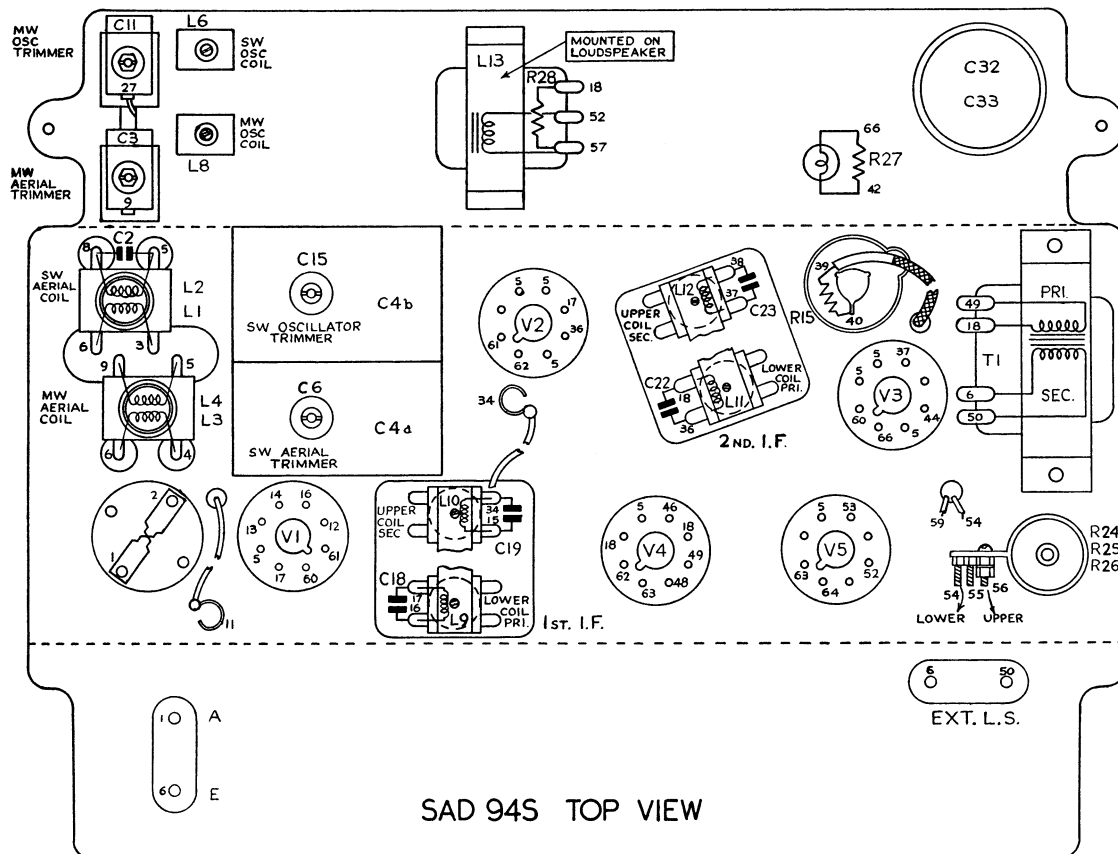
R					11 22	16	18 19	20	21	14		10, 9	8	2 4				1 3				6 7
C	33	32			34		30	31	29	26	24		25	17	7 10	13 10	1, 9	20	5			
L																			6 8	5 7		2 4
MISC				V3	52 b 52 a V5				V4			V2			51 e 51 c	51 d, 51 b 51 a		V1				



SAD 94S UNDERNEATH

Voltages on valve holders are average figures measured between valve electrodes and chassis, using a 1000 ohms-per-volt meter, with receiver switched to M.W. and working on 230 volt A.C. mains under no signal conditions.

R										28						15	27					24, 25, 26.
C			11			6, 15.	4. b.	18.		19				22		23					32, 33.	
L	1, 2.	3, 4.	6.	8.					10, 9.	13				12	11							
MISC						V1				V2				V4		PL		V5	V3			T1



AERIAL FILTERS

In receivers operating close to transmitters, an aerial filter, as supplied by Murphy Radio, may be necessary if tuneable whistles occur on stations. The actual area affected is usually within a radius of three to four miles of the transmitter, though it may be modified by such local conditions as the nature of the country, the transmitter aerial power, and the type of receiving aerial in use. The object of the filter is to reduce the interfering signal to the receiver and it may be a single or double unit according to the number of local stations. It plugs into the sockets on the chassis deck just above the

aerial socket, and it is essential that the brass link joining the sockets should be cut before fitting the filter.

In order to adjust the filter when fitted, remove the chassis from its cabinet and connect a 0-10V. D.C. meter between the chassis and the cathode of V1 (Test point 12). Tune in the local transmitter on the receiver, when it will be seen that the meter reading will fall. After tuning carefully for minimum reading, adjust the coil core for maximum meter reading. If the filter is a double unit the same procedure must be followed for each section.

TRIMMING

CIRCUIT ALIGNMENT SAD94S

All adjustments are made for maximum reading on an output meter connected to Ext. L.S. sockets, with V/C at maximum and the Service Sig. Gen. output adjusted to produce the lowest convenient meter reading. Before starting R.F. adjustments, see that the tuning pointer is over the vertical lines at the L.F. ends of the bands when the ganged capacitor is at maximum capacitance.

CIRCUITS	NOTES	SERVICE SIG. GEN. SETTING	SERVICE SIG. GEN. TERMIN'TN	CONNECT SIG. GEN. TO	RECEIVER DIAL SETTING	RECEIVER RANGE	ADJUSTMENTS
I.F.	Unscrew 2nd I.F. Pri. and Sec. cores to fullest extent.	465 Kc/s (645 m)	Direct via $\cdot 1 \mu F$	V1 Control Grid	550 m	M.W.	2nd I.F. Pri. (L 11) 2nd I.F. Sec. (L 12) Do not re-adjust
	Unscrew 1st I.F. Pri. and Sec. cores to fullest extent.	465 Kc/s (645 m)	Direct via $\cdot 1 \mu F$	V1 Control Grid	550 m	M.W.	1st I.F. Pri. (L 9) 1st I.F. Sec. (L 10) Do not re-adjust
S.W.	Repeat these adjustments until there is no further improvement.	7·14 mc/s (42 m)	Dummy Aerial	Æ Socket	42 M	S.W.	S.W. Oscillator Coil (L 6) S.W. Aerial Coil (L 2)
	If this band is adjusted, the M.W. band must also be done	15·25 mc/s (19·7 m)	Dummy Aerial	Æ Socket	19·7 m	S.W.	S.W. Oscillator Trimmer (C 15) S.W. Aerial Trimmer (C 6)
M.W.	Repeat these adjustments until there is no further improvement.	600 Kc/s (500 m)	Dummy Aerial	Æ Socket	500 m	M.W.	M.W. Oscillator Coil (L 8) M.W. Aerial Coil (L 4)
		1363 Kc/s 220 m	Dummy Aerial	Æ Socket	220 m	M.W.	M.W. Oscillator Trimmer (C 11) M.W. Aerial Trimmer (C 3)