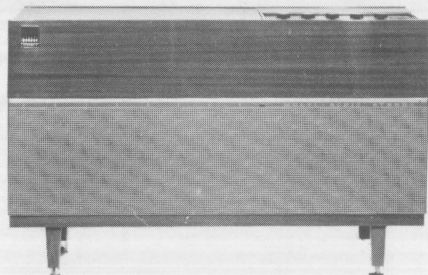


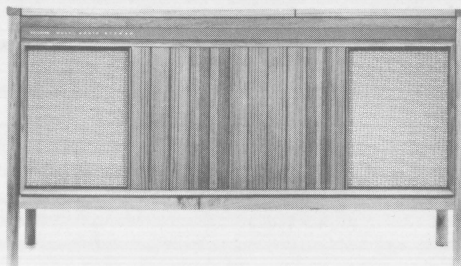
BOX 107 P.O. CARINGBAH N.S.W. 524-0444

PLEASE CIRCULATE TO YOUR SERVICE DEPARTMENT

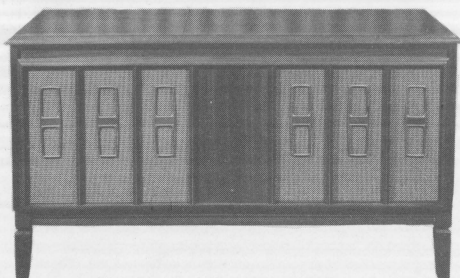
#### MODELS:



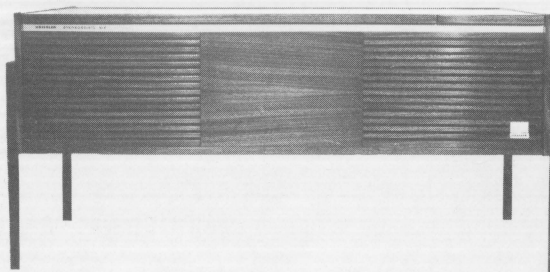
11-98A



11-104



11-109



11-114

#### DESCRIPTION:

Models 11-98A, 11-104 and 11-109 are fitted with identical chassis types. Model 11-114 chassis is basically identical, with minor differences, which are:—

The addition (to each channel) of R10 a and b, R11 a and b, R23 a and b, and C13 a and b (refer 11-114 circuit).

The change of value (to each channel) of R12 a and b and R13 a and b.

The deletion of R10, R11, C13, C14, J1, J2 (refer 11-109 circuit).

ITEM	11-98A	11-104	11-109	11-114
Changer	BSR UA 25	BSR UA 15 SS2A	BSR UA 15 SS2A	BSR UA 25
Cartridge	C1	C1	C1	C1
Stylus	ST4	ST4	ST4	ST3
Pressure	6 gm.	6 gm.	6 gm.	6 gm.
Speaker/s	2 x MSP 8Tax 15ohm	Rola C8MX/15ohm	Rola C8MX/15ohm	2 x 8S1X 15ohm

#### MAINS SUPPLY:

200 to 250 volts, 50 Hz, A.C. only (240V primary tapped at 220 volts). If operated on a 40 or 60 Hz supply, the changer motor must be replaced; and on 40 Hz, a 100 20W resistor should be inserted in series with the 240V tap on the power transformer.

#### AERIAL:

Ferrite rod, 8" x 3/8". In difficult reception areas, re-location of the receiver for best signal pick-up may be desirable due to the directivity of the ferrite rod. Alternatively, an external aerial may be connected to the red lead at rear of cabinet. To be more effective than the ferrite rod, the external aerial should be 25-30 feet long.

#### EARTH:

A separate earth is not generally needed because a three-core power flex is used. If the mains earth is not a satisfactory radio earth, a separate earth may be connected to the black lead at rear of cabinet.

**TUNING RANGE:** 525 to 1650 KHz.

**INTERMEDIATE FREQUENCY:** 455 KHz.

**ALIGNMENT:** Conventional. Tracking Points are at 600 and 1500 KHz.

**POWER OUTPUT:** 3 Watts at 1000 Hz at 10% Distortion.

ITEM	11-98A	11-104	11-109	11-114
Cabinet Length	42"	48"	49"	43 <sup>5</sup> / <sub>8</sub> "
Depth	16 <sup>1</sup> / <sub>4</sub> "	17 <sup>1</sup> / <sub>4</sub> "	17 <sup>1</sup> / <sub>8</sub> "	17 <sup>3</sup> / <sub>4</sub> "
Height (Inc. Legs)	28 <sup>1</sup> / <sub>2</sub> "	27 <sup>1</sup> / <sub>2</sub> "	26 <sup>3</sup> / <sub>4</sub> "	20 <sup>3</sup> / <sub>8</sub> "
Weight (lb.)	112	156	140	85

### INSTALLATION:

This receiver should be installed and serviced in conformity with the relevant SAA Safety Standards (e.g. Australian Standard CC8-1962, C159-1959, C100-1953).

### SERVICE ACCESS:

WARNING: SWITCH OFF AND DISCONNECT POWER LEAD FROM MAINS SUPPLY SOURCE BEFORE HANDLING INTERNAL METAL WORK, WIRING OR COMPONENTS.

### MODELS 11-98A, 11-104, 11-109

#### VALVE ACCESS:

Remove Cabinet back only.

### RECORD CHANGER REMOVAL:

Remove cabinet back and disconnect all leads to changer. With transit screws fully in, reach under the changer and turn the clips on the ends of the transit screws until they lie vertically. Lift off changer.

### DIAL LAMP REPLACEMENT:

With the chassis removed as described below, the dial lamps are accessible. If necessary, loosen the die-cast escutcheon.

### DIAL CORD REPLACEMENT:

This requires removal of the die-cast escutcheon and the back dial backing plate. The dial cord lay-out is shown on the circuit diagram.

### MODEL 11-98A

#### CHASSIS REMOVAL:

Disconnect from power point. Raise lid of record compartment. Remove screw in upper cabinet back rear of radio compartment. Lift timber flap at rear of radio dial. Remove three screws securing chassis to cross-rail at rear of dial. Lift rear of control panel, slide chassis back about  $\frac{1}{4}$ ", lift out, turn wiring side up and rest front panel on cross-rail with power transformer on wall at left of radio compartment. This will not damage the polish on the cabinet.

### MODELS 11-104, 11-109

#### CHASSIS REMOVAL:

Disconnect chassis from power point. Raise lids of radio and record compartments. Remove three screws in upper cabinet back (above the top edge of the masonite back) at rear of radio compartment. Lift and remove timber flap at rear of radio dial, by inserting fingers in the slot at rear of cabinet and pushing upwards the back bottom edge of the timber flap until a grip is obtainable at its lefthand end. Remove two screws securing chassis to cross-rail at rear of dial. Lift rear of control panel, slide chassis back about  $\frac{1}{4}$ ", lift out, turn wiring side up and rest chassis diagonally on cross-rails and woodwork, suitably protecting the latter against damage.

### MODEL 11-114

#### VALVE AND CHASSIS ACCESS:

Ease of service access has been achieved by making the speaker baffle removable.

(a) Undo two screws securing the bottom of the baffle to brackets attached to the front edge of the under-face of the cabinet. Ease the bottom of the baffle forward to clear the brackets, allow the baffle top to drop out of its retaining channel in the metal trim along the cabinet top front, and remove the baffle. This exposes the loudspeakers.

(b) To expose the chassis, remove one screw in the metal trim approximately  $1\frac{1}{2}$ " up from the top of the righthand speaker and two screws (4" apart) just above the vent panel at the rear of the cabinet at approximately the same height as the front screw. Lift off the timber section of the top of the cabinet, adjacent to the lid at the righthand end. The valves are now accessible.

(c) The chassis may be removed by undoing two screws in the righthand vertical face of the record changer compartment, and one screw at the back of the cabinet adjacent to the middle of the vertical side of the vent panel mentioned in 'b' above. For complete chassis removal, remove the lefthand speaker from the baffle (four S.T. screws) for access to the pin-jacks by which the speaker leads are connected. Disconnect the record changer A.C. supply leads at the connector block mounted on the chassis; and the audio leads by withdrawing the plugs from the appropriate sockets.

### RECORD CHANGER REMOVAL:

Remove speaker baffle as in 'a' above. Disconnect appropriate leads. Screw transit screws fully in. Reach in through aperture in the front of the cabinet and turn transit screw clips so that they lie vertically. Lift off changer.

### DIAL LAMP REPLACEMENT:

Remove chassis as described above, the dial lamp sockets are now accessible and may be withdrawn from their retaining grommets.

### DIAL CORD REPLACEMENT:

Remove chassis as described above. Remove control knobs. Remove the metal trim on the control knob side of the dial scale by undoing three screws on the underside of the trim. Remove the dial lens by sliding it out of the channel in the remaining piece of metal trim. Lift dial pointer carrier off the carrier mount and position pointers vertically. Undo four screws, one at each corner of the dial scale housing, and remove housing. As the dial drive mechanism is now accessible, refer to dial cord layout drawing on the circuit diagram attached hereto.

No.		DESCRIPTION		No.		DESCRIPTION		No.		DESCRIPTION	
R1	47K	1/2W	BTS	20%	R27	1.5K	2W	BTB	10%	C14 *	100pF 600V Styroseal
R2	39K	1W	BTS	20%	R28	10K	1W	BTA	10%	C15	100uF 4V Electro
R3	470K	1/2W	BTS	20%	R29	1M	1/2W	BTS	10%	C16	150pF 600V Styroseal
R4	27K	1W	BTA	20%	R30	220ohm	2W	BTB	10%	C17	150pF 600V Styroseal
R5	2.2M	1/2W	BTS	20%	L1 L2 L3 IFT1 IFT2 T1, 2 T3	Compensating Coil				C18	150pF 600V Styroseal
R6	470K	1/2W	BTS	20%						C19	.033uF 400V Polyester
R7	47K	1/2W	BTS	20%						C20	.033uF 400V Polyester
R10*										C21	.022uF 400V Polyester
R11*										C22	.022uF 400V Polyester
R12*					T1, 2 T3	I.F. Transformer				C23	.0047uF 400V Paper
R13*										C24	.0047uF 400V Paper
R14	220K	1W	BTA	20%						C25	.0022uF 1000V Paper
R15	220K	1W	BTA	20%						C26	.0022uF 1000V Paper
R16	100K	1/2W	BTS	20%						C27	.0022uF 125V Polyester
R17	100K	1/2W	BTS	20%	C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 *	5-50pF Mica Trimmer Type CWO				C28	.047uF 125V Polyester
R18*										C29	50uF 300V Electro
R19*										C30	15uF 300V Electro
R20	10K	1/2W	BTS	20%						C31	8uF 300V Electro
R21	10K	1/2W	BTS	20%						C32	32uF 300V Electro
R22	5.6K	1W	BTA	20%							
R23*											
R24	10M	1/2W	BTS	20%							
R25	100ohm	1W	BTA	10%							
R26	270K	1/2W	BTS	20%							

\*SEE LIST TABULATED FOR MODEL TYPES

ITEM

Dial Glass  
Radio-Gram SW  
Jacks J1 and J2  
Control Knobs  
Knob Inserts  
Volume Pot. (R12)  
Tone Pot. (R19)  
Balance Pot. (R18)

11-98A

69-6339  
17-4220  
Gold ring RM2/C  
20-6360  
16-7467  
32-4720  
32-4221  
32-4223  
2.2M 1/2W Carbon  
2.2M 1/2W Carbon  
2.7K 1W Carbon  
5.6K 1W Carbon  
56pF 500V Mica  
56pF 500V Mica

11-104

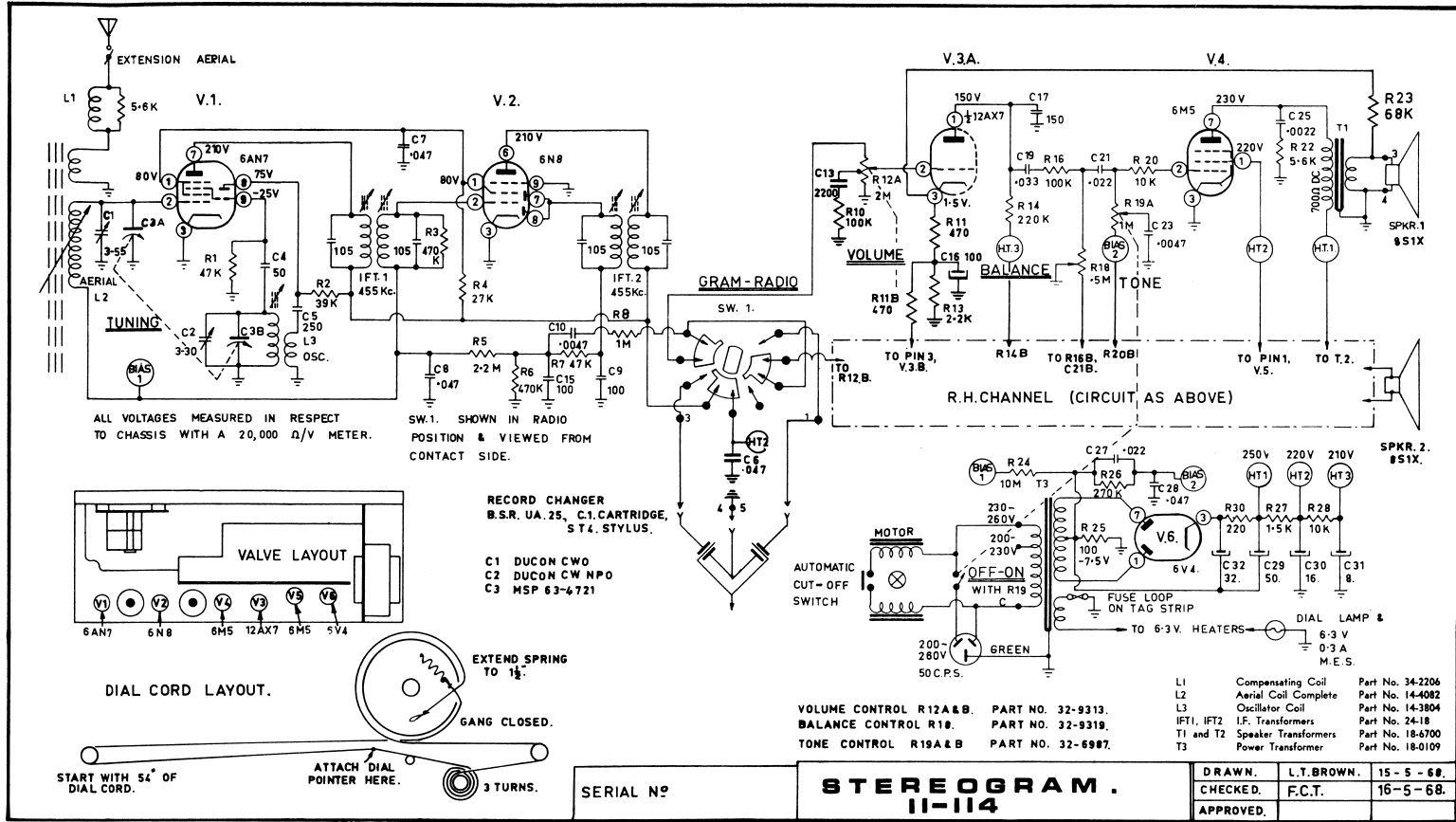
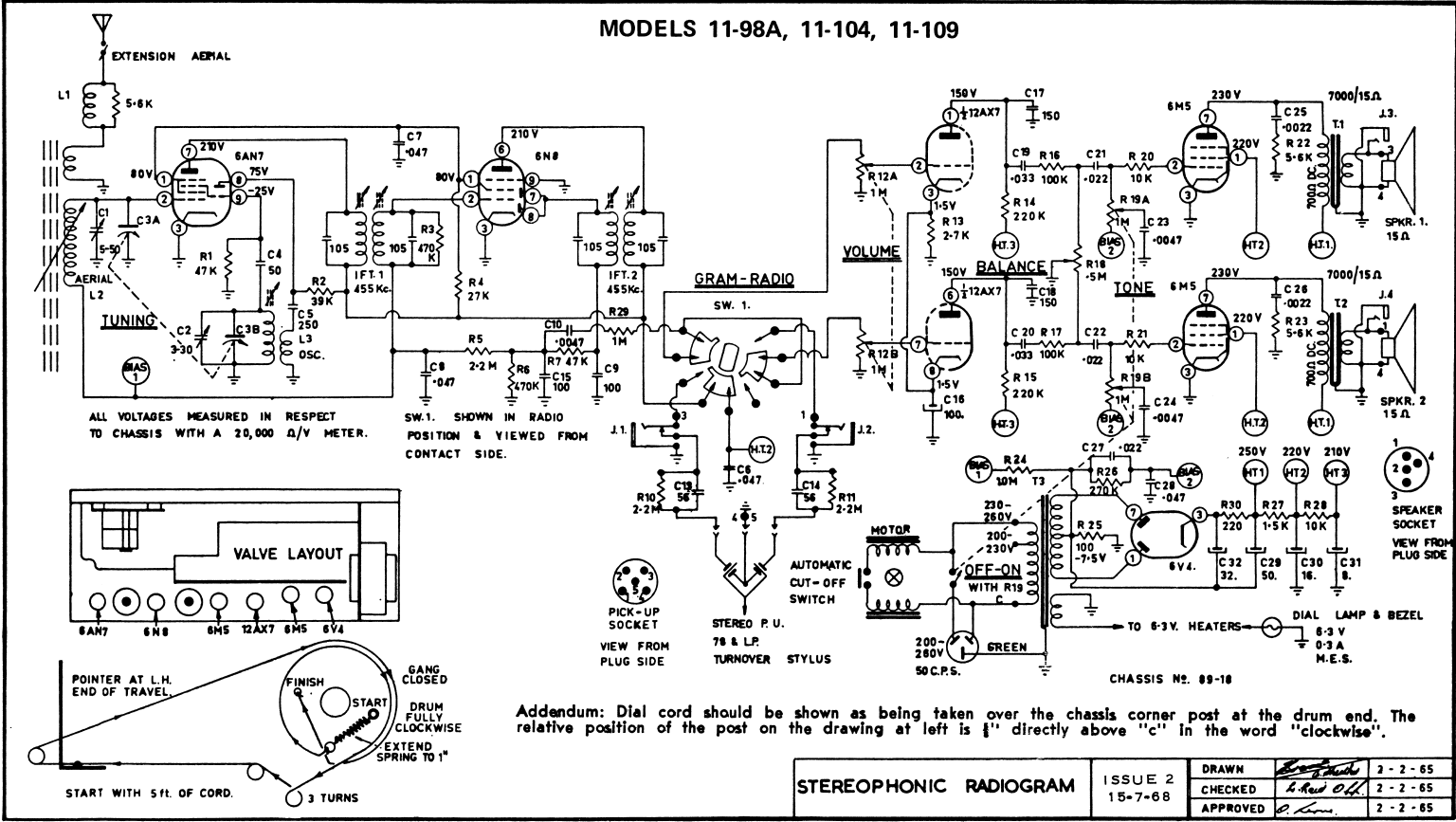
69-6339  
17-4220  
Gold ring RM2/C  
20-6360  
16-7282  
32-4720  
32-4221  
32-4223  
2.2M 1/2W Carbon  
2.2M 1/2W Carbon  
2.7K 1W Carbon  
5.6K 1W Carbon  
56pF 500V Mica  
56pF 500V Mica

11-109

69-6339  
17-4220  
Gold ring RM2/C  
20-6360  
16-7467  
32-4720  
32-4221  
32-4223  
2.2M 1/2W Carbon  
2.2M 1/2W Carbon  
2.7K 1W Carbon  
5.6K 1W Carbon  
56pF 500V Mica  
56pF 500V Mica

11-114

69-9300  
17-6989  
20-7010A  
16-7467  
32-9313  
32-6987  
32-9319  
100K 1/2W Carbon  
470K 1/2W Carbon  
2.2K 1W Carbon  
68K 1/2W Carbon  
2200pF Polyester 400V



Addendum: Dial cord should be shown as being taken over the chassis corner post at the drum end. The relative position of the post on the drawing at left is 1" directly above "c" in the word "clockwise".

STEREOPHONIC RADIOGRAM	ISSUE 2 15-7-68	DRAWN	<i>[Signature]</i>	2-2-65
		CHECKED	<i>[Signature]</i>	2-2-65
		APPROVED	<i>[Signature]</i>	2-2-65