

TECHNICAL INFORMATION

COVERING

ALL WAVE RECEIVER TYPE 1039

COLLIER & BEALE Ltd., WELLINGTON

TYPE SET.—A.C. Superelectrodyne. Five-position Tone Control.

TUBES (Ten)—7B7 R.F. Amp., 7S7 Converter, 7B7 I.F. Amp., 7C6 Det.-A.F., 7B7 A.F. Equalizer, 7B7 Phase Inv., 7C5 Power Output, 7C5 Power Output, 5Y3 Rectifier, 6U5 Tuning Indicator.

POWER SUPPLY—230 v. A.C. Rating, 75 watts.

TUNING RANGE—Broadcast, 535-1630 K.C., Medium Wave, 3.2-8.2 Mc., Shortwave, 7.5-22.3 Mc.

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 readings.

Dummy Antenna	Signal Generator Coupling	Sig. Gen Frequency	Band Switch Position	Radio Dial Setting	Output Meter	Adjust	Remarks
0.1 μ f.	High side to pin No. 6 (grid) of 7S7	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.	"	C42	" "
"	"	1400 Kc.	"	1400 Kc.	"	C36 & 39	" "
"	"	600 Kc.	"	Rock Variable	"	C31	" "
"	"	7.5 Mc.	M.W.	7.5 Mc.	"	C43	" "
"	"	7.5 Mc.	"	7.5 Mc.	"	C37 & 40	" "
"	"	20 Mc.	S.W.	20 Mc.	"	C44	" "
"	"	20 Mc.	"	20 Mc.	"	C38 & 41	" "

CAPACITORS

Ref. No.		Volts
C1	40 μ f.	450
C2	40 μ f.	450
*C3	25 μ f.	35
C4	10 μ f.	450
C5	10 μ f.	450
C6	8 μ f.	450
C7-13	0.1 μ f.	600
C14-17	0.05 μ f.	600
C18-20	0.03 μ f.	600
C21-23	0.01 μ f.	600
C24	0.0057 μ f.	Mica
C25-26	0.005 μ f.	Mica
C27	0.0035 μ f.	Mica
C28	0.002 μ f.	Mica
*C29-30	0.001 μ f.	Mica
C31	600 μ f.	Padder
C32	0.0005 μ f.	Mica
*C33	0.00025 μ f.	Mica
*C35-35A	0.0001 μ f.	Mica
C36-44	3-30 μ f.	Trimmer
C45-48	25 μ f.	Ceramic
C49-50	5 μ f.	Ceramic
C51	1 μ f.	Gimmick
C52	25 μ f.	35
C53	0.05 μ f.	600
C54	0.05 μ f.	600
C55	0.01 μ f.	600
C56	500 μ f.	Mica

MISCELLANEOUS

Ref. No.	Res., Pri.	Res., Sec.	
785	17.5 ohm	2.57 ohm	
485	69 ohm	2.4 ohm	
185-1	2.1 ohm	2.5 ohm	
716	0.23 ohm	0.028 ohm	
416	0.44 ohm	0.028 ohm	
116	0.47 ohm	0.025 ohm	
715	0.63 ohm	0.14 ohm	
415	1 ohm	0.14 ohm	
115	0.58 ohm	0.14 ohm	
839-1	7 ohm	7 ohm	
839-2	7 ohm	7 ohm	
TR5572	volts	volts	volts
	230	290 a side	5 & 6.3
*TR5508-2	O.P. trans. 10,000ohm-15, 5, 2.7 ohm.		
SW1A-H	3 pos. 8-pole band switch.		
SW2A-B	2 pos. 2-pole radio-gram. switch.		
SW3A-D	5 pos. 4 pole tone switch		
SW4	S.P.S.T. switch attached to R8.		
	Plessey Gang Type 9393/L22 (437 mmf. max.)		
	* Current values shown. (Receivers immediately prior to Serial Numbers 86506, 86616 and 86673 used values differing from those now established.)		

RESISTORS

Ref. No.	Res.	Watts
R1	10 meg.	$\frac{1}{2}$
R2	5 meg.	$\frac{1}{2}$
*R3	2meg.	$\frac{1}{2}$
R4-5	1 meg.	$\frac{1}{2}$
R6-8	500K ohm	$\frac{1}{2}$
*R9	300K ohm	$\frac{1}{2}$
R10-14	250K ohm	$\frac{1}{2}$
R15-16	75K ohm	$\frac{1}{2}$
*R17	68K ohm	$\frac{1}{2}$
R18-20	50K ohm	$\frac{1}{2}$
R21	50K ohm	1
*R22	30K ohm	$\frac{1}{2}$
R23	27K ohm	2
R24	20K ohm	1
R25	15K ohm	$\frac{1}{2}$
*R26-27	3K ohm	$\frac{1}{2}$
R28	2K ohm	$\frac{1}{2}$
R29-30	1K ohm	$\frac{1}{2}$
R31	750 ohm	$\frac{1}{2}$
*R32	600 ohm	$\frac{1}{2}$
R33-35	500 ohm	$\frac{1}{2}$
R36	300 ohm	$\frac{1}{2}$
R37	250 ohm	2
R38	200 ohm	$\frac{1}{2}$
R39	75 ohm	$\frac{1}{2}$
R40	150K ohm	$\frac{1}{2}$
R41-43	100K ohm	$\frac{1}{2}$
R44	35K ohm	$\frac{1}{2}$

Incorporated in this receiver are features which result in a special standard of performance:

NEGATIVE FEEDBACK, includes in its loop, the large output transformer, the push-pull stage and the two preceding amplifiers. Feedback is approximately 11 db, and is obtained across the whole secondary winding irrespective of the speaker tap in use.

tone control is achieved with a 5-position switch which selects fixed equalizers forming the coupling unit between the demodulator-amplifier and the 7B7 "equalizer"-amplifier. The response of the audio section may be varied from the normal (uniform response) to treble-cut, bass-boost, bass- and treble-boost and bass- and treble-cut.

DEMODULATOR components have been chosen to ensure the minimum distortion on signals having a high modulation factor.

A.V.C. characteristic is arranged for handling of strong BC carriers without rectification in the early amplifiers. Proportioning of stage gains by choice of optimum bias, together with C33 on the BC interstage coil primary, as a gain reduction means, ensures proper operation.

RECORD PLAYING arrangements are conventional in the 1039 model, but in the 11-tube version, a bass-compensated pre-amplifier has been included for use with flat response pickups (e.g., the Garrard High Fidelity Model) thus allowing for the standard bass compression of modern recordings.

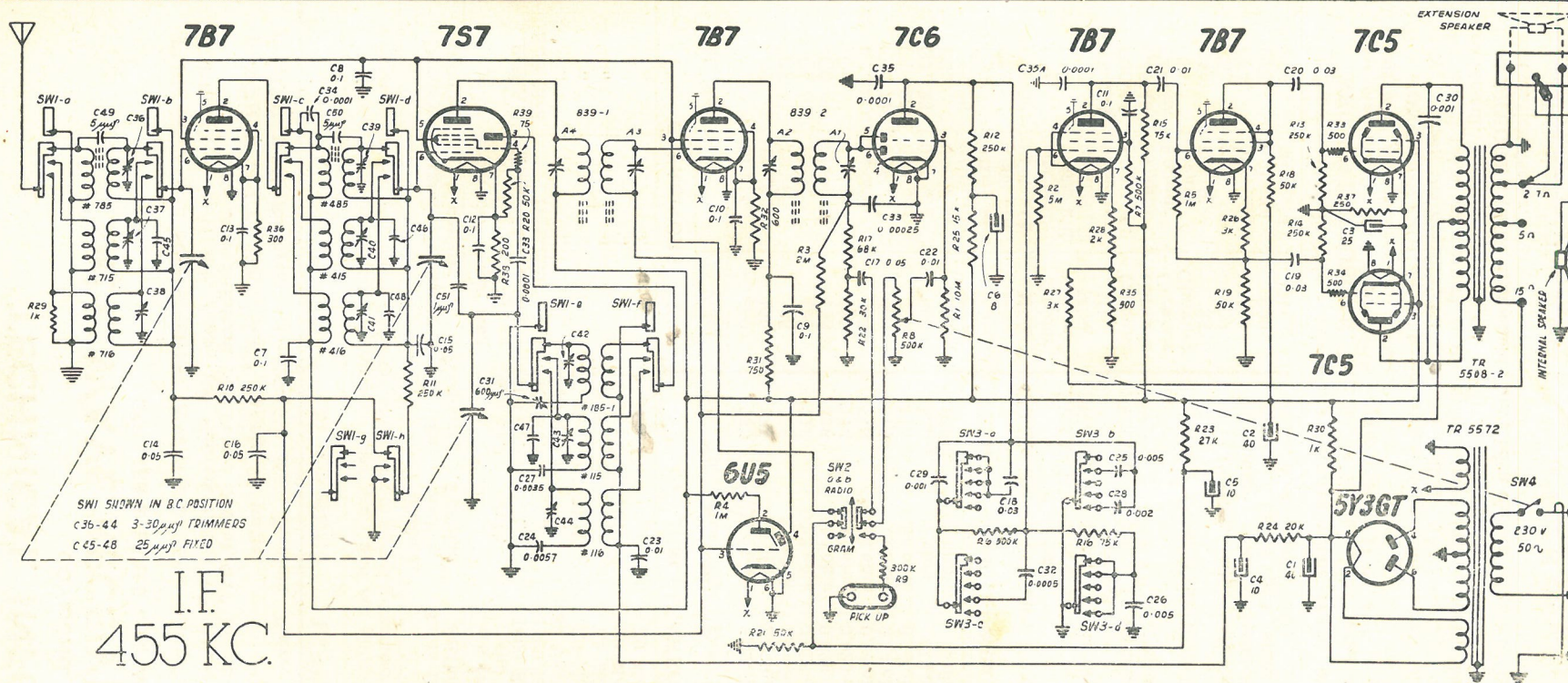
= Hml "Shenwood"

500/6/50-111.

11A

June 1950

1039



SCHEMATIC DIAGRAM MODEL 1039

VOLTAGE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
R.F.	7B7	6.3A.C.	225	80	2.6	—	0	2.6	—
Conv.	7S7	6.3A.C.	225	145	-5	80	0	1.8	—
I.F.	7B7	6.3A.C.	225	80	3.2	—	0	3.2	—
Det-AF.	7C6	6.3A.C.	115	0	—	0	0	—	—
Eq'izer	7B7	6.3A.C.	110	55	4.4	—	0	4.4	—
Inv.	7B7	3.3A.C.	125	125	125	—	15	82	—
Output	7C5	6.3A.C.	250	225	0	—	0	14	—
Output	7C5	3.3A.C.	250	225	0	—	0	14	—
Rect.	5Y3	150	250	—	270A.C.	—	270A.C.	—	250
Eye	6U5	6.3A.C.	20	0	225	—	—	—	—

RESISTANCE READINGS

Use	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
R.F.	7B7	—	250K	50K	300ohm	—	2.4meg.	300ohm	—
Conv.	7S7	—	250K	250K	50K	50K	2.4meg.	200ohm	—
I.F.	7B7	—	250K	50K	600ohm	—	2.1meg.	600ohm	—
Det-AF.	7C6	—	500K	10meg.	—	100K	100K	—	—
Eq'izer	7B7	—	250K	250K	2.5K	—	5meg.	2.5K	—
Inv.	7B7	—	250K	250K	250K	—	1meg.	53K	—
Output	7C5	—	250K	250K	250K	—	250K	250K	—
Output	7C5	—	250K	250K	250K	—	250K	250K	—
Rect.	5Y3	250K	250K	—	65ohm	—	65ohm	—	250K
Eye	6U5	—	250K	2.1meg.	1.25meg.	—	—	—	—

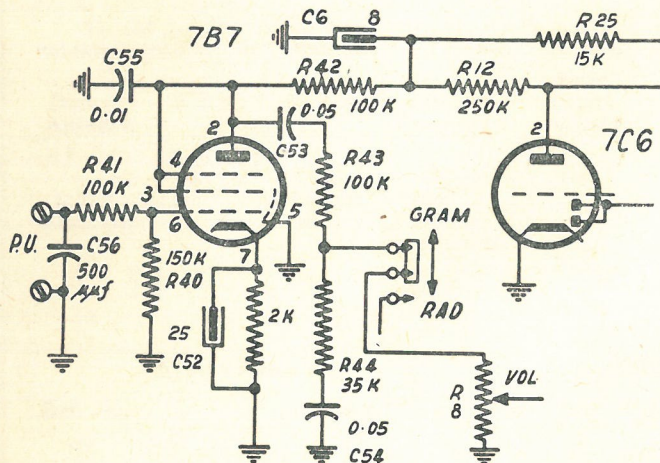
1. D.C. voltage measurements are at 2,000 ohm. per volt—A.C. voltage measured at 1,000 ohm per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative. Bandswitch in B.C. position.

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

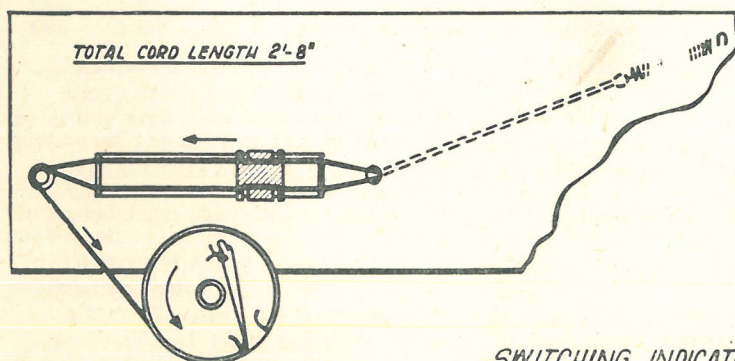
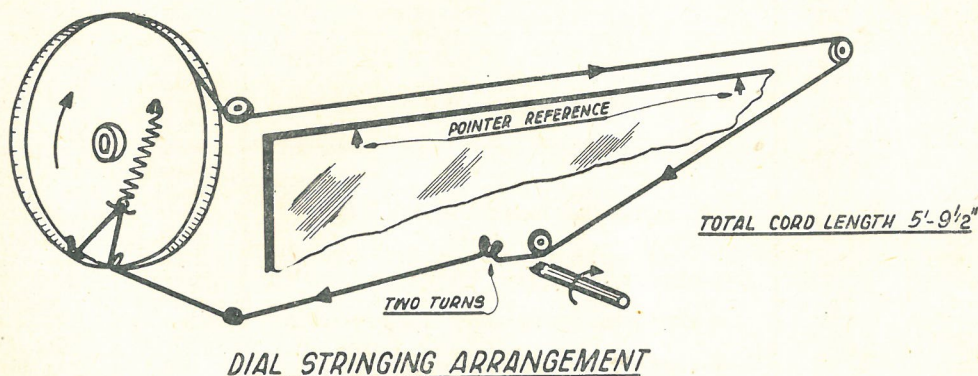
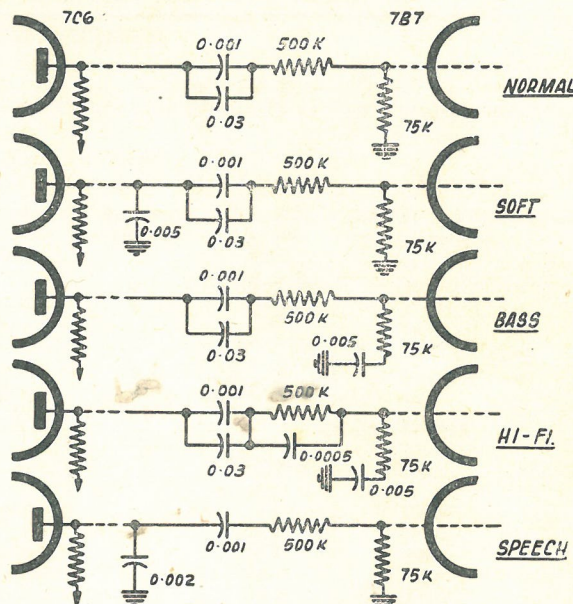
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ALL WAVE RECEIVER TYPE 1039
COLLIER & BEALE Ltd., WELLINGTON

MODEL 11039
SCHEMATIC OF PRE-AMPLIFIER
DESIGNED FOR USE WITH "GARRARD"
FLAT - RESPONSE PICK-UP



TONE SELECTOR SWITCHING
CIRCUIT CONDITION IN EACH SETTING



SWITCHING INDICATORS
STRINGING DIAGRAMS

