



A.W.A. STEREPHONIC RADIOLGRAM Models B50 and B50Z

GENERAL DESCRIPTION

These models are seven valve, A.C. operated stereophonic radiograms designed for the reception of the Medium Wave Band and for the reproduction of both monophonic and stereophonic recordings.

Model B50 is equipped with BSR UA25 changer.

Model B50Z is equipped with a Garrard 1000 changer.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

Frequency Range 525-1,650 Kc/s
Intermediate Frequency 455 Kc/s
Power Supply Rating 200-260 volts a.c. 50 c.p.s.

POWER CONSUMPTION:
Receiver Chassis 50 watts
Record Changer 20 watts

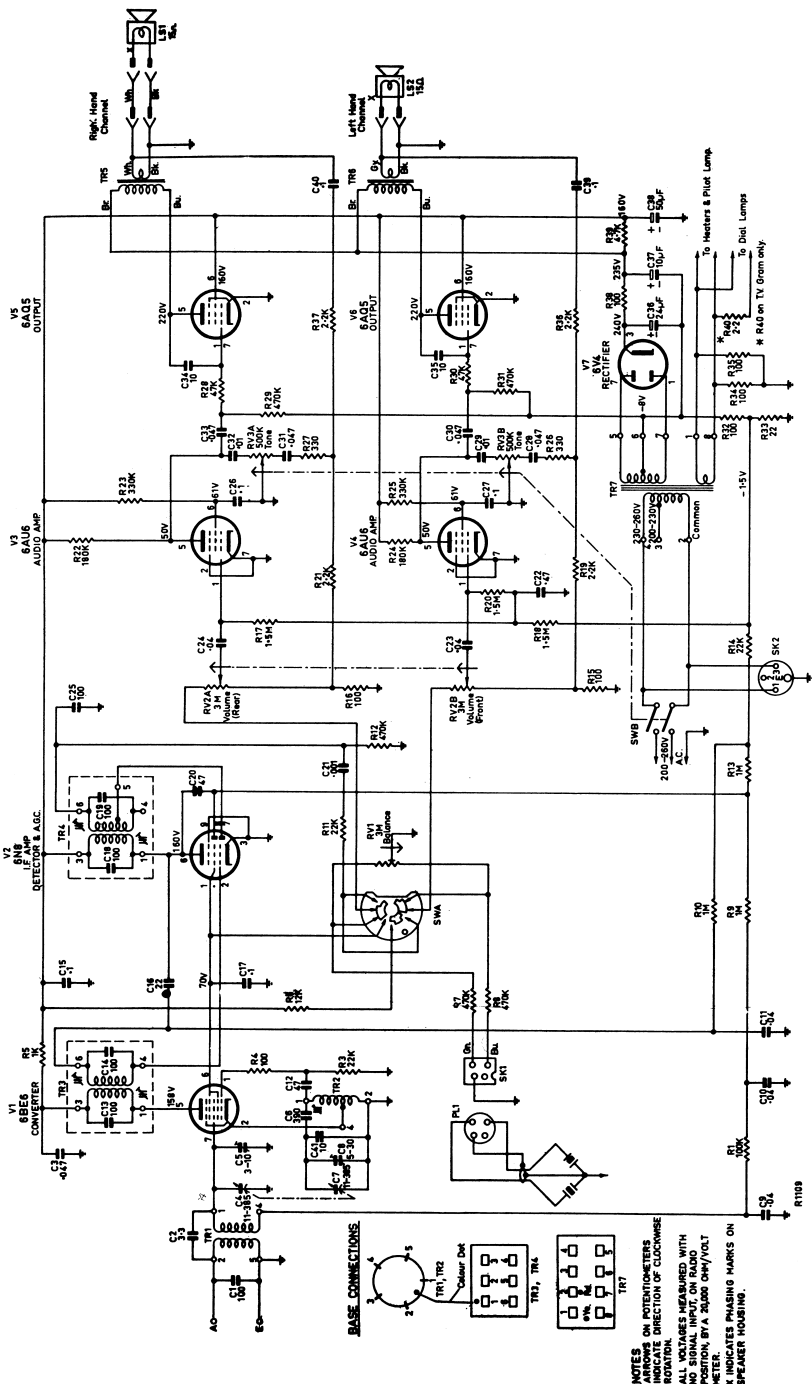
UNDISTORTED POWER OUTPUT: 1.5 watts per channel

LOUDSPEAKERS:
9" x 6", one per channel 52849

V.C. IMPEDANCE: 15 ohms at 400 c.p.s.

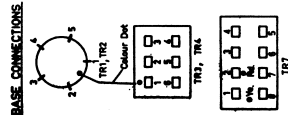
DIMENSIONS:
Height 26"
Width 45½"
Depth 15½"
Height of Legs 7½"
Weight 88 lbs.

VALVE COMPLIMENT:
V1 Radiotron 6BE6 Converter
V2 Radiotron 6N8 I.F. Amplifier, Detector and A.G.C.
V3 Radiotron 6AU6 Left-hand channel Audio Amplifier
V4 Radiotron 6AU6 Right-hand channel Audio Amplifier
V5 Radiotron 6AQ5 Left-hand channel output
V6 Radiotron 6AQ5 Right-hand channel output
V7 Radiotron 6V4 Rectifier



CIRCUIT VARIATIONS.

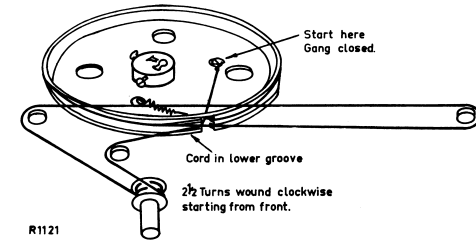
C41 should read 12pf.
R41 a 1 megohm resistor is wired across the active leads of the record cartridge when BSR changer is fitted.



NOTES:
ARROWS ON POTENTIOMETERS INDICATE DIRECTION OF CLOCKWISE ALL VOLTAGES MEASURED WITH NO SIGNAL INPUT ON RADIO POSITION, BY A 2000 OHM/VOLT X INDICATES PHASING MARKS ON SPEAKER HOUSING.

DIAL CORD REPLACEMENT:

Fig. 1 shows the route of the cord and the method of attachment.



LAMP REPLACEMENT:

Both 12 and 6 volt lamps are used and are accessible on removing the cabinet back.

The bezel light is a 12 volt, while the dial lamps are 6 volt.

SPEAKER PHASING:

It is essential that speakers are correctly phased. For this reason all speakers have a + mark against one of the voice coil terminals. This indicates that when a positive voltage is applied to this terminal, the cone will move away from the magnet housing. These phasing marks are indicated on the circuit diagram.

CHASSIS REMOVAL:

Remove the cabinet back and disconnect the aerial and earth leads.

Disconnect the speaker leads, power, phono motor power and pick-up input plugs.

Remove the control knobs.

Remove three Philips Head screws retaining the escutcheon and remove same.

Remove the bezel lamp holder from its bracket.

Remove the self-tapping screw retaining the dial backing plate.

Remove two nuts holding the chassis to the cabinet front.

The chassis may now be lifted from the cabinet.

Re-assembly is the reverse of the above procedure.

RECORD CHANGER REMOVAL:

Remove the cabinet back.

Disconnect the phono motor power and pick-up input plugs.

Viewed from underneath the base board will be seen the two clips securing the record changer.

Swing the clips over so that they are parallel with the screws and lift the record changer free.

ALIGNMENT PROCEDURE

MANUFACTURER'S SETTING OF ADJUSTMENTS:

The receiver is tested by the manufacturer with precision instruments, and all adjusting screws are sealed. Re-alignment should be necessary only when components in tuned circuits are repaired or replaced or when it is found that the seals over the adjusting screws have been broken. It is specially important that the adjustments should not be altered unless the correct testing instruments, listed below, are used.

Under no circumstances should the plates of the ganged tuning capacitor be bent as the unit is accurately aligned during manufacture and can only be re-adjusted by skilled operators using special equipment.

For all alignment operations, keep the generator output as low as possible to avoid a.g.c. action. Also, keep the volume control in the maximum clockwise position.

TESTING INSTRUMENTS:

- (1) Signal Generator, modulated at 400 c.p.s., or
- (2) Modulated Oscillator. If the modulated oscillator is used, connect a 220K ohms non-inductive resistor across the output terminals.
- (3) Output Meter—15 ohms impedance.

In order to avoid damage to output valves and associated circuitry when the chassis is being tested, it is necessary to provide a load on both audio amplifiers. Hence, a 15 ohms, 3 watt resistor should be connected to the voice coil terminals of the amplifier which is not loaded with the output meter.

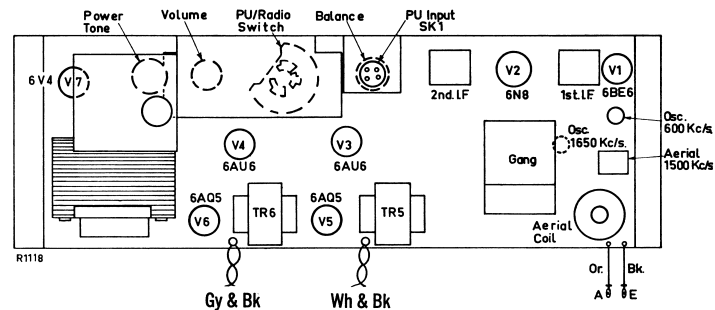
Set the balance control to the position which gives maximum audio output on the output meter.

ALIGNMENT TABLE

ORDER	CONNECT GENERATOR TO:	TUNE GENERATOR TO:	TUNE RECEIVER TO:	ADJUST FOR MAXIMUM PEAK OUTPUT:
1	Grid of 6BE6 (Rear Section of gang)	455 Kc/s	Gang fully closed	Top and bottom cores in TR4 and TR3
Repeat adjustments until maximum output is obtained				
2	Aerial Lead	600 Kc/s	600 Kc/s	Osc. Core Adj. (TR2)*
3	Aerial Lead	1,650 Kc/s	Gang fully open	Osc. Trimmer (C8)
4	Aerial Lead	1,500 Kc/s	1,500 Kc/s	Aer. Trimmer (C5)

Repeat adjustments 2, 3 and 4.

* Rock the tuning control back and forth through the signal.



CHASSIS LAYOUT

SOCKET VOLTAGES

VALVES	CATHODE TO CHASSIS VOLTS	SCREEN GRID TO CHASSIS VOLTS	ANODE TO CHASSIS VOLTS	ANODE CURRENT mA	HEATER VOLTS
6BE6 Converter	0	70	160	2	6.3
6N8 I.F. Amp., Det., AGC	0	70	160	5	6.3
6AU6 Audio Amp.	0	61	50	0.75	6.3
6AU6 Audio Amp.	0	61	50	0.75	6.3
6AQ5 Audio Output	0	160	220	25	6.3
6AQ5 Audio Output	0	160	220	25	6.3
6V4 Rectifier	240	—	235	—	6.3

Total H.T. Current = 70mA
 Measured with 240 volts A.C. supply (with selector switch in radio position). No signal input. Volume Control maximum clockwise. Voltmeter 20,000 ohms per volt. Measurements taken on highest scale giving accurate readable deflection.