

TECHNICAL INFORMATION

COVERING

DUAL WAVE RECEIVER TYPE 7251E

COLLIER & BEALE Ltd. WELLINGTON.

TYPE SET—A.C. Superhetrodyne.

TUBES (Seven)—6BA6 R.F. Amp., ECH21 Converter, 6BA6 I.F. Amp., 6AT6 Det.-A.F., 6AQ5 Power Output, 6X4 Rectifier, *EM34 Tuning Indicator.

POWER SUPPLY—230 v. A.C. Rating 60 watts.

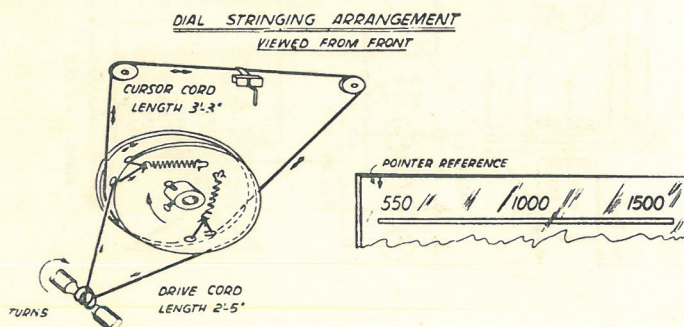
TUNING RANGE—Broadcast, 525-1500 K.C., Shortwave, 6-20 M.C.

ALIGNMENT INSTRUCTIONS

To set pointer, fully mesh variable condenser and set pointer at last reference mark at left end of dial. Set volume control at maximum and keep output from signal generator no higher than necessary to obtain output reading. Use insulated alignment tool for adjusting.

Dummy Antenna	Signal Generator Coupling	Sig. Gen. Frequency	Band Switch Position	Radio Dial Setting	Output Meter	Adjust	Remarks
0.1 μ fd.	High side to pin No. 6 (grid) of ECH21.	455 Kc.	B.C.	High freq. end	Across voice coil	A1, A2, A3, A4.	Adjust for maximum output
R.M.A. Standard	High side to ant. Terminal	1400 Kc.	"	1400 Kc.	"	C34	" "
"	"	1400 Kc.	"	1400 Kc.	"	C32 & 30	" "
"	"	600 Kc.	"	Rock Variable	"	C23	" "
"	"	18 Mc.	S.W.	18 Mc.	"	C35	" "
"	"	18 Mc.	"	18 Mc.	"	C33 & 31	" "

CAPACITORS			MISCELLANEOUS			RESISTORS		
Ref. No.	Cap.	Volts	Ref. No.	Res., Pri.	Res., Sec.	Ref. No.	Res.	Watts
C1-2	40 μ fd.	450	786	0.4 ohm	0.03 ohm	R1	10 meg.	$\frac{1}{2}$
C3	25 "	25	719	17.5 "	2.57 "	R2	2 "	"
C4	20 "	450	486	69 "	0.03 "	R3-4	1 "	"
C5	10 "	450	485A	1 "	2.4 "	R5-6	500K ohm	Pot.
C6-10	0.1 "	500	186	0.45 "	0.03 "	R7-8	300K "	$\frac{1}{2}$
C11-14	0.05 "	500	185-1	2.1 "	2.5 "	R9	250K "	1
C15	0.02 "	500	PE52	6.5 "	6.5 "	R10	100K "	$\frac{1}{2}$
C16-17	0.01 "	500				R11	75K "	"
C18	0.005 "	500		Volts	Volts	R12	50K "	1
C19	3710 μ fd.	Mica	TR5566	230	350 aside	R13-14	50K "	$\frac{1}{2}$
C20-22	0.002 μ fd.	"		Type	Trans.:	R15	20K "	2
C23	600 μ fd.	Padder	SP1	8in. P.M. speaker	5000 ohms.:	R16	10K "	"
C24-25	500 "	Mica				R17	10K "	$\frac{1}{2}$
C26	250 "	"	S1-A to E	6 Pole 2-position Rotary Switch.		R18	5K "	"
C27	200 "	"	S2	S.P.S.T. switch attached to R5		R19	2K "	"
C28	100 "	"				R20	1500 "	16
C29	50 "	"				R21	750 "	$\frac{1}{2}$
C30-35	3-30 "	Trimmer				R22-23	500 "	"
C36-38	5 "	Ceramic				R24	300 "	1
C39	1 "	Gimmick				R25	300 "	$\frac{1}{2}$
						R26	150 "	"
						R27-28	75 "	"
						R29-30	0.8 "	1



ATTENTION IS DIRECTED TO THE FOLLOWING:—

Disturbance of the oscillator frequency with fading signals on SW is prevented by neutralisation (C39).

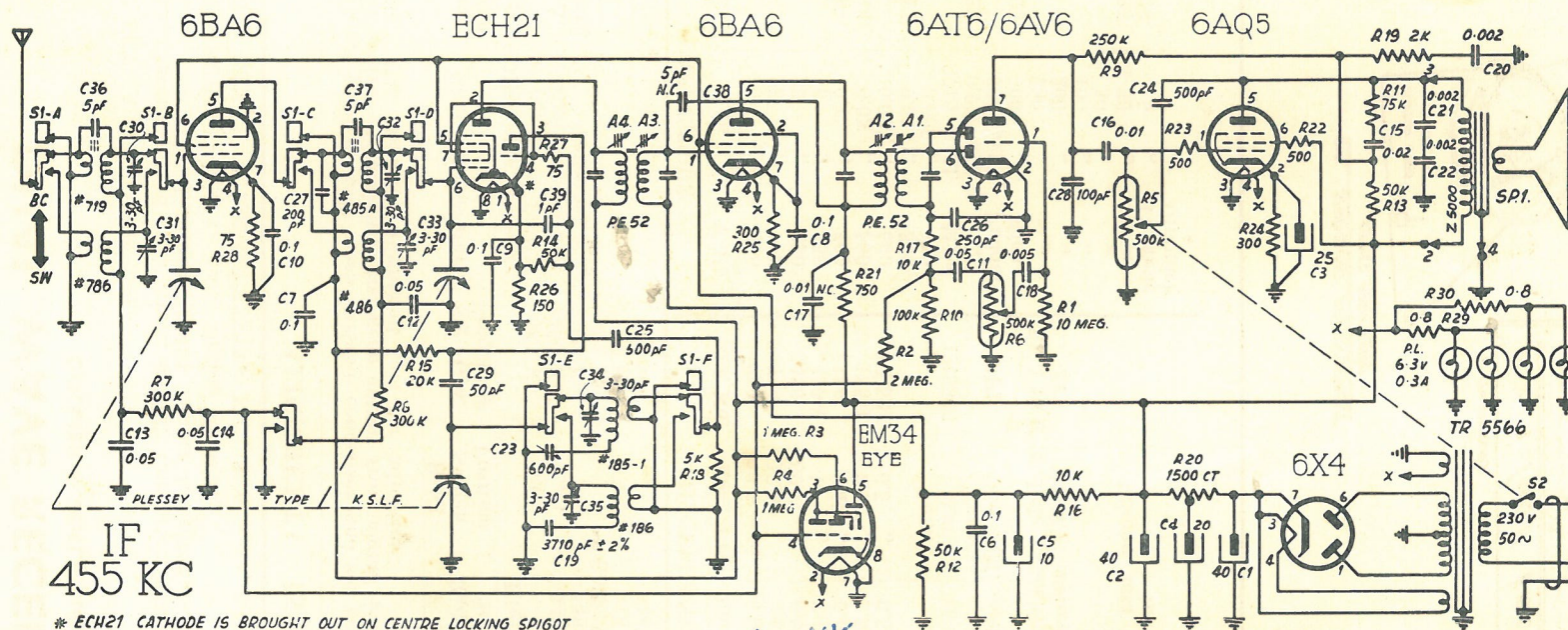
The amplitude of oscillator injection is determined by R18.

If components in the IF stage require replacement, their values should be observed otherwise neutralising circuit (R21, C17, C38) will be ineffective.

The demodulator is designed to handle highly modulated programmes with minimum distortion.

Treble boosting (R19, C20) and bass compensation (R11, C15) are arranged in the inverse feedback path.

Triple section HT filtering has been adopted.



SCHEMATIC DIAGRAM MODEL 725 IE

VOLTAGE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
R.F.	6BA6	—	—	—	6.3 AC	235	106	.78	—
Conv.*	ECH21	6.3 AC	235	150	—	106	—	—	—
I.F.	6BA6	—	2.85	—	6.3 AC	235	106	2.85	—
Det.-AF	6AT6	—	—	—	6.3 AC	—	—	110	—
Output	6AQ5	—	11.8	—	6.3 AC	228	235	—	—
Rect.	6X4	328 AC	—	352	—	—	328 AC	—	—
Eye	EM34	6.3 AC	15	0	240	—	—	—	—

* ECH21 Cathode on Spigot 0.78 volts.

1. D.C. voltage measurements are at 2,000 ohms per volt—A.C. voltages measured at 1,000 ohm per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to chassis. Bandswitch in B.C. position.

RESISTANCE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
R.F.	6BA6	2.4 meg	—	—	—	500K	50K	75	—
Conv.*	ECH21	—	500K	520K	50K	50K	—	50K	—
I.F.	6BA6	—	300	—	—	500K	50K	300	—
Det.-AF	6AT6	10 meg	—	—	—	110K	110K	800K	—
Output	6AQ5	500K	300	—	—	500K	500K	—	—
Rect.	6X4	280	—	500K	500K	—	280K	500K	—
Eye	EM34	—	1.5 meg	2.1 meg	500K	—	—	—	—

* ECH21 Cathode on Spigot 150 Ohm to Chassis.

4. Nominal tolerance on component values make possible a variation of + 10% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.
6. Resistance readings in B+ circuits may vary widely according to the condition of filter capacitors.

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June 1952