KRIESLER DUPLEX 5 VALVE PORTABLE MODEL 21-4

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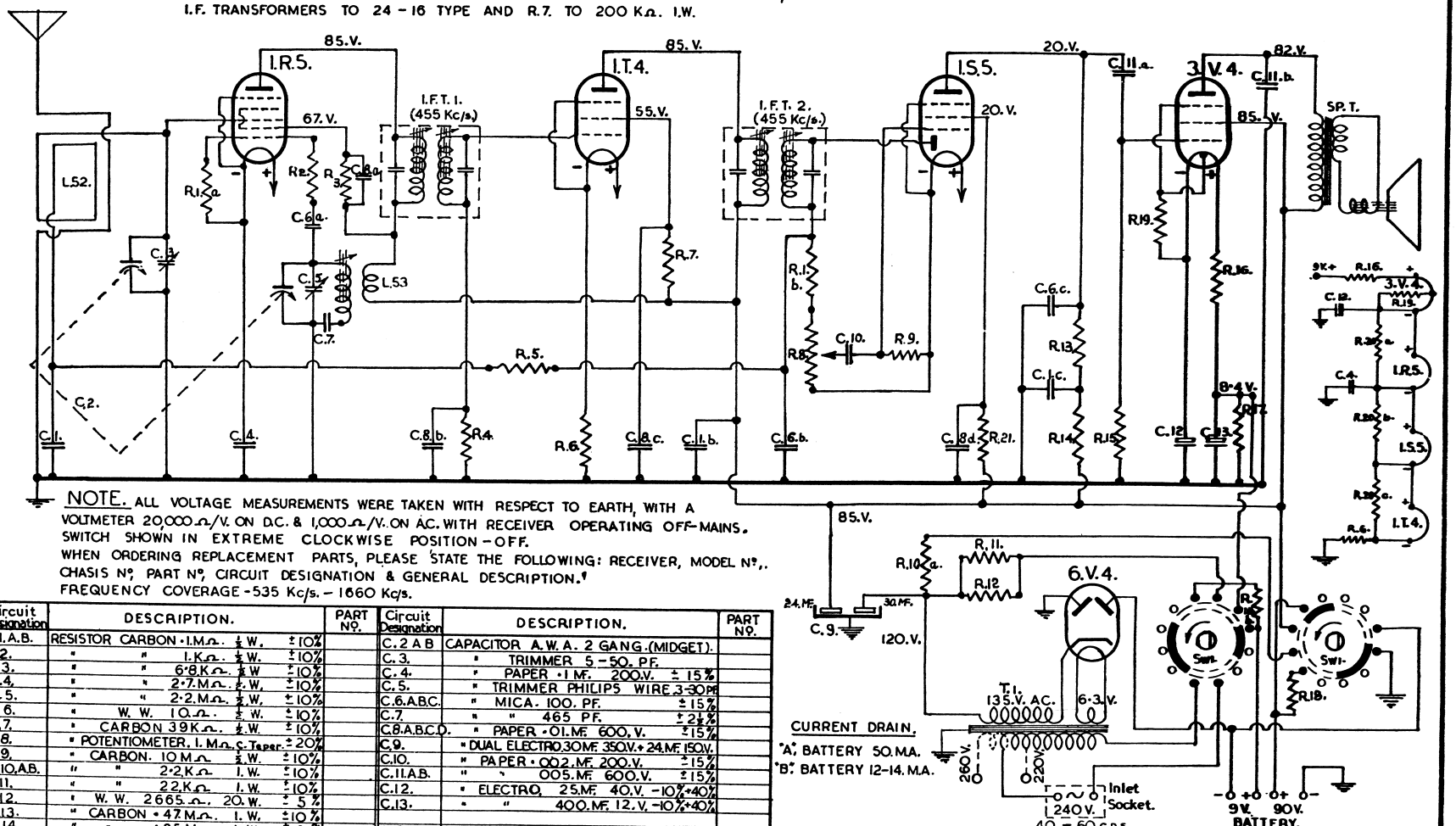
NOTE. AFTER CHASSIS Nº 1,700 THE FOLLOWING COMPONENTS WERE CHANGED;
I.F. TRANSFORMERS TO 24 - 16 TYPE AND R.7. TO 200 K.Ω. I.W.



NOTE. ALL VOLTAGE MEASUREMENTS WERE TAKEN WITH RESPECT TO EARTH, WITH A VOLTMETER 20,000 Ω/V. ON D.C. & 1,000 Ω/V. ON A.C. WITH RECEIVER OPERATING OFF-MAINS. SWITCH SHOWN IN EXTREME CLOCKWISE POSITION - OFF.
WHEN ORDERING REPLACEMENT PARTS, PLEASE STATE THE FOLLOWING: RECEIVER, MODEL Nº,. CHASIS Nº, PART Nº, CIRCUIT DESIGNATION & GENERAL DESCRIPTION.
FREQUENCY COVERAGE - 535 Kc/s. - 1660 Kc/s.

Circuit Designation	DESCRIPTION.	PART Nº.
R.1.A.B.	RESISTOR CARBON - 1.MΩ. ½ W.	±10%
R.2.	" " 1.KΩ. ½ W.	±10%
R.3.	" " 6·8.KΩ. ½ W	±10%
R.4.	" " 2·7.MΩ. ½ W.	±10%
R.5.	" " 2·2.MΩ. ½ W.	±10%
R.6.	" W. W. 10.Ω. ½ W.	±10%
R.7.	" CARBON 39K.Ω. ½ W.	±10%
R.8.	" POTENTIOMETER, 1. MΩ. C. Taper	±20%
R.9.	" CARBON. 10 M.Ω. ½ W.	±10%
R.10.A.B.	" " 2·2.K Ω I. W.	±10%
R.11.	" " 22.KΩ. I. W.	±10%
R.12.	" W. W. 2665.Ω. 20. W.	± 5 %
R.13.	" CARBON - 47.MΩ. I. W.	±10 %
R.14.	" " ·25.MΩ. I. W.	±10 %
R.15.	" " 1.MΩ. ½ W.	±10%
R.16.	" W. W. 25 Ω. ½ W.	±10%
R.17.	" CARBON 47.KΩ. ½ W.	±10%
R.18.	" " 27.KΩ. I. W.	±10%
R.19.	" " 390.Ω. ½ W.	±10%
R.20.a.b.c	" " 150.Ω. ½ W.	±10%
R.21.	" " 2·7 MΩ. I. W.	±10%
C.1.A.B.C.	CAPACITOR PAPER ·05. MF. 200.V.	±15%

Circuit Designation	DESCRIPTION.	PART Nº.
C.2.A.B.	CAPACITOR A.W.A. 2 GANG. (MIDGET).	
C. 3.	" TRIMMER 5 - 50. P.F.	
C. 4.	" PAPER · 1 MF. 200.V.	± 15%
C. 5.	" TRIMMER PHILIPS WIRE 3-30PF	
C.6.A.B.C.	" MICA. 100. P.F.	± 15%
C.7	" " 465 P.F.	± 2½%
C.8.A.B.C.D.	" PAPER · 01.MF. 600. V.	±15%
C.9.	" DUAL ELECTRO. 30 MF. 350.V. + 24.MF. 150.V.	
C.10.	" PAPER · 002. MF. 200.V.	±15%
C.11.A.B.	" " 005. MF. 600.V.	±15%
C.12.	" ELECTRO. 25.MF. 40.V.	-10%+40%
C.13.	" " 400.MF. 12.V.	-10%+40%
L.52.	AERIAL COIL (LOOP)	14.-27.
L.53.	OSCILLATOR COIL B/C.	14.-26.
I.F.T. 1.2.	I.F. TRANSFORMER. 455. Kc/s	24.-15.
T.1.	POWER TRANSFORMER	18-89.
S.W.1.	SWITCH 4 POLE 4 POSITION	17-40.
SPEAKER	M. S. P. 5 or ROLA 5.F. SPKTRANSF. 10,000 Ω PRIM. SEC. TO SUIT SPEAKER USED.	
BATTERY	PACK EVEREADY. TYPE.	753.

				PROJECT	QTY.	PROJECT	QTY.	PROJECT	QTY.
MATERIAL		PLANNED							
GAUGE		DRAWN	8.10.54						
FINISH		CHECKED							
Prescription No.		APPROVED	22-10-54						

PORTABLE - RECEIVER 21. - 4.

Before production is commenced 2 samples must be submitted to Drawing Office for approval.
This Drawing must be returned to KRIESLER AUSTRALASIA PTY. LTD., 43 ALICE STREET, NEWTOWN.

Work to Dimensions only. Unless otherwise specified, Tolerances to be read as:— ± on Fractions. ± on Decimals.

ISSUE 1

SCALE

KRIESLER AUSTRALASIA PTY. LTD.

ALIGNMENT OF KRIESLER DUPLEX PORTABLE TYPE RECEIVERS

At the factory before despatch, all receivers are precision aligned and their appropriate trimming capacitors sealed.

Re-alignment is necessary only if the tuned circuit components are replaced or the trimmer seals broken.

Do not attempt to re-align without the following equipment:—

(a) Modulated oscillator.

(b) 0 to 50V. output meter.

PREPARATION OF RECEIVER FOR ALIGNMENT

Remove knobs marked "Volume" and "Tuning," unscrew knurled nut and detach end of cabinet. Slide battery out of cabinet, remove plug from battery.

Remove dummy knob marked "Power Inlet" and knob marked "Switch." Remove the hex-headed nut behind this knob. Slide chassis out of centre section of cabinet.

Remove pointer and dial backing plate. Connect the output meter between pin 2 of 3V4 socket and chassis, making sure the output meter has a blocking capacitor in series.

Connect receiver to battery or mains supply.

I.F. STAGE ALIGNMENT

Connect a signal generator between chassis and control grid of 1R5 with a .1 μ.F. capacitor in series with the signal generator. The ganged tuning capacitor should be fully meshed.

Set the signal generator to 455 Kc/s and commence I.F. alignment, starting with the second I.F. transformer and following with the first. Adjust the iron cores for maximum output as indicated by the output meter.

NOTE: It is desirable to keep the cutput from the signal generator as low as possible and the volume control at maximum during alignment.

CALIBRATION AND OSCILLATOR ALIGNMENT

Replace the dial backing plate and pointer assembly and set the pointer to the pointer set mark on the dial backing plate with the gang fully meshed.

Attach an aerial to the loop and tune a station at approximately 550 Kc/s and adjust the oscillator iron core until the station falls exactly where indicated on the backing plate. Repeat this procedure at 1450 Kc/s, using the oscillator trimming capacitor for calibration adjustment. Check again at the 550 Kc/s end if further adjustments are required.

NOTE: If the signal generator has accurate frequency calibration, it may be used for this operation.

R.F. STAGE ALIGNMENT (Where Applicable)

Connect the signal generator between chassis and control grid of R.F. stage with a .1 μ.F. capacitor in series with the grid lead.

Set the signal generator and receiver to 600 Kc/s and adjust the iron core of the R.F. coil for maximum output.

Repeat this procedure at 1450 Kc/s, using the R.F. coil trimming capacitor for adjustment.

Repeat both adjustments to obtain maximum sensitivity.

LOOP ALIGNMENT

Slide chassis into centre section of cabinet.

NOTE: The battery must be in position for correct loop alignment.

Tune a distant station at approximately 1450 Kc/s and adjust the loop trimming capacitor for maximum output.

Then tune a distant station at approximately 600 Kc/s and check the loop alignment by means of the loop trimming capacitor. Should loop need adjusting, the inductance may be varied by means of adjusting turns in the centre of the loop.

Repeat the above procedure for maximum sensitivity, then re-set loop trimming capacitor at the high frequency end and seal all trimming capacitors.

The loop alignment procedure is the same for the 4-valve receiver, except omitting the R.F. stage alignment.