# TECHNICAL INFORMATION MODEL RBE

## 5 VALVE BROADCAST A.C. 1951

### DESIGNED AND MANUFACTURED

# RADIO (1936) LTD.

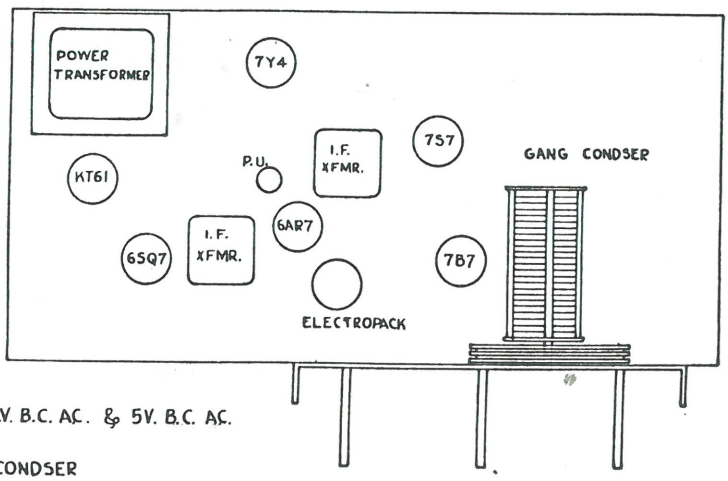
| | | | |
|---|---|---|---|
| Power Supply | 230v. 50CP/S | Rating | 50 watts |
| Tuning Range | 1600 KC/S - 550 KC/S | Speaker | Rola 8 H |
| I.F. Frequency | 460 KC/S | Power Output | 3 watts |

**CIRCUIT DESCRIPTION :**

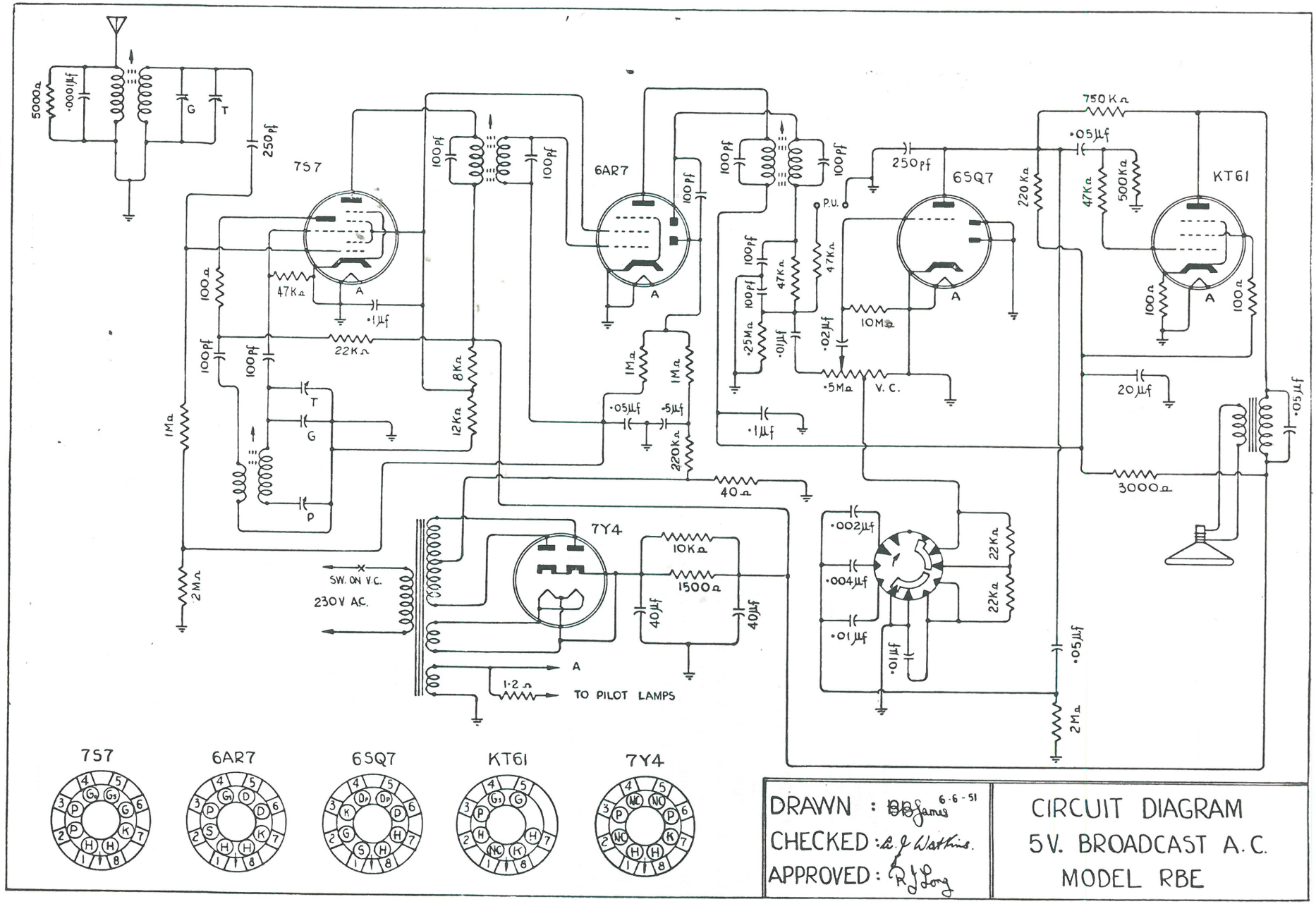
A type 7S7 is employed as a frequency changer and is coupled by means of a double wound high gain I.F. Transformer to a type 6AR7 Gt. combining the functions of I.F. Amplification, detection and A.G.C. source. Voltage amplification is achieved by the use of a type 6SQ7GT, the output circuit of which is capacitively coupled to a type KT61G utalized as a power amplifier. The 230-volt AC Mains source is converted to D.C. by means of a double wound power transformer, type 7Y4 rectifier and filter system.

**ANTENNA :**

A STANDARD INVERTED "L" TYPE ANTENNA WITH A FLAT TOP OF APPROXIMATELY 30 FEET IS RECOMMENDED.




VALVE LAYOUT FOR 6V. B.C. AC. & 5V. B.C. AC.
FOR 5V OMIT 7B7
6V. HAS A 3 GANG CONDSER
5V. HAS A 2 GANG CONDSER




DRAWN : ~~BRS~~ James 6-6-51
CHECKED : A. J. Watkins.
APPROVED : R. J. Long

# CIRCUIT DIAGRAM
## 5V. BROADCAST A.C.
## MODEL RBE

RBE

## VOLTAGES APPEARING BETWEEN VALVE PINS AND CHASSIS FRAME

| VALVE PIN No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 7S7 Freq. Changer | 6.3AC | 220DC | 130DC | -23DC | 95DC | -1.4DC | – | – |
| 6AR7 I.F. Amp. | – | – | 180DC | 95DC | -.4DC | -1.4DC | – | 6.3AC |
| 6SQ7 Volt. Amp. | – | -.9DC | – | – | – | 95DC | 6.3AC | - |
| KT61 Power Amp. | – | 6.3AC | 210DC | 180DC | – | – | – | -3DC |
| 7Y4 Rect. | 305DC | -2.3DC | 260AC | – | – | 260AC | 305DC | 305DC |

NOTE—D.C. Reading taken with Vacuum Tube Voltmeter.

Receiver tuned off station.

## D.C. RESISTANCES

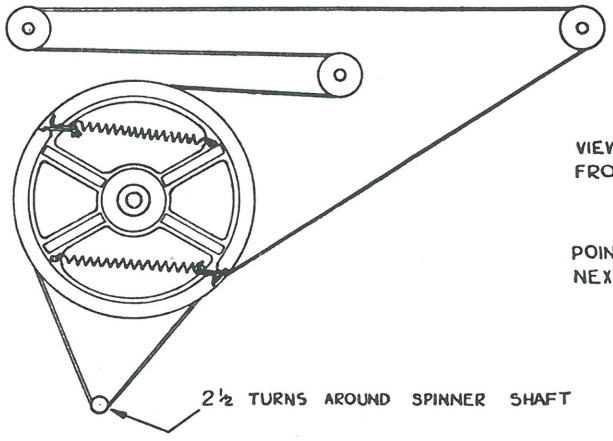
| | | | |
|---|---|---|---|
| Det. Coil Primary | 10.5ohms | I.F. Primary | 11.0ohms |
| Det. Coil Secondary | 3.5ohms | I.F. Secondary | 11.0ohms |
| O S C Coil Primary | .9ohms | PX Primary | 32 ohms |
| O S C Coil Secondary | 2.75ohms | PX Secondary | 550 ohms |
| | | OX Primary | 530 ohms |
| | | OX Secondary | 1 ohms |

## ALIGNMENT INFORMATION :

Adjust Volumn Control for Max. Gain.

Adjust Sig. Generator output to no higher than necessary to obtain output meter readings.

| DUMMY ANT. | Generator Coupled to | Generator Frequency | Receiver Dial Setting | ADJUST | Approx Sens. for 50MW Output |
|---|---|---|---|---|---|
| .1 MFD | Grid 6AR7 | 460KC/S | 550KC/S | 2nd I.F. Trimmers for Max. | 1800 Micro Volts |
| .1 MFD | Grid 7S7 | 460KC/S | 550KC/S | All I.F. Trimmers for Max. | 20 Micro Volts |
| RMA STANDARD | ANT. | 1400KC/S | 1400KC/S | OSC Trimmer for Max. | |
| ,, | ,, | 1400KC/S | 1400KC/S | DET Trimmers for Max. | 15 Micro Volts |
| ,, | ,, | 600KC/S | Through 600KC/S | Padder for Max. | 15 Micro Volts |




VIEW OF DIAL STRINGING LOOKING FROM BACK OF SET

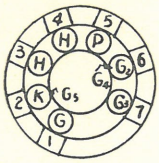
POINTER STRING ON SIDE OF DRUM NEXT TO DIAL BACKPLATE

AMENDMENTS AND REMARKS:

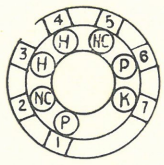
## R.B.E. AMENDMENT, commencing Ser. No. 143868.

### I.—Valve Complement:

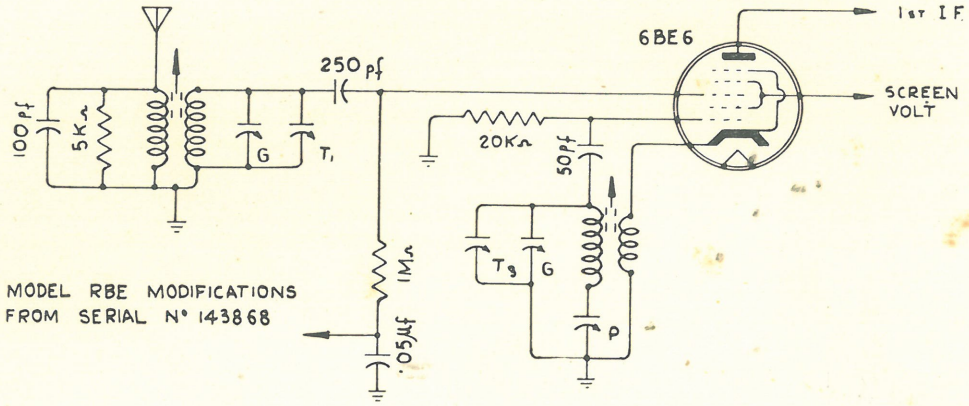
| | | |
|---|---|---|
| 1 — | 6BE6 | Frequency Changer. |
| 1 — | 6AR7GT | I.F. Amplifier, Detection and A.V.C. |
| 1 — | 6AV6 | Voltage Amplifier. |
| 1 — | 6AQ5 | Power Amplifier. |
| 1 — | 6x4 | Rectifier. |



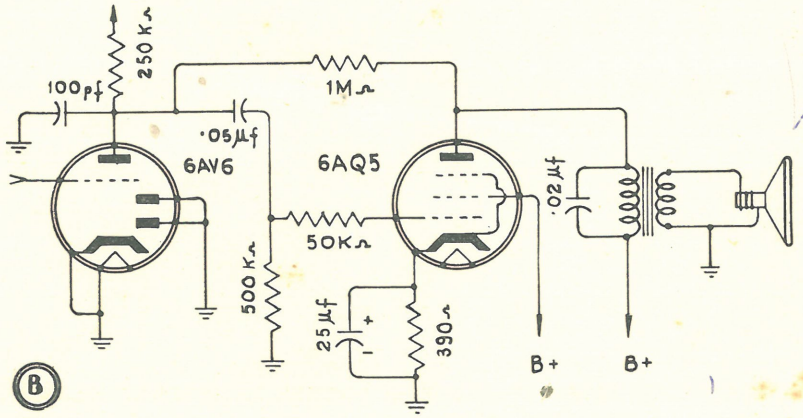



### II.—Circuit Modifications:




B'C osc. coil data changed as the osc. is cathode coupled.




Valve Pin number mod. as above Valve Complement.

~~RAT~~ RBE mods.

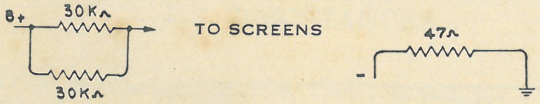
MODEL R.B.E.—These amendments effective from Ser. No. 136454.

EBL21 Type Tube replaces the KT61 Type Tube.—Requires change from Octal Wafer Socket to Loctal Socket—Circuit values remain as Schematic.

6AV6 Type Tube replaces the 6SQ7 Type Tube.—Requires change from Octal Wafer Socket to 7 pin Miniature Socket.—Circuit values remain as Schematic. Voltages will be the same but the Pin Numbers will vary with the Type valve socket used.


.05 mfd. 500V. Condenser across Speaker Primary changed to .02 mfd. 500V. Condenser.

Cressall Candohm replaced by 1w. Carbon Resistors.




The 2-30K. 1w. Resistors replace the Candohm Screen Feed and the 47 ohm. replaces the 40 ohm. portion of the Candohm.

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