The FISK

RADIOLA

MODEL 51G

•

Five Valve, Medium Wave, A.C. Operated

Superheterodyne, Mantel Receiver

•

TECHNICAL INFORMATION

AND SERVICE DATA

•

Amalgamated WORLD WIDE WIRELESS Wireless

Australasia Ltd

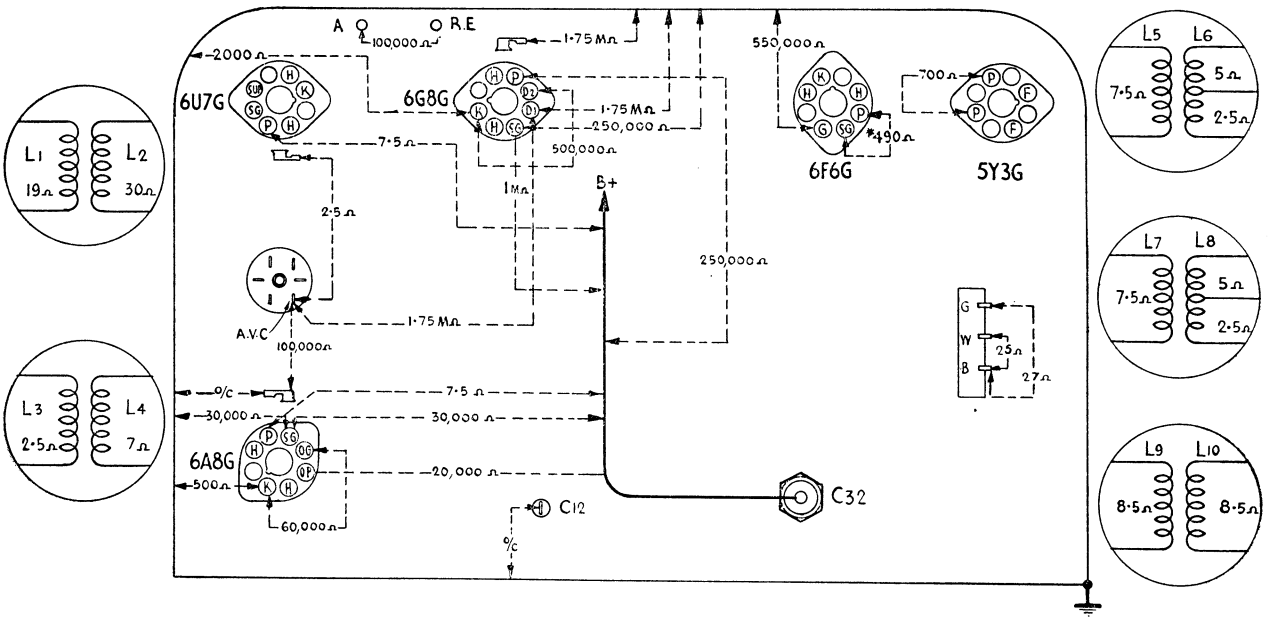


Fig. 4.—Resistance Diagram.

** Loudspeaker connected (wooden cabinet model)*

Resistances taken with valves removed and all controls maximum clockwise.

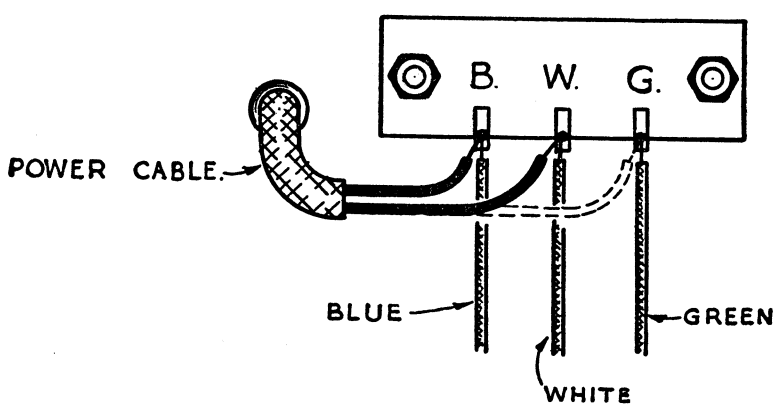


Fig. 5.—Showing Power Cable Connections for Line Voltages below 230 V. (dotted lead indicates "standard" connection).

SOCKET VOLTAGES.

VALVE	Bias Volts	Screen Grid to Chassis Volts	Plate to Chassis Volts	Plate Current M.A.	Heater Volts
6A8G Detector	4.5†	70	250	1.0	6.3
Oscillator	—	—	165	3.25	—
6U7G I.F. Amplifier	4.5†	70	250	2.0	6.3
6G8G Reflex Amplifier	1.25†	30*	125*	0.5	6.3
6F6G Pentode	16.0**	250	230	35.0	6.3
5Y3G Rectifier	680/340 volts, 57 M.A. total current.				5.0
Voltage across loudspeaker field					90 volts

*Cannot be measured with ordinary voltmeter.

**Control Grid to chassis. Cannot be measured with ordinary voltmeter.

†Cathode to Chassis.

Measured at 240 volts A.C. supply. No signal.

Volume and *sensitivity* controls at maximum.

THE FISK RADIOLA, MODEL 51G

Five Valve, Medium Wave, A.C. Operated Superheterodyne, Mantel Receiver

TECHNICAL INFORMATION

Electrical Specifications

Tuning Frequency Range ..... 1500-550 K.C. R.F. Alignment Frequencies ..... 600 K.C. 1400 K.C.

Intermediate Frequency ..... 460 K.C.

Power Supply Rating ..... 200-260V., 50-60C. (Other voltage and frequency ratings available.)

Power Consumption ..... 50 watts

CONTROLS

1—Tone 2—Volume 3—Tuning 4—Sensitivity

Loudspeaker ..... 6½ inch ..... Type A.E.9 (Moulded Cab.) Type A.E.13 (Wooden Cab.)

Loudspeaker Transformer T.T.102

Loudspeaker Field Coil Resistance ..... 1600 ohms.

Dial Lamp ..... 6.3V., .25 amp.

VALVE COMPLEMENT.

(1) 6A8G ..... Detector-Oscillator (3) 6G8G I.F. Amp., 2nd Det., A.V.C. & A.F. Amp,

(2) 6U7G ..... I.F. Amplifier (4) 6F6G ..... Output Pentode

(5) 5Y3G ..... Rectifier

Alignment Procedure

Alignment should only be necessary when adjustments have been altered from the factory setting or when repairs have been made to the tuned circuits. Climatic conditions should not seriously affect the receiver.

It is important to apply a definite procedure as tabulated below and to use adequate and reliable test equipment. Instruments ideally suited to the requirements are the A.W.A. Junior Signal Generator, Type 2R3911 or the A.W.A. Modulated Oscillator, Type C1070. An output meter is necessary in conjunction with both these instruments.

Alignment of the R.F. stages at the high frequency end of the band is by air trimmers of the plunger type. The construction of an air trimmer necessitates the use of a special adjusting tool. Such a tool, Part No. 5371, may be obtained from the Service Department of the company. It will be found advantageous to rotate the air trimmer plunger when adjusting. By doing this accuracy is more easily attained.

The I.F. Transformers, aerial and oscillator coils (600 K.C.) are adjusted by magnetite cores within the windings. A non-metallic screwdriver should be used for adjusting. A tool specially designed for the purpose is also obtainable from the company. The part number of this tool is No. 5372.

If the A.W.A. Type C1070 test oscillator is used, see that a 250,000 ohms resistor is connected between the output terminals.

Connect the ground connection of the test instrument to the receiver chassis.

Perform alignment in the proper order starting with No. 1 and following all operations across. then No. 2, etc. Adjustment locations are shown in figs. 1 and 3. Keep the Volume Control set in the maximum clockwise position and the Sensitivity Control at maximum clockwise, and regulate the output of the test instrument so that a minimum signal is introduced to the receiver to obtain an observable outpute indication. This will avoid A.V.C. action and overloading.

Alignment Order	Test Inst. Connection to Receiver	Test Inst. Setting	Receiver Dial Setting	Circuit to Adjust	Adjustment Symbol	Adjust to Obtain
1	*6A8G Grid Cap	460 K.C.	550 K.C.	3rd I.F. Trans.	L9	Max. (peak)
2	*6A8G Grid Cap	460 K.C.	550 K.C.	2nd I.F. Trans.	L8	Max. (peak)
3	*6A8G Grid Cap	460 K.C.	550 K.C.	2nd I.F. Trans.	L7	Max. (peak)
4	*6A8G Grid Cap	460 K.C.	550 K.C.	1st I.F. Trans.	L6	Max. (peak)
5	*6A8G Grid Cap	460 K.C.	550 K.C.	1st I.F. Trans.	L5	Max. (peak)
		Repeat the above adjustments before proceeding.				
6	Aerial Term.	535 K.C.	†	Oscillator	L4, L.F. Osc.	Max. (peak)
7	Aerial Term.	600 K.C.	**	—	—	Max. (peak)
8	Aerial Term.	600 K.C.	600 K.C.	Aerial	L2, L.F. Aer.	Max. (peak)
9	Aerial Term.	1400 K.C.	1400 K.C.	Oscillator	C11	Max. (peak)
10	Aerial Term.	1400 K.C.	1400 K.C.	Aerial	C4	Max. (peak)
		Repeat adjustments 6, 7, 8, 9 and 10.				

* Remove grid lead clip before connecting.

† Tuning condenser plates in full mesh.

** Tune receiver to resonance. Set receiver pointer to 600 K.C. by loosening mounting screw if necessary.

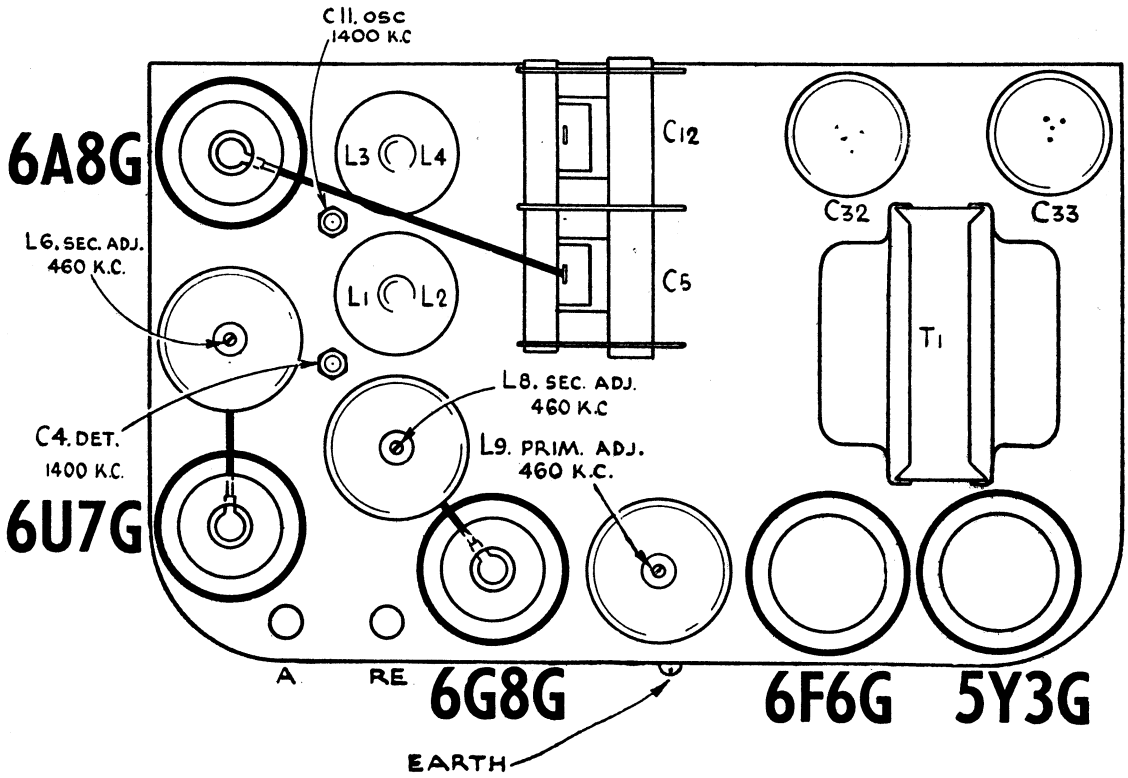


Fig. 1.—Lay-out Diagram (top view).

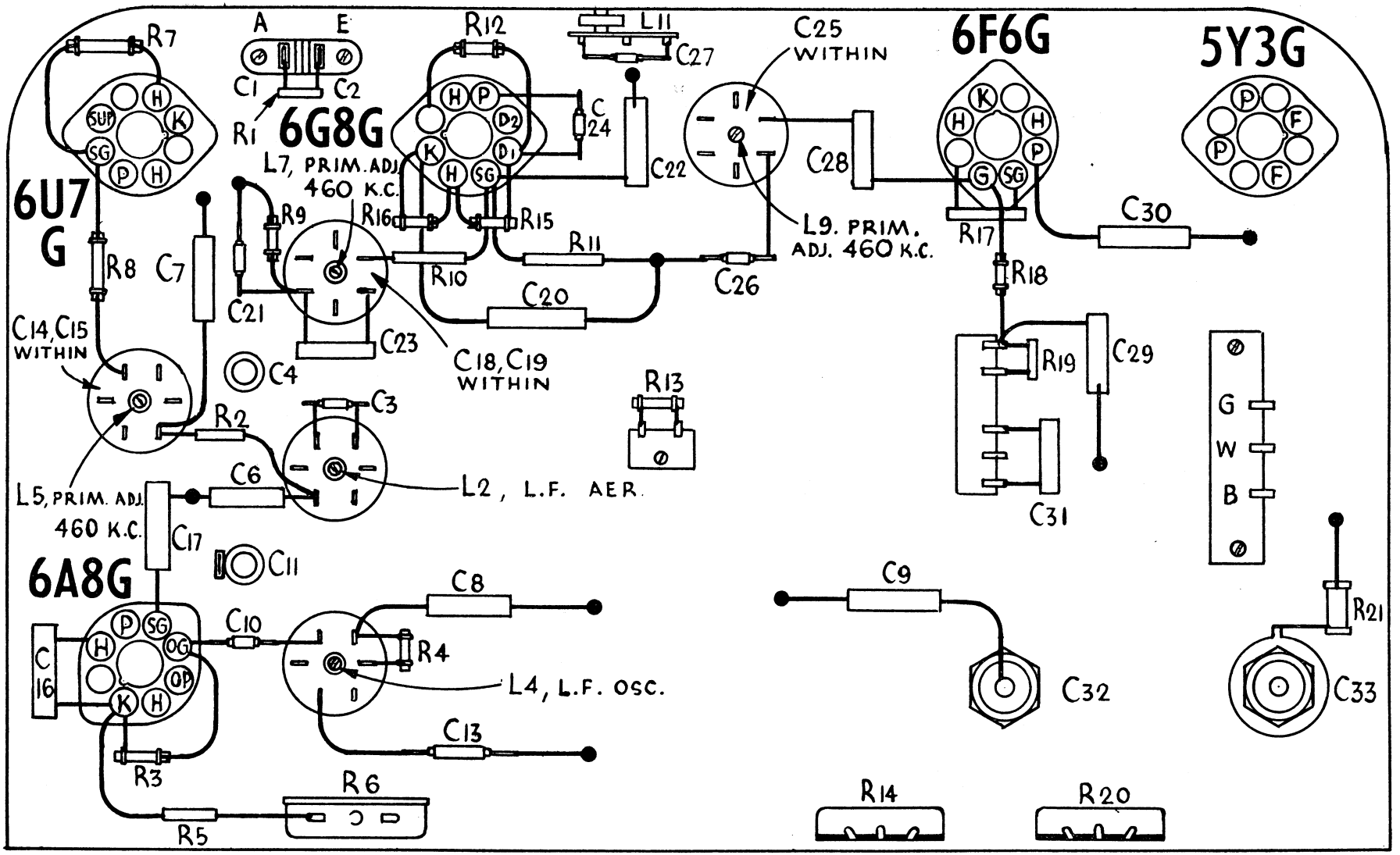


Fig. 3.—Lay-out Diagram (underneath view).

Code	Part	COILS
L1, L2	4353	Aerial Coil
L3, L4	4354	Oscillator Coil
L5, L6	5688	1st I.F. Transformer
L7, L8	5688	2nd I.F. Transformer
L9, L10	5690	3rd I.F. Transformer
L11, C27	5441	I.F. Filter
		TRANSFORMERS
T1	5684	Power Transformer, 50-60C
T1	5686	Power Transformer 40C
T2	TT102	Loudspeaker Transformer

Code	Part	RESISTORS
R1		100,000 ohms, 1/3 watt
R2		100,000 ohms, 1/3 watt
R3		60,000 ohms, 1/3 watt
R4		20,000 ohms, 1 watt
R5		500 ohms, 1/3 watt
R6	4396	3,000 ohms, Sens. Control
R7		30,000 ohms, 1 watt
R8		30,000 ohms, 1 watt
R9		1.75 megohms, 1/3 watt
R10		1 megohm, 1 watt
R11		250,000 ohms, 1 watt
R12		1.75 megohms, 1/3 watt
R13		500,000 ohms, 1/3 watt
R14	4286	500,000 ohms, vol. control
R15		1.75 megohms, 1/3 watt
R16		2,000 ohms, 1/3 watt
R17		250,000 ohms, 1 watt
R18		500,000 ohms, 1/3 watt
R19		50,000 ohms, 1/3 watt
R20	4284	100,000 ohms, Tone Control
R21		300 ohms, 3 watt

Code	Part	CONDENSERS
C1		500 mmfd. mica
C2		500 mmfd. mica
C3		4 mmfd. mica
C4	3658	2-10 mmfd. air trimmer
C5	4369	Tuning Condenser
C6		.05 mfd. paper
C7		.05 mfd. paper
C8		.05 mfd. paper
C9		.1 mfd. paper
C10		110 mmfd. mica (L)
C11	4853	16-34 mmfd. air trimmer
C12	4369	Tuning Condenser
C13		440 mmfd. mica (padder)
C14		115 mmfd. mica (A)
C15		130 mmfd. mica (H)
C16		.1 mfd. paper
C17		.1 mfd. paper
C18		115 mmfd. mica (A)
C19		130 mmfd. mica (H)
C20		25 mfd., 25V Electrolytic
C21		110 mmfd. mica (L)
C22		.1 mfd. paper
C23		.01 mfd. paper
C24		50 mmfd. mica (D)
C25		70 mmfd. mica (N)
C26		110 mmfd. mica (L)
C27		115 mmfd. mica (A)
C28		.01 mfd. paper
C29		.05 mfd. paper
C30		.005 mfd. paper
C31		.035 mfd. paper
C32		8 mfd. 450V Electrolytic
C33		8 mfd. 500V Electrolytic

Circuit Code.

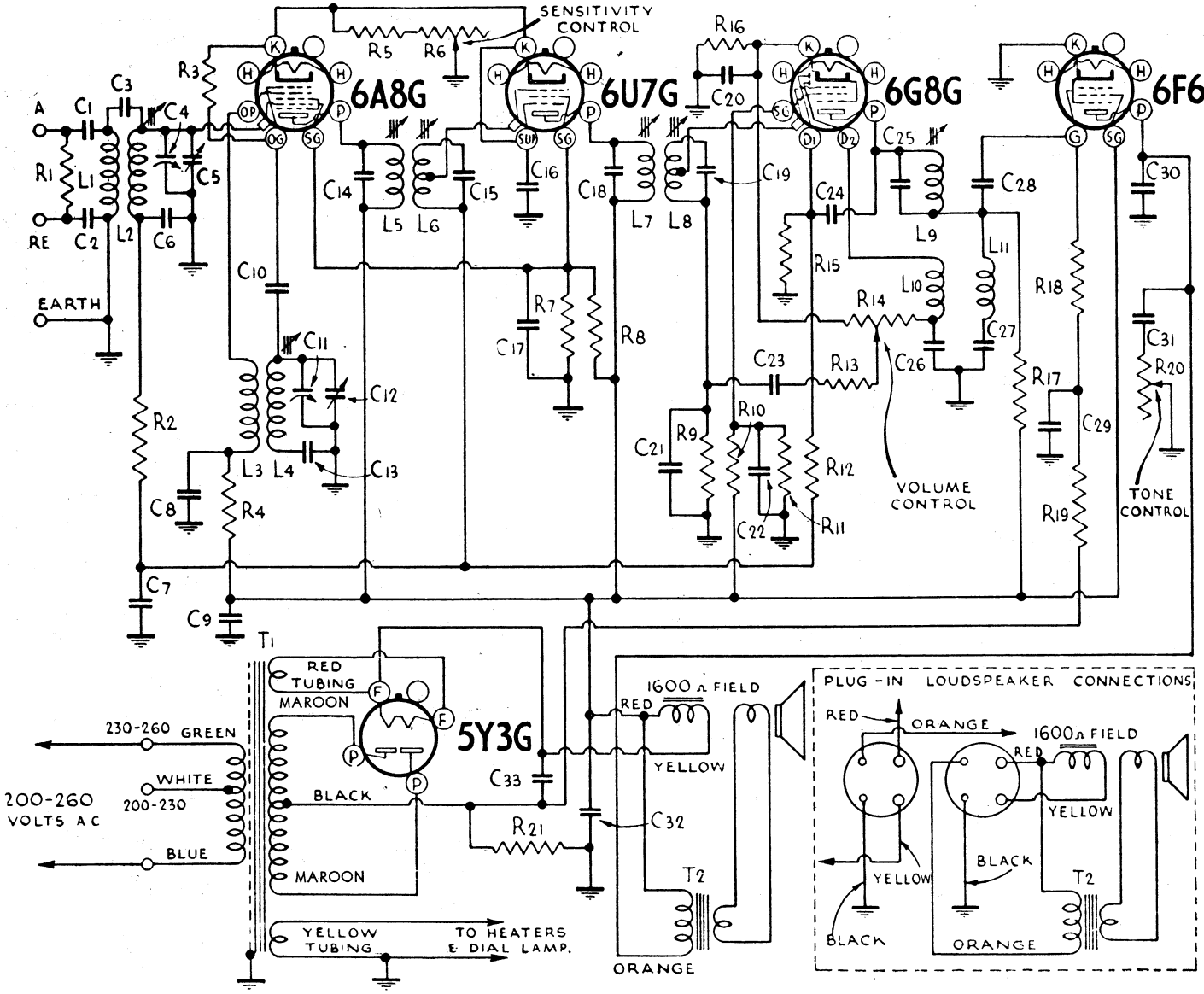
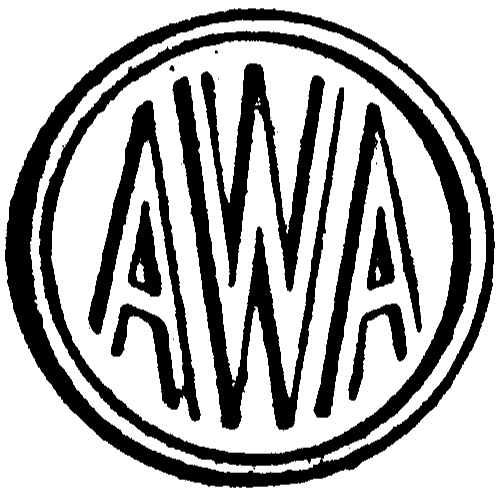


Fig. 2.—Circuit Diagram.


AWA