

TECHNICAL INFORMATION

COVERING

BROADCAST RECEIVER TYPE 4153 "FOUR SOME"

COLLIER & BEALE Ltd. WELLINGTON.

TYPE SET.—A.C. Superhetrodyne. Moulded Bakelite Cabinet.

TUBES (Four).—ECH42, Converter, EAF42 I.F.-Det., EL41 Output, EZ40 Rectifier.

POWER SUPPLY.—230 v. A.C. Rating 25 watts.

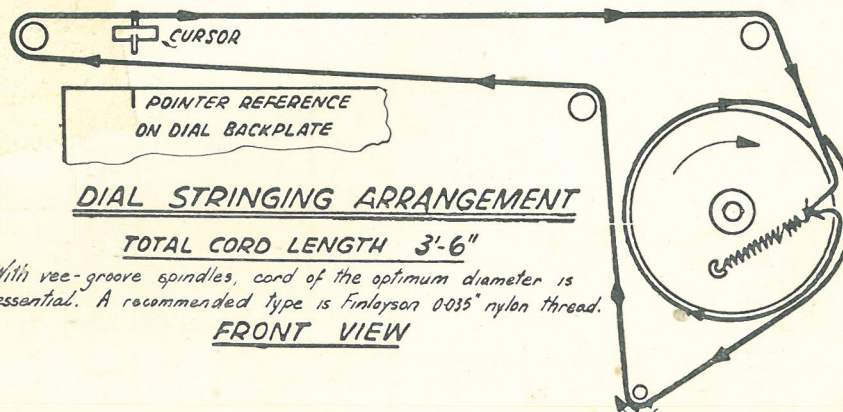
TUNING RANGE.—Broadcast 535-1530 KC.

ALIGNMENT INSTRUCTIONS

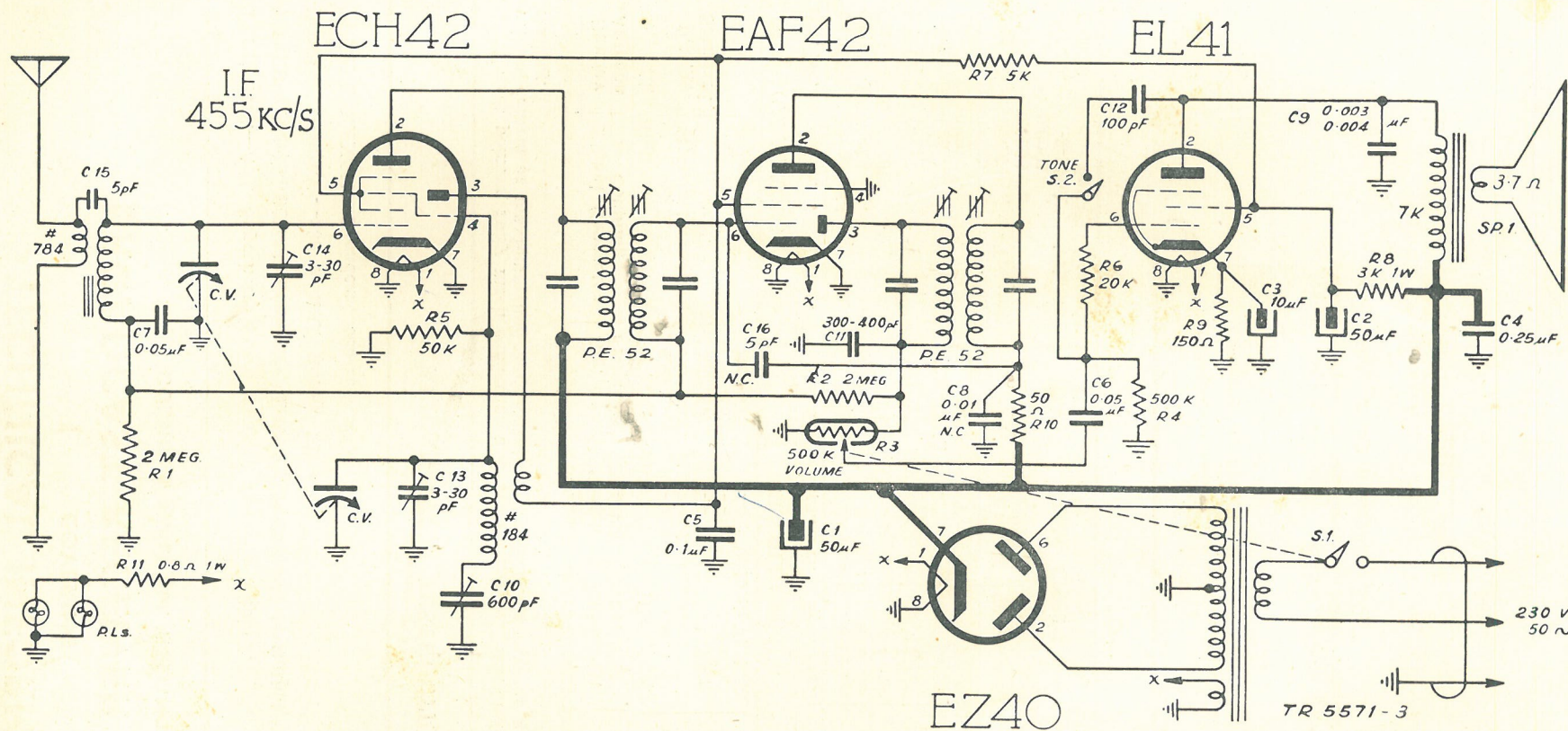
To set pointer, fully mesh condenser and set pointer at last reference mark at left end of dial. Set volume control at maximum and keep output from signal generator no higher than necessary to obtain output reading.

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 grid of ECH42.	455 Kc.	—	High freq. end	Across voice coil	A1, A2, A3, A4.	Adjust for maximum output
R.M.A. Standard	High side to ant. term.	1400 Kc.	—	1400 Kc.	"	C13	" "
"	"	1400 Kc.	—	1400 Kc.	"	C14	" "
"	"	600 Kc.	—	Rock Variable	"	C10	" "

CAPACITORS			MISCELLANEOUS				RESISTORS		
Ref. No.	Cap.	Volts	Ref. No.	Res., Pri.	Res., Sec.		Ref. No.	Res.	Watts
C1	50 μ fd.	250	PE52	6.5 ohm	6.5 ohm	1F	R1	2 meg	$\frac{1}{2}$ watt
C2	50 "	250	PE52	6.5 "	6.5 "	1F	R2	2 meg	$\frac{1}{2}$ watt
C3	10 "	250	784	20 "	2.7 "	BC	R3	500K ohm	Pot
C4	0.25 "	250	184	1.8 "	2.3 "	BC	R4	500K ohm	$\frac{1}{2}$ watt
C5	0.1 "	400		Volts	Volts	Volts	R5	50K ohm	$\frac{1}{2}$ watt
C6-7	0.05 "	500	TR5571-3	230	177 aside	6.3	R6	20K ohm	$\frac{1}{2}$ watt
C8	0.01 "	500		Type	Transformer		R7	5K ohm	$\frac{1}{2}$ watt
C9	0.003 "	Mica		Rola			R8	3K ohm	1 watt
C10	.0006 "	Trimmer	SP1	5F PM	7000 ohms to 3.7 ohms		R9	150 ohm	$\frac{1}{2}$ watt
C11	0.0003 "	Mica	SW1	SPST	Switch attached to R3		R10	50 ohm	$\frac{1}{2}$ watt
C12	0.0001 "	"	SW2		Slide switch SPDT		R11	0.8 ohm	1 watt
C13-14	3-30pf.	Trimmer	C.V.		Polar C9002/1 351pf. swing				
C15-16	5pf.	Ceramic	P.L.		6.5v. 0.3 amp MES. Tub. Lamp				



illus wanted (done set)



SCHEMATIC DIAGRAM MODEL 4153. *Foursome*

VOLTAGE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
Conv.	ECH42	6.3 a.c.	163	76	-10	76	0	—	—
I.F.-Det	EAF42	6.3 a.c.	163	0	—	76	0	—	—
Output	EL41	6.3 a.c.	155	—	—	128	0	3.2	—
Rect.	EZ40	6.3 a.c.	168 a.c.	—	—	—	168 ac	163	—

RESISTANCE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
Conv.	ECH42	—	500K	508K	50K	508K	1 meg	—	—
I.F.-Det	EAF42	—	500K	560K	—	508K	1 meg	—	—
Output	EL41	—	500K	—	—	503K	520K	150	—
Rect.	EZ40	—	475	—	—	—	475	500K	—

1. D.C. voltage measurements are at 2,000 ohms per volt—A.C. voltage measurements at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.

4. Nominal tolerance on component values make possible a variation of $\pm 10\%$ 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.

4153

Sept 1953