

SERVICE BULLETIN

MODEL 27

FEBRUARY, 1949

## **MODEL 27**

**Five Valve Broadcast-Shortwave Receiver  
with Bandsread 19-31 Metres**

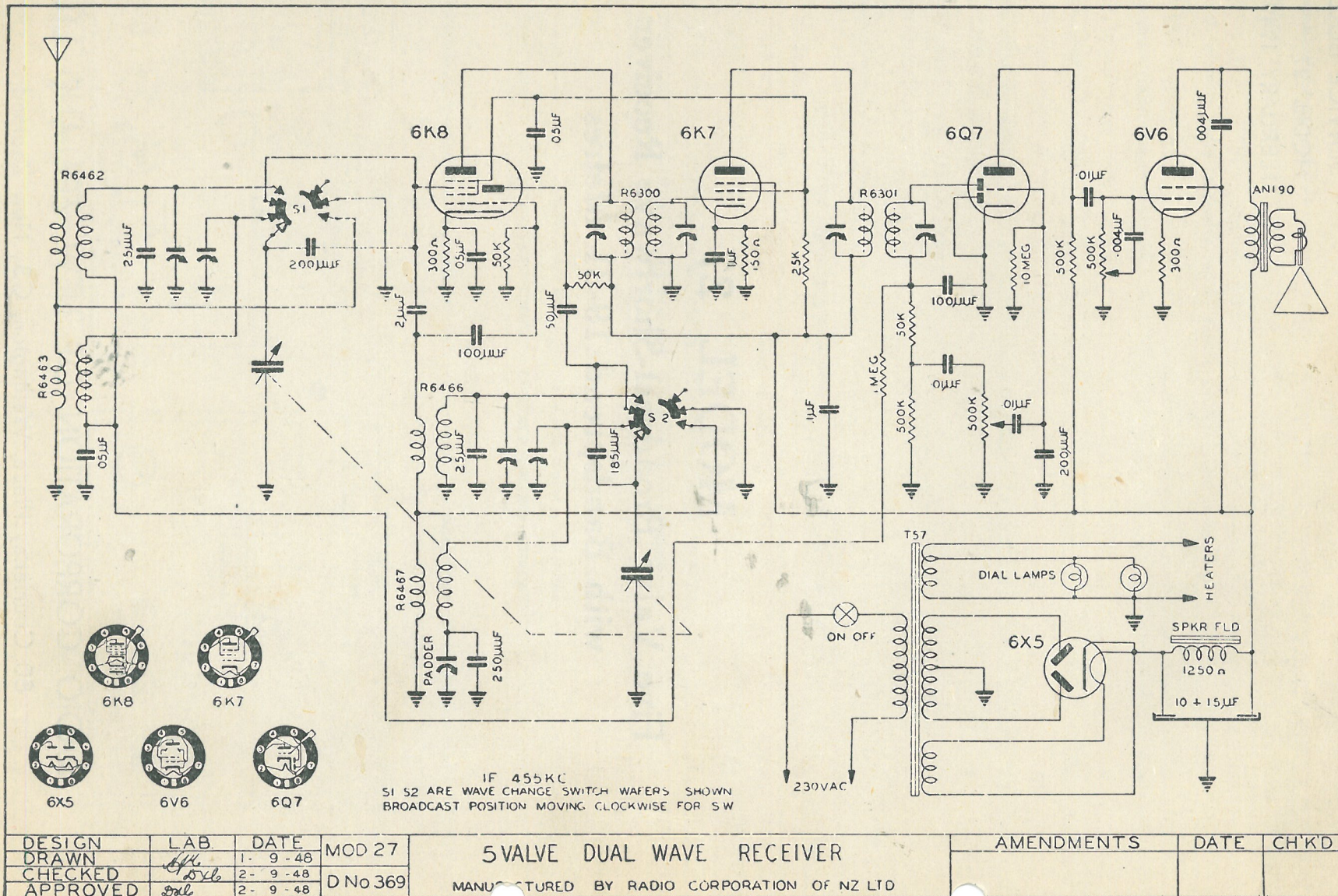
**RADIO CORPORATION OF NEW ZEALAND LTD.**

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## MODEL 27

### 5 Valve Broadcast-Shortwave Receiver





## 1. GENERAL DESCRIPTION:

This is a 5 valve dual wave receiver incorporating expanded short wave tuning. It is notable for high sensitivity on both broadcast and short wave bands.

The short wave band covers from 9,400 to 15,600 k.c. This range includes the three principal short wave bands at 19, 25, and 31 metres, which occupy three times the length of dial scale that would be taken up if the band spread principle were not incorporated. This results in greater ease of tuning and means that short wave stations, that would normally be passed over, may be tuned in without difficulty.

The oscillator circuit ensures that the oscillator frequency is unaffected by changes in A.V.C. voltage. This greatly reduces the effects of fading on short wave. To ensure constancy of calibration and alignment silvered-mica fixed condensers and high quality trimmers are used in all tuned circuits.

The valves used are as follows:

6K8 Converter  
6K7 I.F. Amplifier  
6Q7 Detector Audio Amplifier and A.V.C.  
6V6 Power Output  
6X5 Rectifier

## 2. NOTES ON MAIN COMPONENTS

Power Transformer: Type T57  
Output Transformer: Type AN 190  
Tuning gang: 2 gang Polar  
Wavechange Switch: 2H 2XE

Dial lamp: 2 only Auto Type 6.3 v.

Dial Scale: OE 61, OE 161

N.B.: Dial Scale No. OE 161 should be used for all replacement purposes.

## 3. ALIGNMENT PROCEDURE:

This is fully covered in Service Bulletin No. 72. "Standard Line-up Procedure for Multiband Receivers," a copy of which is obtainable on application to the Engineering Department. The intermediate frequency is 455 k.c. and the line-up points are 1400 and 600 k.c. on broadcast and 15,000 k.c. on the short wave band.

## 4. VOLTAGE TESTS:

### A.C.

High voltage secondary of power transformer, from each rectifier plate to centre tap	350v.
Heater of Rectifier .....	5v.
All other Heaters .....	6.3v.
Dial Lamps .....	4.8v.

### D.C. (Measured with a meter of 1000 ohms per volt sensitivity, between point indicated and chassis.)

First electrolytic condenser (10 mfd.) .....	360v.
Second electrolytic condenser (15 mfd.) .....	260v.
Screens of 6K8 and 6K7 .....	90v.
Plate of 6Q7 (on 100 v. range of meter) .....	35v.

All measurements should be made with the receiver tuned to approximately 1000 k.c. and with no signal input.



## 5. RESISTANCE TESTS:

Where measured:

Approx. D.C. resistance  
in ohms

Across power cord .....	45
Each rectifier plate to centre tap of power transformer secondary .....	300
Across speaker field .....	1250
Speaker transformer primary .....	450
I.F. transformer coils .....	8
B/C Aerial Primary .....	22
B/C Aerial Secondary .....	3.5
B/C Osc. Primary .....	2.5
B/C Osc. Secondary .....	4
S/W Aerial, and Osc. Primary .....	Less than 1
S.W Aerial, and Osc. Secondary .....	Less than 1.25

## 6. SENSITIVITY TESTS:

(Microvolts input to give standard output of 50 milliwatts.)

Frequency	Input to	Microvolts:
455 k.c.	Grid of 6K7	3500
455 k.c.	Grid of 6K8	60
1,400 k.c.	Aerial lead through standard dummy antenna	10
1,000 k.c.	Aerial lead through standard dummy antenna	12
600 k.c.	Aerial lead through standard dummy antenna	15
15,000 k.c.	Aerial lead through standard dummy antenna	7
12,000 k.c.	Aerial lead through standard dummy antenna	15
10,000 k.c.	Aerial lead through standard dummy antenna	20

