

# TECHNICAL INFORMATION

**BULLETIN No. 116.**

**(TYPE)**

NEW SERIES "CROMWELL" 7-VALVE METAL TUBE ALL WAVE

RECEIVER.

## **RECEIVER**

**COLLIER & BEALE LTD.**

**WELLINGTON**

TECHNICAL DATA COVERING NEW SERIES 7-VALVE

METAL TUBE ALL-WAVE RECEIVER.

This Receiver uses seven valves in the following arrangement:-

- 1 - Type 6K7 Signal frequency amplifier (all bands)
- 1 - " 6L7 Pentagrid mixer
- 1 - " 6C5 High frequency oscillator
- 1 - " 6K7 Intermediate frequency amplifier
- 1 - " 6B8 Diode detector and audio amplifier
- 1 - " 6F6 Power amplifier
- 1 - " 5Z4 Full wave rectifier

An entirely new coil assembly and circuit is used in this Receiver. The actual coil units themselves are generally of standard design and no special comment regarding these components is necessary. The circuit arrangement, however, is somewhat unusual in that a pentagrid mixer tube with separate oscillator is now used for the first time, and arrangements made to provide for a substantially uniform oscillator output over the full frequency range of the Receiver.

It will be noticed by reference to the diagram that on the broadcast tickler coil and the intermediate short-wave band tickler coil, non-inductive resistances of 1,000-ohms. have been permanently fitted. This provision allows for a practically constant voltage being applied to the mixing valve, and accounts for the remarkably even sensitivity over the various ranges of this Receiver.

The separation of the mixing and oscillator functions has also had the desirable effect of completely eliminating the modulation effects that are noticeable from other types of Converters, when tuned to strong and fluctuating high frequency carriers.

The method of alignment in the field should be undertaken on general lines, and in a manner that has been described in previous bulletins, and reference should be made to the attached connection scheme covering the coil assembly used in this Receiver.

COLLIER & BEALE LIMITED,  
66 GHUZNEE STREET,  
WELLINGTON, C.2.  
27th May, 1937.

Recd 7.9.38  
from Tom Clark

7AW

= Stellar S7

CONDENSER AND RESISTOR DATA.

1937-38

7 VALVE:- A.W. METAL TUBE RECEIVER.

CONDENSERS:

RESISTORS:

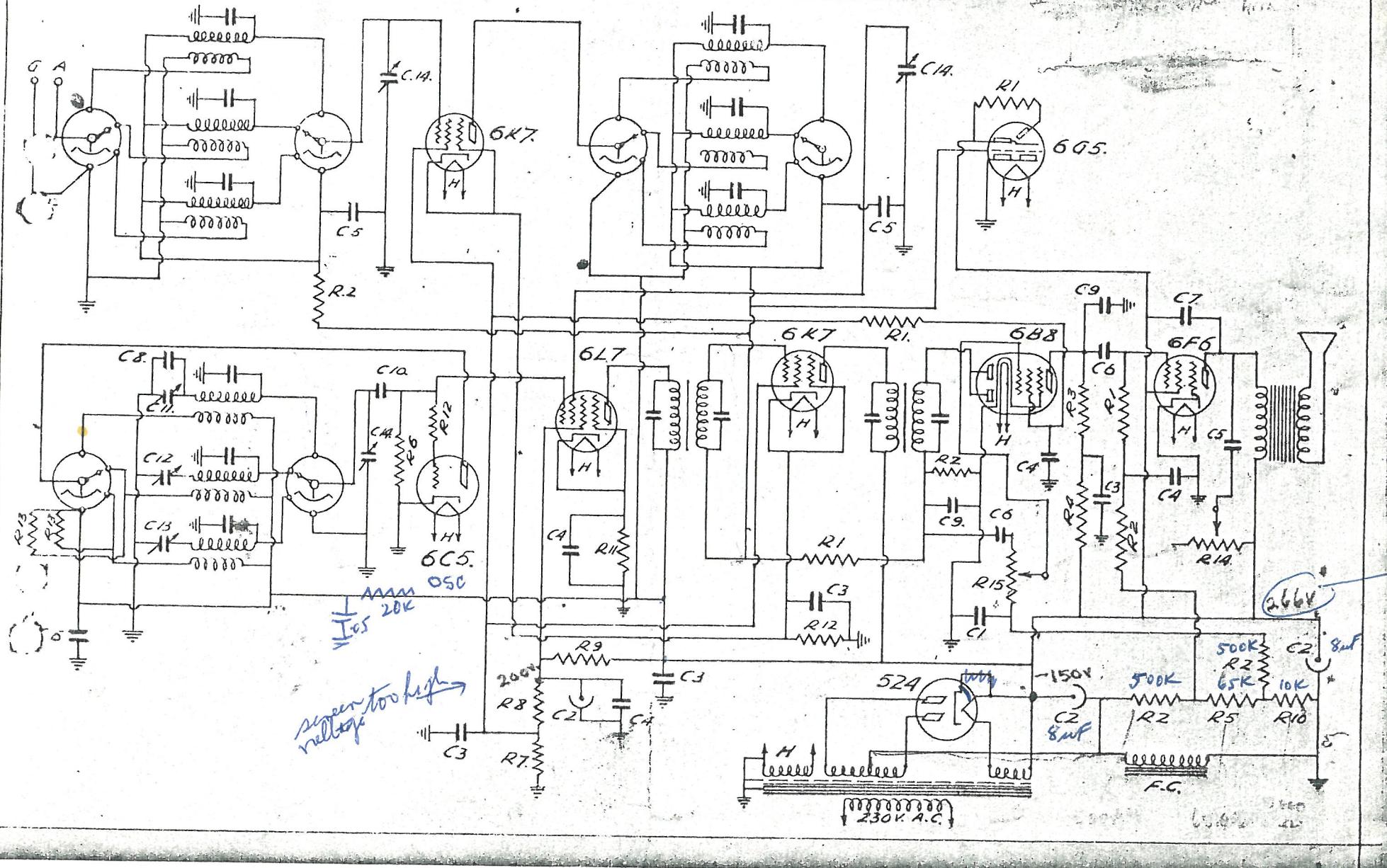
C. 1. - 25 mfd. Electrolytic Condensers	R. 1. - 1 meg. 1/3-watt.
C. 2. - 8 mfd. " "	R. 2. - $\frac{1}{2}$ meg. 1/3-watt.
C. 3. -.25 mfd. Paper Condenser	R. 3. - .25 meg. $\frac{1}{2}$ -watt.
C. 4. -.1 " " "	R. 4. - 100,000 ohm. $\frac{1}{2}$ -watt.
C. 5. -.05 " " "	R. 5. - 65,000 ohm. 1/3-watt.
C. 6. -.01 " " "	R. 6. - 50,000 ohm. 1/3-watt.
C. 7. -.004 Mica Condenser.	R. 7. - 26,000 ohm. 1-watt.
C. 8. -.0025 " "	R. 8. - 12,000 ohm. 1-watt.
C. 9. -.0001 " "	R. 9. - 10,000 ohm. 2-watt.
C. 10. -.00005 " "	R. 10. - 10,000 ohm. 1/3-watt.
C. 11. - S.W. Padder Condenser.	R. 11. - 600 ohm. $\frac{1}{2}$ -watt.
C. 12. - 80 Metre Padder Condenser.	R. 12. - 300 ohm. $\frac{1}{2}$ -watt.
C. 13. - B.C. Padder Condenser.	R. 13. - 1,000 ohm. 1/3-watt.
C. 14. - 3 Gang. 450 mmfd. Tuning Condenser.	R. 14. - 100,000 Potentiometer. (T.C.)
	R. 15. - .5 meg. Potentiometer. (V.C.)

COLLIER & BEALE LTD.,  
66 GHUZNEE STREET,  
WELLINGTON, C.2.

29th September, 1938.

could be f. in S/B 111 = Stella 57

— 7 VALVE AW 1937 SERIES METAL TUBE RECEIVER —



Mod to reduce excessive ose plate voltage

Note: There is also a "7AW" model which uses 6A8 mixer, 6H6, + 6J7. (1936?)

Note: HT voltage are higher than normal when indirectly-heated rectifier(524) is avail.

-7 VALVE 1937 SERIES METAL TUBE RECEIVER.

