

# SERVICE BULLETIN

SERVICE BULLETIN No. 21  
MODEL 25 : 5-VALVE DUAL WAVE RECEIVER.  
First Edition : January, 1937.

*Corrected Drawing*  
*D254 same date 15-1-37*

RADIO CORPORATION  
OF NEW ZEALAND LTD.

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## MODEL 25 : 5-VALVE DUAL-WAVE RECEIVER.

First Edition : January, 1937.

1. **GENERAL:** This is a 5-valve dual-wave receiver in the low price class, using a mixed series of glass and metal valves. To obtain maximum selectivity as well as sensitivity, iron-cored intermediate frequency transformers are used. Tone variation is obtained by means of a three-position tone switch carefully graded to meet average requirements as determined by numerous tests. An interesting feature is the provision of a log scale indicating the frequencies of the principal Australian broadcast stations, as well as the principal shortwave-wave broadcasting stations of the world.

### 2. ELECTRICAL SPECIFICATIONS:

Power supply	225-250 volts A.C., 50 cycles										
Power consumption	Approx. 55 watts										
Valves used	<table> <tr> <td>Frequency changer</td><td>6A8</td></tr> <tr> <td>I. F. amplifier</td><td>6K7</td></tr> <tr> <td>Detector-amplifier</td><td>6B7</td></tr> <tr> <td>Output pentode</td><td>42</td></tr> <tr> <td>Rectifier</td><td>80</td></tr> </table>	Frequency changer	6A8	I. F. amplifier	6K7	Detector-amplifier	6B7	Output pentode	42	Rectifier	80
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Output pentode	42										
Rectifier	80										
Intermediate frequency	456 kc/sec.										
Broadcast band	550-1500 kc/sec.										
High-frequency band	6-16 mc/sec.										
Line-up frequencies	<table> <tr> <td>Intermediate frequency</td><td>456 kc/sec.</td></tr> <tr> <td>Broadcast band</td><td>600 and 1400 kc/sec.</td></tr> <tr> <td>High-frequency band</td><td>6 and 15 mc/sec.</td></tr> </table>	Intermediate frequency	456 kc/sec.	Broadcast band	600 and 1400 kc/sec.	High-frequency band	6 and 15 mc/sec.				
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Broadcast band	600 and 1400 kc/sec.										
High-frequency band	6 and 15 mc/sec.										

### 3. VOLTAGE TESTS: A.C:

High-tension secondary of power transformer, from each rectifier plate to ground	320 volts
Heater of rectifier	5 volts
All other heaters	6 volts

### D.C:

Unfiltered voltage, rectifier heater to ground	320 volts
Filtered voltage, speaker field to ground	225 volts
Other voltages to ground, using 1000 ohm per volt meter on 500 volt range except where otherwise stated—	

Valve.	Function.	Plate.	Osc. Plate.	Screen.	Cathode
6A8	Freq. Changer	225	140,80*	98	5.5†
6K7	I.F. amplifier	225	—	98	3†
6B7	Detector-amp.	40	—	13†	2†
42	Output pentode	215	—	225	14

\*Broadcast and short-wave respectively.

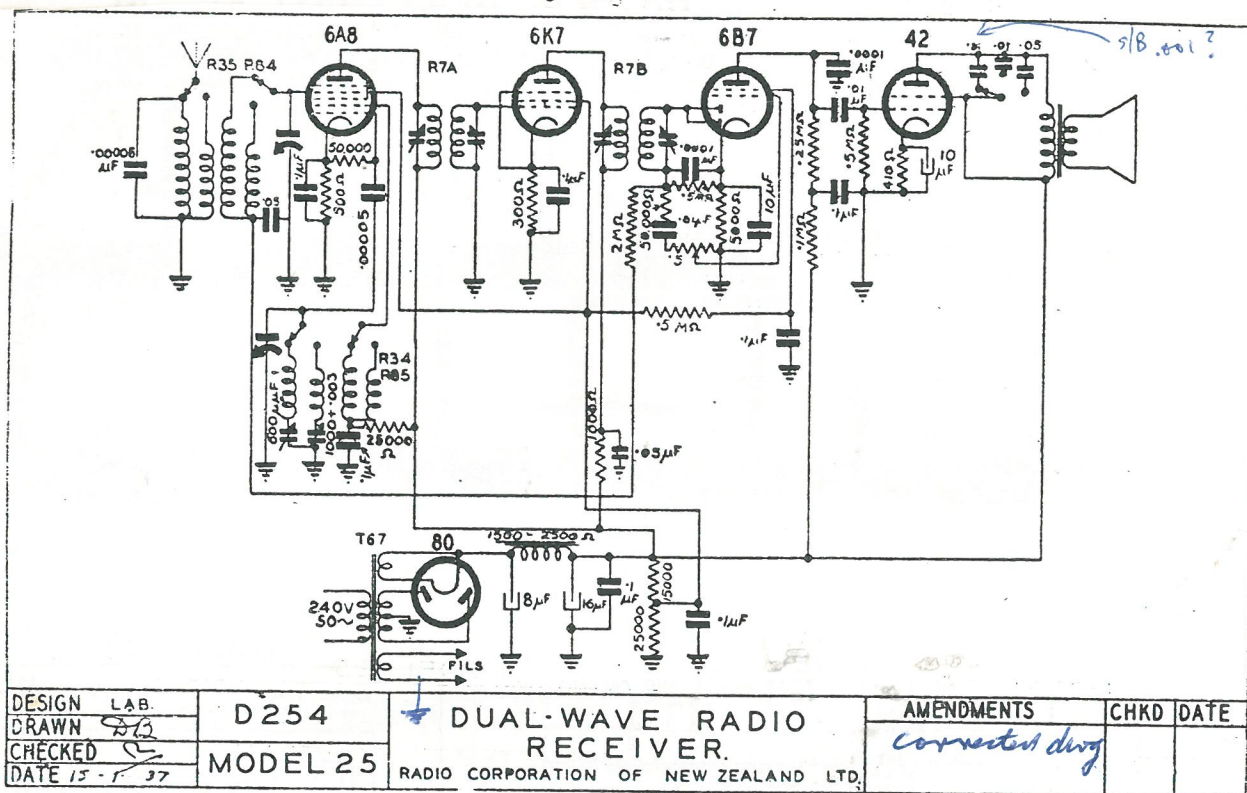
†100 Volt Range.

‡10 Volt Range.

### 4. RESISTANCE TESTS:

Coil.	Where Measured.	Resistance in Ohms.
Power tran. primary	Across power cord	Approx. 40
H.T. secondary	Each rectifier plate to ground	Approx. 350
Speaker field	"Fil" of speaker socket	Approx. 1500
Speaker input tran.	"P" to "G" of speaker socket	Approx. 500
1st I.F. primary	See circuit	Approx. 7
1st I.F. secondary	See circuit	Approx. 7
2nd I.F. primary	See circuit	Approx. 10
2nd I.F. secondary	See circuit	Approx. 10
Broadcast ant. primary	4 to 3 of coil R 35	Approx. 15
Broadcast ant. secondary	1 to 2 of coil R 35	Approx. 8
Broadcast osc. primary	3 to 4 of coil R 34	Approx. 2
Broadcast osc. secondary	1 to 2 of coil R 34	Approx. 6
High-frequency ant. primary	7 to 5 of coil R 84	Approx. 1
High-frequency ant. secondary	1 to 3 of coil R 84	(Short circuit)
High-frequency osc. primary	5 to 7 of coil R 85	Approx. 2
High-frequency osc. secondary	1 to 3 of coil R 85	(Short circuit)





5. **LINE-UP PROCEDURE:** This is fully explained in Service Bulletin No. 12, "Standard Line-up Procedure for Multi-wave Receivers," a copy of which is obtainable on application to the Engineering Department if desired.

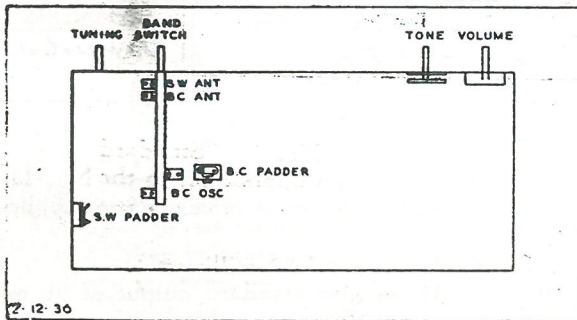
6. **SENSITIVITY TESTS:** (Microvolts input to give standard output of 50 milliwatts):

Frequency.	Applied to	Microvolts
456 kc/sec.	Grid of 6K7 I.F. amplifier	4000
456 kc/sec.	Grid of 6A8 Frequency changer	50
1400 kc/sec.	Antenna through standard "dummy"	8
1000 kc/sec.	Antenna through standard "dummy"	12
600 kc/sec.	Antenna through standard "dummy"	15
15 kc/sec.	Antenna through standard "dummy"	5
12 kc/sec.	Antenna through standard "dummy"	6
9 kc/sec.	Antenna through standard "dummy"	10
6 kc/sec.	Antenna through standard "dummy"	25

7. **GRAMOPHONE CONNECTION:** Owing to the very limited demand for gramophone connections, it is not standard practice to include such arrangements in ordinary models, but to supply details for the necessary modifications to be made. The circuit is shown and described in Service Bulletin No. 13," "Gramophone Attachment to Standard Model Receivers." The only parts required are one D.P.D.T. switch, one pick-up jack (or two terminals), and the requisite length of twin shielded wire. This bulletin is obtainable on application to the factory, who can, if necessary, supply the above parts already wired for connection to the receiver, at a nominal charge.

# SERVICE BULLETIN N. 31

**MODEL 25**  
**PLACEMENT OF TRIMMERS AND PADDERS**



**MODEL 25**

