

# MARCONIPHONE

# Model 4169 Sch. A and B

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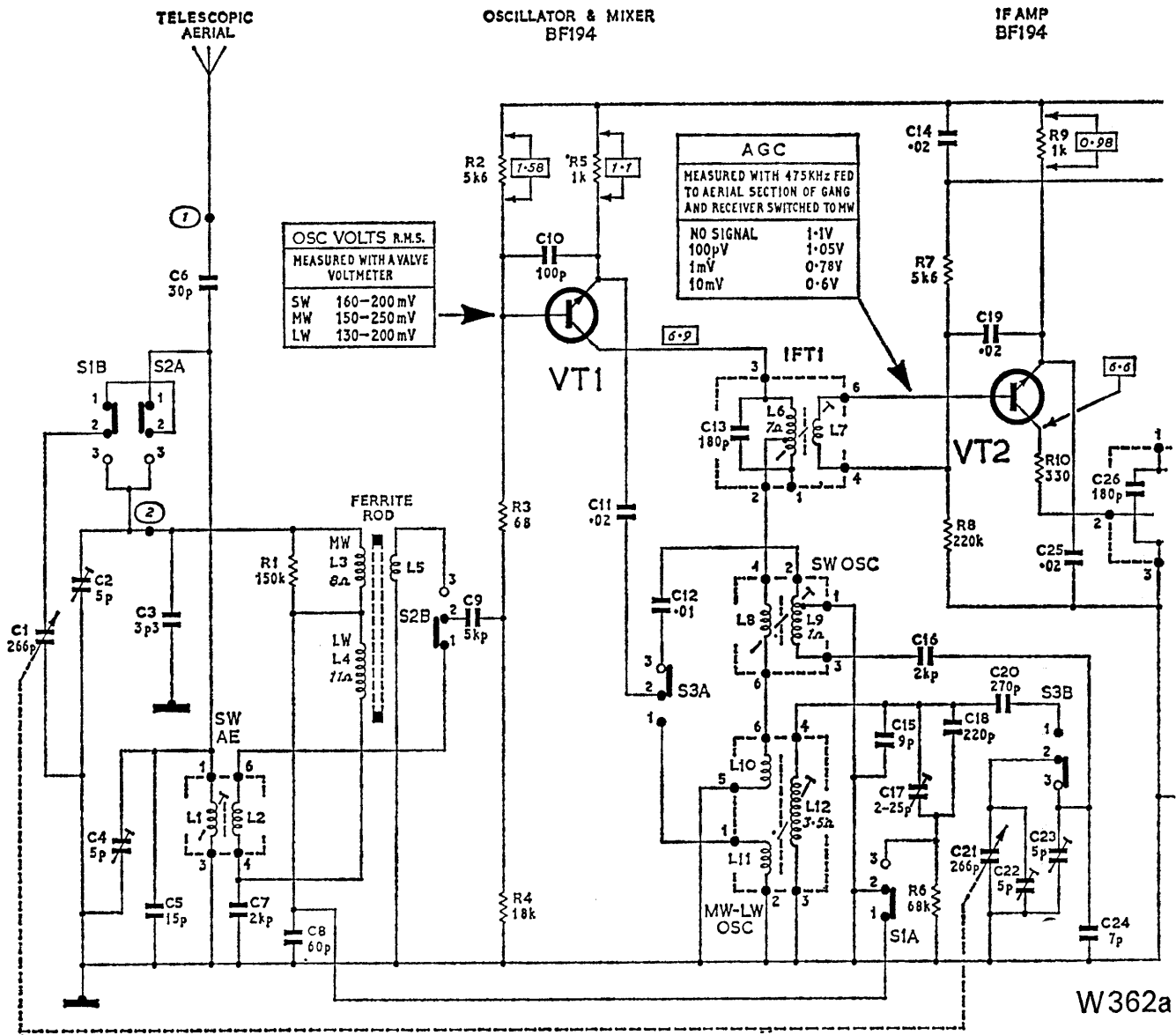
**General Description:** Portable radio with power output of 300mW.

**Aerials:** Ferrite rod for Medium and Long waves. Telescopic rod for Short wave. Socket for earphone.

**Battery:** 9 volts (PP7 or equivalent).

**Loudspeaker:** 15 ohms impedance.

**Dismantling:** Remove and disconnect battery. Two countersunk screws in the handle secure the two halves of the cabinet: remove these and hinge the cabinet open. When reassembling, ensure that lugs on lower edge of cabinet back engage in slots at bottom of cabinet front. To remove printed board, take out screw securing telescopic aerial rod and connecting lead to



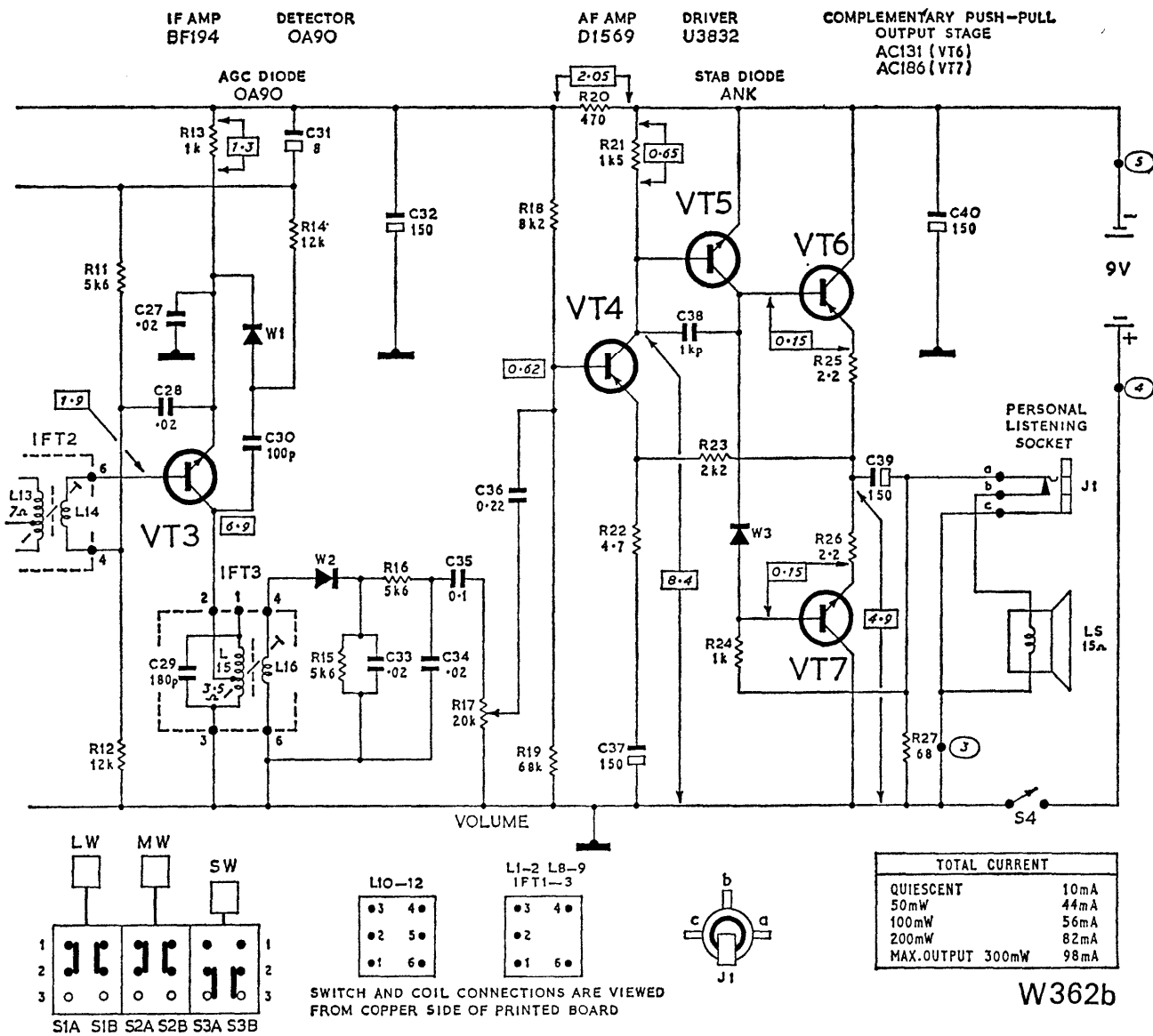
(W362a) CIRCUIT DIAGRAM—MODEL 4169 SCH.B. (PART)

bottom of cabinet, withdraw telescopic aerial and remove three screws and fibre insulating washers securing printed board to cabinet. To replace the loudspeaker, lever up one claw of each fixing clip to loosen, and use new clips to fit the replacement.

**Alignment:** A signal from a suitable A.M. generator is required. Tuning indication is best obtained either with an output meter having an impedance of 15 $\Omega$  and connected in place of the loudspeaker or a Model 8 Avometer, set to the 10 V A.C. range, connected in parallel with the loudspeaker. Throughout alignment the signal input level to the receiver should be adjusted to maintain the audio output at approximately 50mW with the volume control set at maximum in order to avoid alignment error due to A.G.C. action. Appropriate alignment markers are provided on the scale backing plate except in early production models.

**I.F. Circuits:** Select M.W. and turn gang to maximum capacitance. Apply a 475kHz modulated signal through a 0.1 $\mu$ F capacitor between tag 2 and frame of tuning gang. Adjust L15/16, L13/14 and L6/7 in that order for maximum output. Repeat in the same order until no further improvement is obtainable.

# MARCONIPHONE



(W362b) CIRCUIT DIAGRAM—MODEL 4169 SCH. B. (CONTINUED)

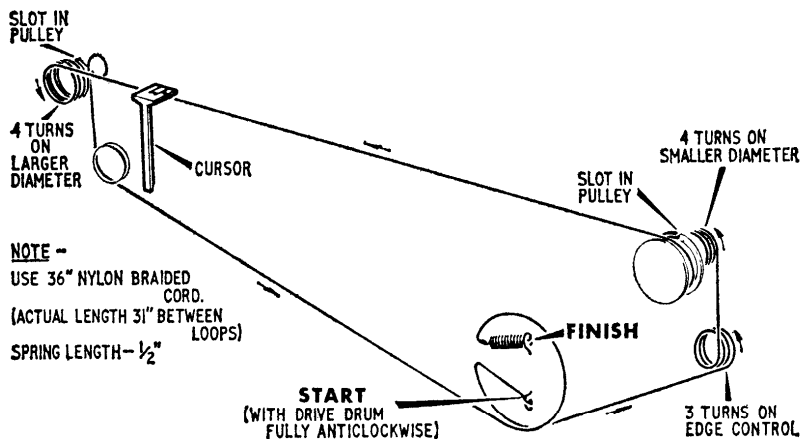
**R.F. Circuits:** With gang fully closed, check and if necessary, adjust cursor to coincide with zero marker pips on right-hand end of calibration strip or tuning scale. M.W. must be aligned first. Medium and Long wave signals should be injected via a loop loosely coupled to the ferrite rod aerial. Inject short wave signals via a 15–20 pF capacitor to the telescopic aerial lead with the telescopic aerial disconnected. Set signal generator and cursor as indicated in the table and make all adjustments for maximum output.

Range	Inject	Cursor Position	Adjust
M.W.	600 kHz	M.W. Pad or centre of 500 metres	L <sub>12</sub> , L <sub>3</sub> *
	1500 kHz	M.W. Trim or centre of 200 metres	C <sub>22</sub> , C <sub>2</sub>
L.W.	220 kHz	L.W. 220 kHz or "C" of B.B.C. 2	C <sub>17</sub> , L <sub>4</sub> *
S.W.	6.7 MHz	M.W. Pad or centre of 500 metres	L <sub>8/9</sub> , L <sub>1</sub>
	15.8 MHz	M.W. Trim or centre of 200 metres	C <sub>23</sub> , C <sub>4</sub>

\* Adjust by sliding coil former along ferrite rod.

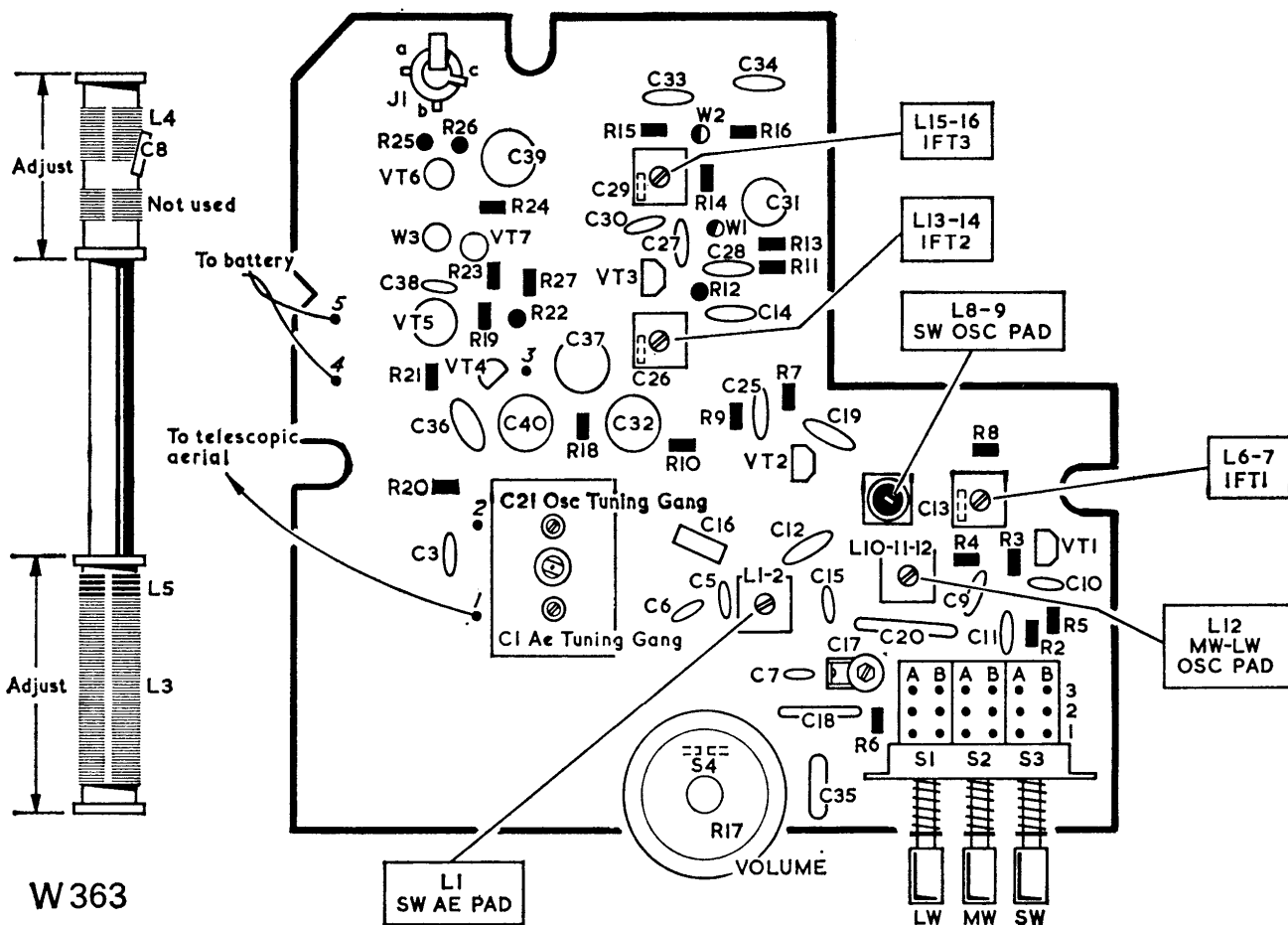
Repeat adjustments as necessary to obtain maximum output.

**Circuit Diagram Notes:** All voltages were measured with a 20,000Ω/volt meter and are with respect to the negative supply line of each transistor, except where otherwise shown. Ringed figures indicate printed board tag connection points. D.C. resistances of inductors are shown where these exceed 1Ω. Transistor types which are similar to most shown in the circuit diagram may be fitted during manufacture or supplied as replacements. In Schedule A receivers C5 is 20pF, C6 is 9pF or 15pF and C12 is 500pF.



(W364) DRIVE CORD—MODEL 4169

W 364



(W363) COMPONENT LAYOUT—MODEL 4169