

Gulbransen 'BRETON'

"BRETON" MODEL

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H.W. CLARKE (N.Z.) LTD.

TECHNICAL INFORMATION

COVERING

BROADCAST RECEIVER TYPE "BRETON"

MANUFACTURED BY COLLIER & BEALE Ltd.

TYPE SET—A.C. Superheterodyne.

TUBES (six)—6BA6 R.F. Amp., ECH42 Converter, 6BA6 I.F. Amp., Pre-Amp., 6AV6 Det.-A.F., 6AQ5 Power Output, 6X4 Rectifier.

POWER SUPPLY—230 v. A.C. Rating 55 watts.

TUNING RANGE—Broadcast, 535-1530 kc.

ALIGNMENT INSTRUCTIONS

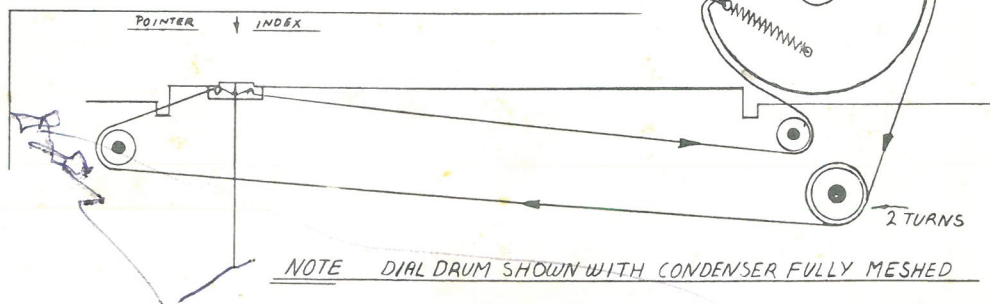
To set pointer, fully mesh condenser and set pointer at last reference mark at left end of dial. Set volume control at maximum and keep output from signal generator no higher than necessary to obtain output readings. Use insulated alignment tool for adjusting.

Dummy Antenna	Signal Generator Coupling	Sig. Gen. Frequency	Band Switch Position	Radio Dial Setting	Output Meter	Adjust	Remarks
0.1 μ fd. R.M.A. Standard "	High Side to pin No. 6 (grid) of ECH42. High Side to ant. Terminal "	455 Kc. 1400 Kc. 1400 Kc. 600 Kc.	BC " " "	High freq. end 1400 Kc. 1400 Kc. 600 Kc.	Across voice coil " " "	A1, A2, A3, A4, C24 C25 & C26 C18	Adjust for maximum output " " "Rock variable and adjust for max. output. Recheck C24 at 1400 Kc. If C24 is changed recheck C25 and C26

CAPACITORS			MISCELLANEOUS				RESISTORS		
Ref. No.	Cap.	Volts	Ref. No.	Res., Pri.	Res., Sec.		Ref. No.	Res.	Watts
C1a-b	40 μ fd	450	784	20 ohm	2.7 ohm	BC	R1	10 Meg Ohm	$\frac{1}{2}$
C1c	20 "	"	489 1	64 "	2.7 "	BC	R2	2 "	"
C2-3	25 "	25	189	0.85 "	2.44 "	BC	R3	500K "	Pot
C4-5	0.1 "	350	PE1014	14.5 "	13.5 "	IF	R4	500K "	"
C6-9	0.05 "	"	PE1014	14.5 "	13.5 "	IF	R5-6	500K "	$\frac{1}{2}$
C10-12	0.01 "	Styroseal					R7	25K "	"
C13	0.01 "	350		Volts	Volts	Volts	R8	250K "	1
C14	0.02 "	500	TR5566	230	350 aside	2 x 6.3	R9-12	100K "	$\frac{1}{2}$
C16-17	0.001 "	Ceramic					R13-14	75K "	"
C18	600 μ fd	Padder		Type	Transformer		R15-17	50K "	"
C19	500 "	Mica	SP1	6-9H	5000 ohm		R18	50K "	1
C20	300 "	"					R19	20K "	"
C21-22	100 "	"	SW1	S.P.S.T. switch attached to R4 Polar C90-03/1 (swing 351 μ fd.)			R20	15K "	"
C23	50 "	"	CV				R21	2K "	$\frac{1}{2}$
C24	3-30 "	Trimmer		2 Pole, 2 position Rotary Switch			R22	1.5K "	$\frac{5}{8}$
C25	3-30 "	"	SW1				R23	600 "	$\frac{1}{2}$
C26	3-30 "	"		6.5 v., 0.25 amp. tub. M.E.S. lamp			R24	300 "	"
C27-28	5 "	Ceramic	PL				R25	300 "	1
							R26	2.3 "	"

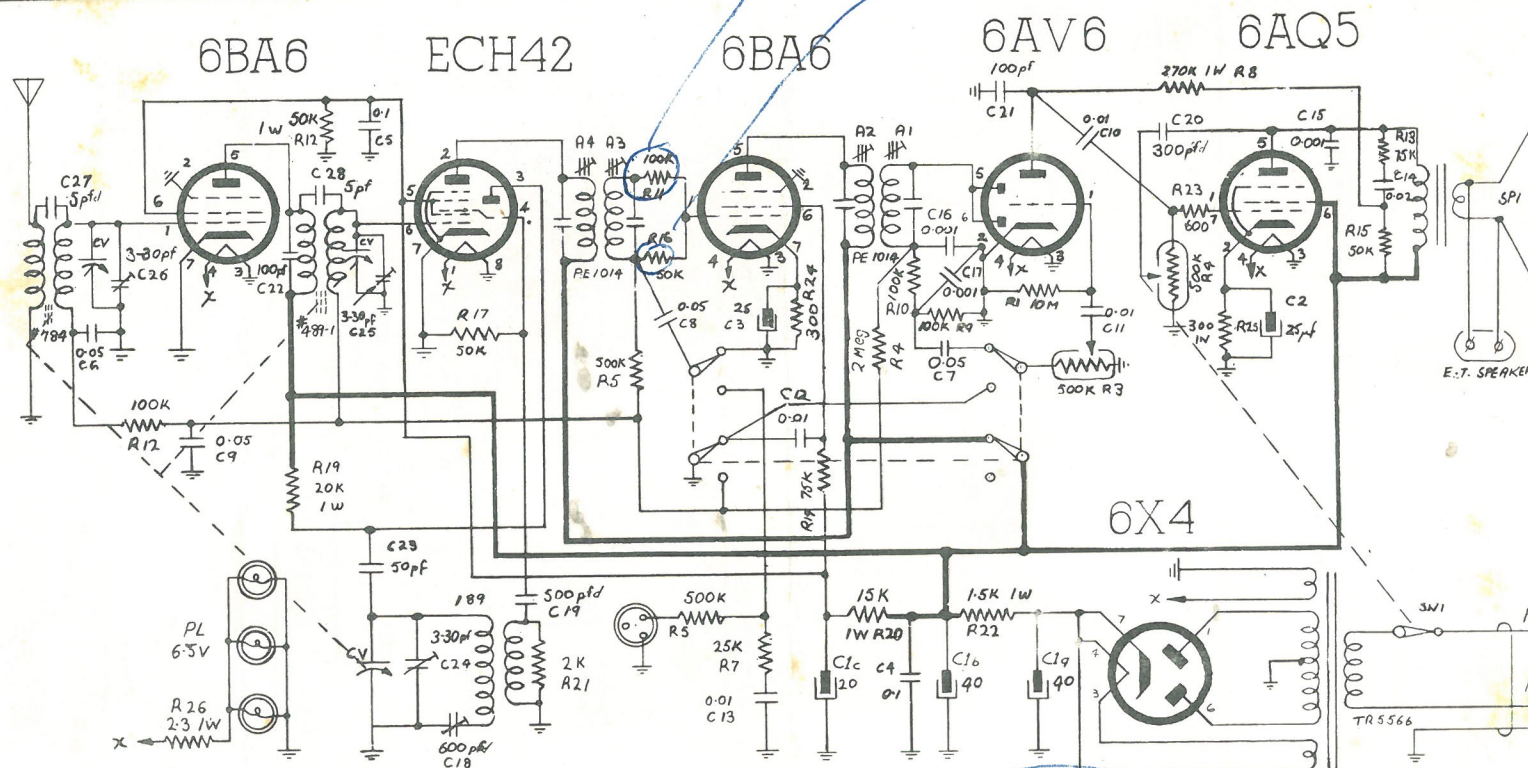
DIAL STRINGING ARRANGEMENT

TOTAL CORD LENGTH 40" APPROX



600/12/57

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SCHEMATIC DIAGRAM MODEL "BRETON"

"BRESNEN" = D.W.

VOLTAGE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
R.F.	6BA6	0	—	—	6.1	235	85	—	—
Conv.	ECH42	6.1	235	82	—	85	—	—	—
I.F.	6BA6	—	—	—	6.1	235	45	0.75	—
Det.-A.F.	6AV6	—	—	—	6.1	—	—	90	—
Output Rect.	6AQ5	—	11	—	6.1	215	235	—	—
	6X4	300 AC	—	—	—	—	300 AC	330	—

RESISTANCE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
R.F.	6BA6	2.3Meg.	—	—	—	65K	50K	—	—
Conv.	ECH42	—	65K	80K	50K	50K	2.2Meg	—	—
I.F.	6BA6	2.7Meg.	—	—	—	65K	125K	—	—
Det.-A.F.	6AV6	10Meg	—	—	—	200K	200K	385K	—
Output Rect.	6AQ5	500K	300	—	—	65K	65K	500K	—
	6X4	480	—	—	65K	—	480	65K	—

1. D.C. voltage measurements are at 20,000 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 chassis.

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 condition of filter capacitors.

BRETON = B.C.
BRESNEN = D.W.

Dec 1957