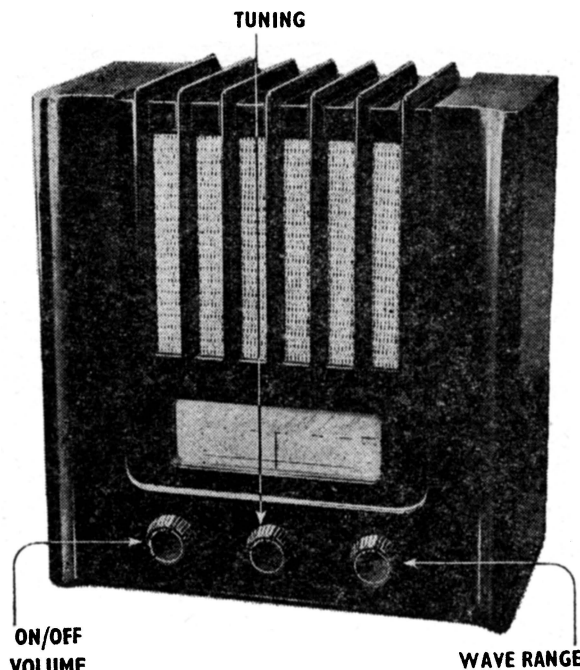


SAD94

SAD94

MURPHY RADIO SERVICE INSTRUCTIONS



*Receiver
in moulded
cabinet.
A limited
number of
these receivers
have
wooden
cabinets.*

MAINS SUPPLY:

200 to 250 volts D.C.
200 to 250 volts A.C., 25 to 100 cycles.

WAVE RANGES:

200 to 550 metres.
970 to 2000 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.

MOULDED CABINET:

$13\frac{5}{8}'' \times 12\frac{5}{8}'' \times 6\frac{3}{4}''$

WOODEN CABINET:

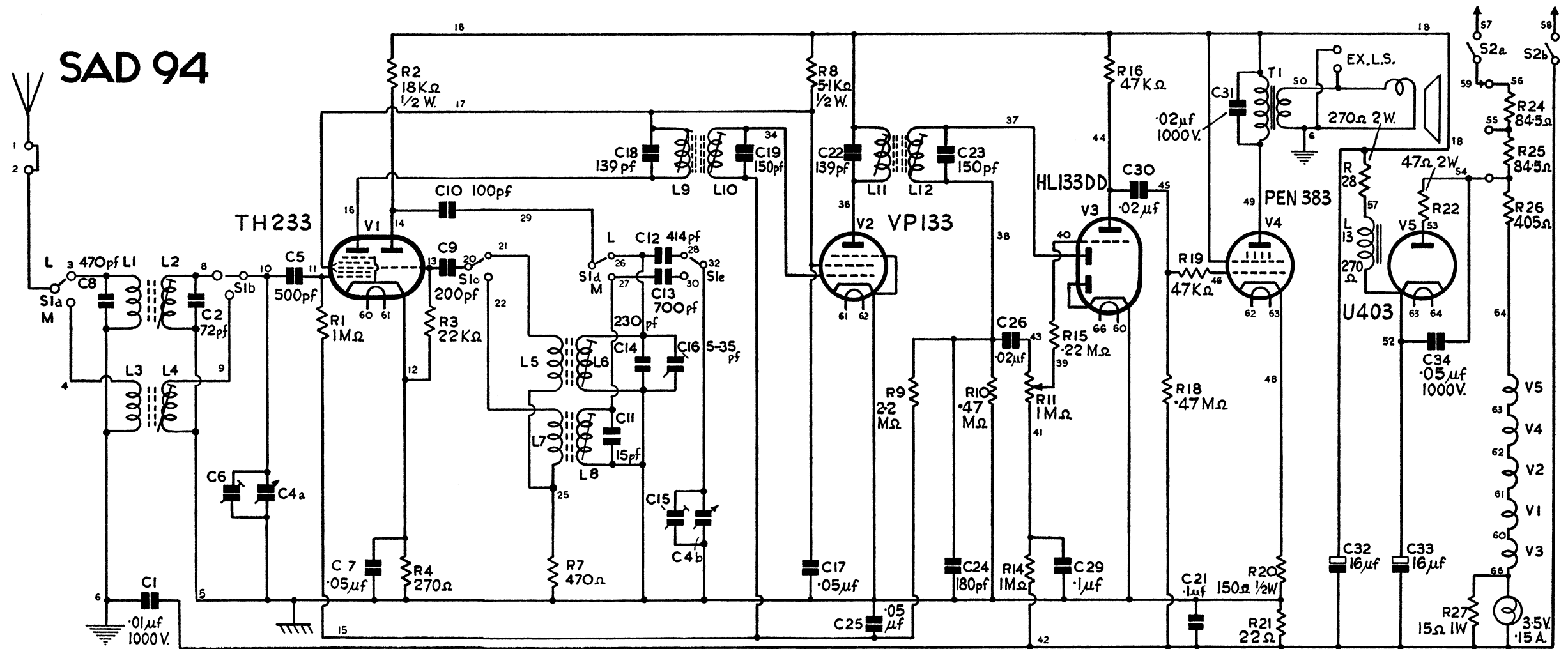
$13\frac{3}{4}'' \times 13\frac{1}{8}'' \times 6\frac{3}{8}''$

Issued by

**MURPHY RADIO LTD • WELWYN GARDEN CITY
HERTS • ENGLAND**

TEL: WELWYN GARDEN 800

SAD 94



RESISTANCE OF COILS

COILS	L1	L2	L3	L4	L5	L6	L7	L8	L9-12	T1 Prim.	T1 Sec.	Sp. Coil
OHMS	25	14.5	0.65	2.6	1.0	1.5	0.88	1.5	6	74	0.27	3.0

MECHANICAL DETAILS

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.

In the wooden cabinet the chassis is held by four bolts in the base. To gain access to the bolts, the strips running from back to front across the bottom of the cabinet must be removed.

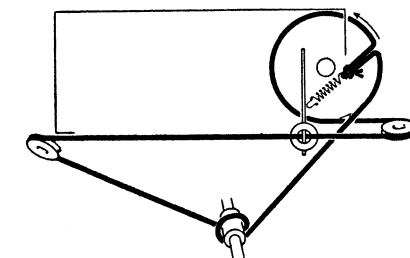
THE CORD DRIVE

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.

THE LOUDSPEAKER

1. 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.

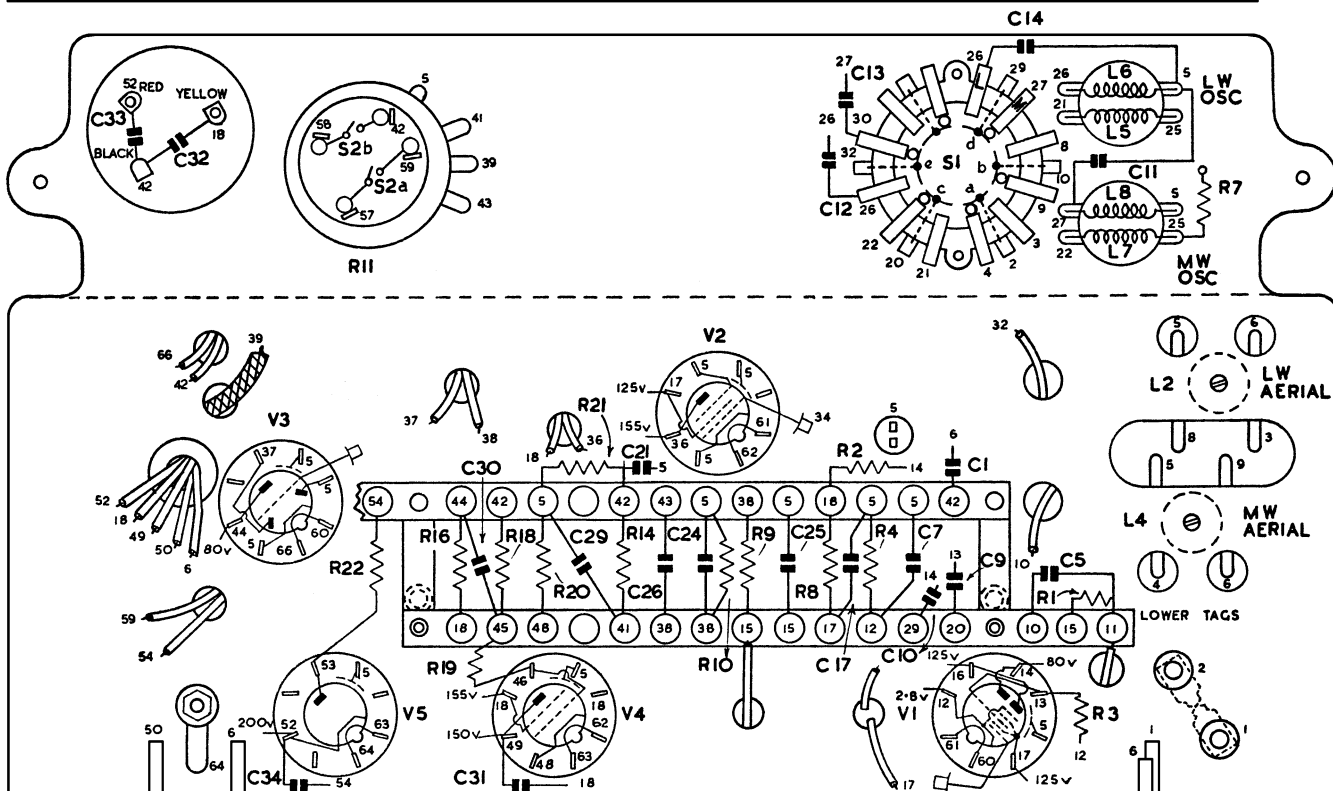


CONNECTIONS FOR MAJOR COMPONENTS

COMPONENT	LEAD	TEST PT.	CONNECTION
Loudspeaker	White	50	T1 Sec.
L13	Black	6	T1 Sec.
R28	Centre Tag	52	V5 Cathode
Output Trans: (T.1)	L13 Upper Tag	18	T1 Prim.
	Prim.	{ 49 18	V4 Anode R28 & V4 Screen
	Sec.	{ 50 6	L.S. & Ext. L.S. socket L.S. & Ext. L.S. socket
Condenser Bank (C32/33)	C33 (Red)	52	V5 Cathode
	(Black)	42	R/C Rack (12th upper)
	C32 (Yellow)	18	R/C Rack (16th lower)
Note that case is insulated from chassis			
Wave Range Switch	S1e	{ 30 32 26	Thro' C13 to S1d C4b (variable) S1d
	S1c	{ 22 20 21	L7 R/C Rack (4th lower) L5
	S1a	{ 4 2 3	L3 Filter socket L1 and C8
	S1b	{ 9 10 8	L4 R/C Rack (3rd lower) L2 and C2
	S1d	{ 27 29 26	L8 and thro' C13 to S1e R/C Rack (5th lower) C12, C14, and L6

COMPONENT	LEAD	TEST PT.	CONNECTION
Volume Control	(case)	5 41 39 43	Diode Tag V3 R/C Rack (12th lower) V3 Top Cap (screened lead) R/C Rack (8th upper)
	S2a	57 59	Mains Lead (Red) Adjustable lead to Mains Res.
	S2b	58 42	Mains Lead (Black) P. lamp and R/C Rack (12th upper)
Variable Capacitor	C4a	10	R/C Rack (3rd lower)
	C4b Chassis	32 5	S1e L2 and R/C Rack Chassis tag
Aerial Coil L.W.	L1	3 6	S1a and C8 L3 and C8
	L2	8 5	S1b and C2 L4, C2, and Var: Cap:
Aerial Coil M.W.	L3	4 6	S1a L1 and Earth Socket
	L4	9 5	S1b L2
Oscillator Coil L.W.	L5	21 25 26 5	S1c R7 S1d and C16 L8
Osc. Coil M.W.	L7	22 25 27 5	S1c R7 C11 and S1d L6 and Chassis tag

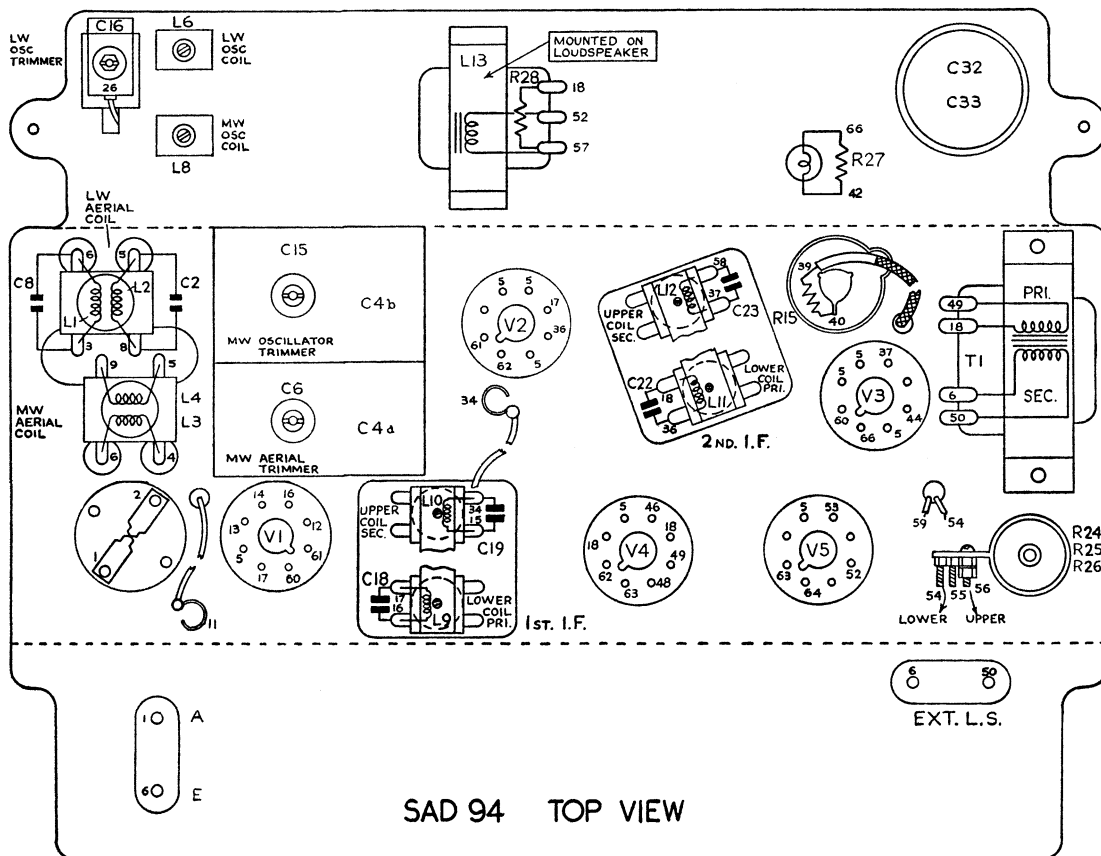
R					11 22	16	18 19	20	21	14		10, 9	8	2	4				1 3		7	
C	33	32			34		30	31	29	21 26	24		25	12, 13 17	7	10	1, 9	14	11 5			
L																			6, 5 8, 7		2, 4	
MISC				V3	52 b 52 a V5				V4			V2			51 e 51 e	51 d 51 d	51 b	V1				



SAD 94 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	8	16	2		6, 15	4, b, 4, d	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 SAD94

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 1 μ 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 1 μ F	V1 Control Grid	550 m	M.W.	1st I.F. Pri. (L 9) 1st I.F. Sec. (L 10) Do not re-adjust
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)
	If this band is adjusted, the L.W. band must also be done	1363 Kc/s (220 m)	Dummy Aerial	Æ Socket	220 m	M.W.	M.W. Oscillator Trimmer (C 15) M.W. Aerial Trimmer (C 6)
L.W.	Repeat these adjustments until there is no further improvement.	158 Kc/s (1900 m)	Dummy Aerial	Æ Socket	1900 m	L.W.	L.W. Oscillator Coil (L 6) M.W. Aerial Coil (L 2)
		300 Kc/s 1000 m	Dummy Aerial	Æ Socket	1000 m	L.W.	M.W. Oscillator Trimmer (C 16)