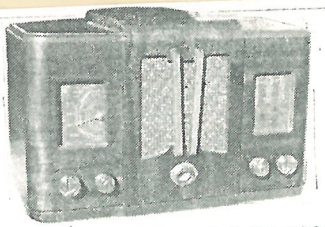
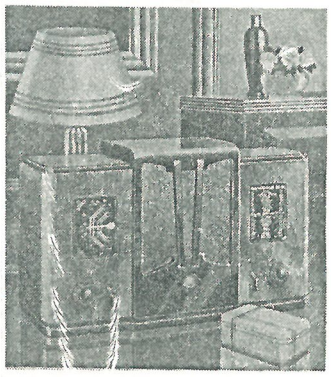
SERVICE BULLETIN

No. 21

MODEL 25E: 6-VALVE DUAL-WAVE RECEIVER.
Second Edition: July, 1937.



CQ 5-valve DW model 25 1937



RADIO CORPORATION OF NEW ZEALAND LTD.

Printed by R.N.Z.—

1. **GENERAL:** This is a 6-valve dual-wave receiver in the low price class, using a mixed series of glass and metal valves, and incorporating a "magic eye" tuning indicator. To obtain maximum selectivity and sensitivity, iron-cored intermediate frequency transformers are used. Tone variation is obtained by means of a three-position switch carefully graded to meet average domestic requirements. An interesting feature is the provision of a log scale indicating the frequencies of the principal Australian stations, as well as the principal short-wave broadcasting stations of the world. Both the tuning and log scales are of etched glass, the markings being in two distinctive colours, and edge-lighting being provided by means of motor-car type general purpose lamps.

2. **ELECTRICAL SPECIFICATIONS:**

Power supply		225-250 volts A.C., 50 cycles
Power consumption		Approx. 55 watts
Valves Used:	Frequency changer	6A8
	I. F. Amplifier	6K7
	Detector-amplifier	6B7
	Output Pentode	42
	Rectifier	80
	Tuning Indicator	6E5
Intermediate Frequency		456 kc/sec.
Broadcast Band		550-1500 kc/sec.
High-frequency band		6-16 mc/sec.
Line-up Frequencies	Intermediate Frequency	456 kc/sec.
	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	370 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	250 volts

Other voltages to ground, using 1000 ohm per volt meter on 500 volt range except where otherwise stated:—

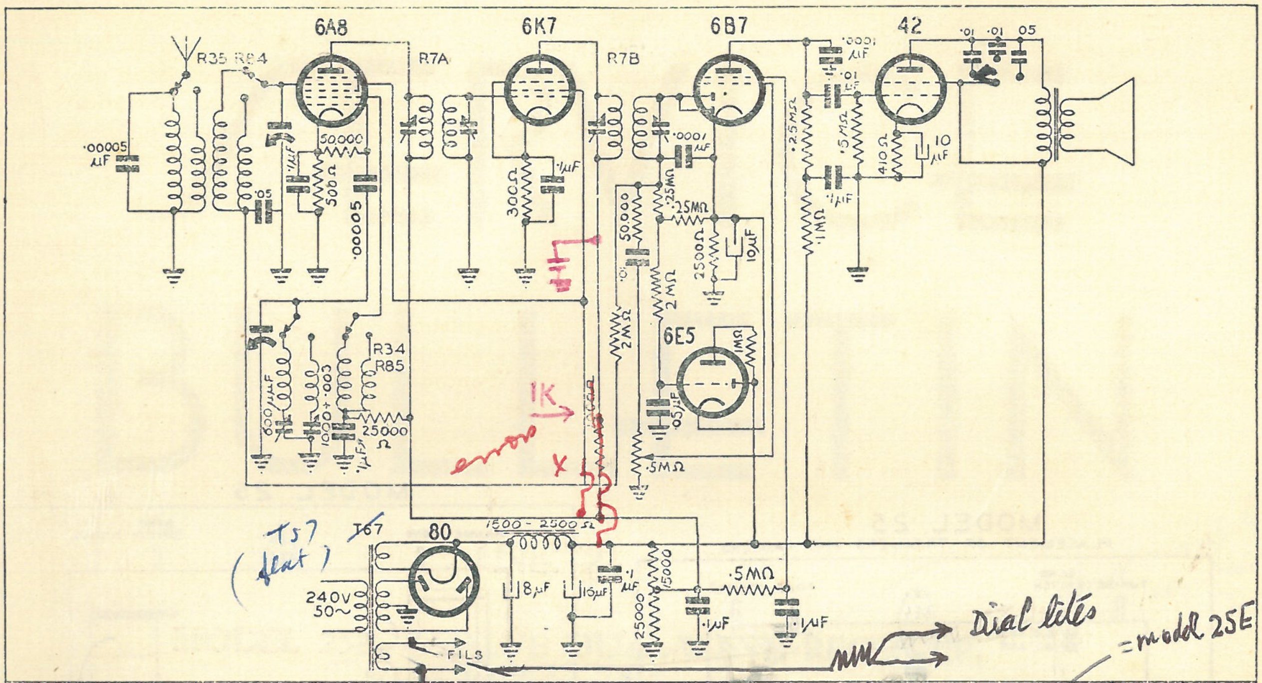
Valve.	Function.	Plate.	Osc. Plate	Screen.	Cathode.
6A8	Freqy. Changer	250	130, 80*	100	5.5‡
6K7	I.F. amplifier	250	—	100	3‡
6B7	Detector-amp.	30	—	13†	1.2‡
42	Output pentode	230	—	250	14†
6E5	Tun'g Indicator	90†	—	250	1.2‡

*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)

see later drwg showing amendments dated 5-4-37



DESIGN LAB	D254	DUAL-WAVE RADIO RECEIVER.	AMENDMENTS	CHKD	DATE
DRAWN			MAGIC EYE ADDED		5-4-37
CHECKED	MODEL 25	RADIO CORPORATION OF NEW ZEALAND LTD.	errors in earlier drwg now corrected		
DATE 15-1-37					

Note: there are 3 drwg errors in this schematic
4 - counting omission of grid on later wiring
5 - counting omission of bypass on B+ lead to 2nd IFT

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.

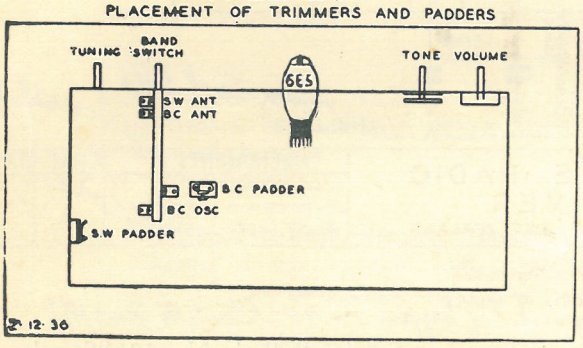
6. **SENSITIVITY TESTS:** (Microvolts input to give standard output of 50 milliwatts):

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 mc/sec.	Antenna through standard "dummy"	5
12 mc/sec.	Antenna through standard "dummy"	6
9 mc/sec.	Antenna through standard "dummy"	10
6 mc/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.

MODEL 25

PLACEMENT OF TRIMMERS AND PADDERS



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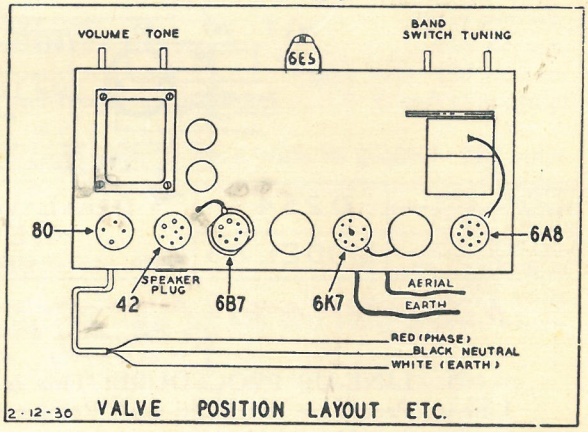

VALVE POSITION LAYOUT ETC.