



"SHERWOOD"
MODEL 4910 A.W.

HIS MASTER'S VOICE (N.Z.) LTD.
WELLINGTON

ALL WAVE RECEIVER MODEL 4910 A.W.
SERVICE DATA SHEET

TYPE SET.—A.C. Superhetrodyne 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 fd.	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			MISCELLANEOUS				RESISTORS		
Ref. No.	Cap.	Volts	Ref. No.	Res., Pri.	Res., Sec.		Ref. No.	Res.	Watts
C1	40 μ fd.	450	785	17.5 ohm	2.57 ohm		R1	10 meg.	$\frac{1}{2}$
C2	40 μ fd.	450	485	69 ohm	2.4 ohm		R2	5 meg.	$\frac{1}{2}$
*C3	25 μ fd.	35	185-1	2.1 ohm	2.5 ohm		*R3	2meg.	$\frac{1}{2}$
C4	10 μ fd.	450	716	0.23 ohm	0.028 ohm		R4-5	1 meg.	$\frac{1}{2}$
C5	10 μ fd.	450	416	0.44 ohm	0.028 ohm		R6-8	500K ohm	$\frac{1}{2}$
C6	8 μ fd.	450	116	0.47 ohm	0.025 ohm		*R9	300K ohm	$\frac{1}{2}$
C7-13	0.1 μ fd.	600	715	0.63 ohm	0.14 ohm		R10-14	250K ohm	$\frac{1}{2}$
C14-17	0.05 μ fd.	600	415	1 ohm	0.14 ohm		R15-16	75K ohm	$\frac{1}{2}$
C18-20	0.03 μ fd.	600	115	0.58 ohm	0.14 ohm		*R17	68K ohm	$\frac{1}{2}$
C21-23	0.01 μ fd.	600	839-1	7 ohm	7 ohm		R18-20	50K ohm	$\frac{1}{2}$
C24	0.0057 μ fd.	Mica	839-2	7 ohm	7 ohm		R21	50K ohm	1
C25-26	0.005 μ fd.	Mica		volts	volts		*R22	30K ohm	$\frac{1}{2}$
C27	0.0035 μ fd.	Mica	TR5572	230	290 a side	5 & 6.3	R23	27K ohm	2
C28	0.002 μ fd.	Mica					R24	20K ohm	1
*C29-30	0.001 μ fd.	Mica	*TR5508-2	O.P. trans. 10,00ohm-15, 5, 2.7 ohm.			R25	15K ohm	$\frac{1}{2}$
C31	600 μ fd.	Padder	SW1A-H	3 pos. 8-pole band switch.			*R26-27	3K ohm	$\frac{1}{2}$
C32	0.0005 μ fd.	Mica	SW2A-B	2 pos. 2-pole radio-gram. switch.			R28	2K ohm	$\frac{1}{2}$
*C33	0.00025 μ fd.	Mica	SW3A-D	5 pos. 4 pole tone switch			R29-30	1K ohm	$\frac{1}{2}$
*C35-35A	0.0001 μ fd.	Mica	SW4	S.P.S.T. switch attached to R8.			R31	750 ohm	$\frac{1}{2}$
C36-44	3-30 μ fd.	Trimmer					*R32	600 ohm	$\frac{1}{2}$
C45-48	25 μ fd.	Ceramic					R33-35	500 ohm	$\frac{1}{2}$
C49-50	5 μ fd.	Ceramic					R36	300 ohm	$\frac{1}{2}$
C51	1 μ fd.	Gimmick					R37	250 ohm	2
							R38	200 ohm	$\frac{1}{2}$
							R39	75 ohm	$\frac{1}{2}$

Plessey Gang Type 9393/L22 (437 mmf. max.)
* Since the initial production, circuit changes which are inter-related, have been established, and in the component lists new values are shown.

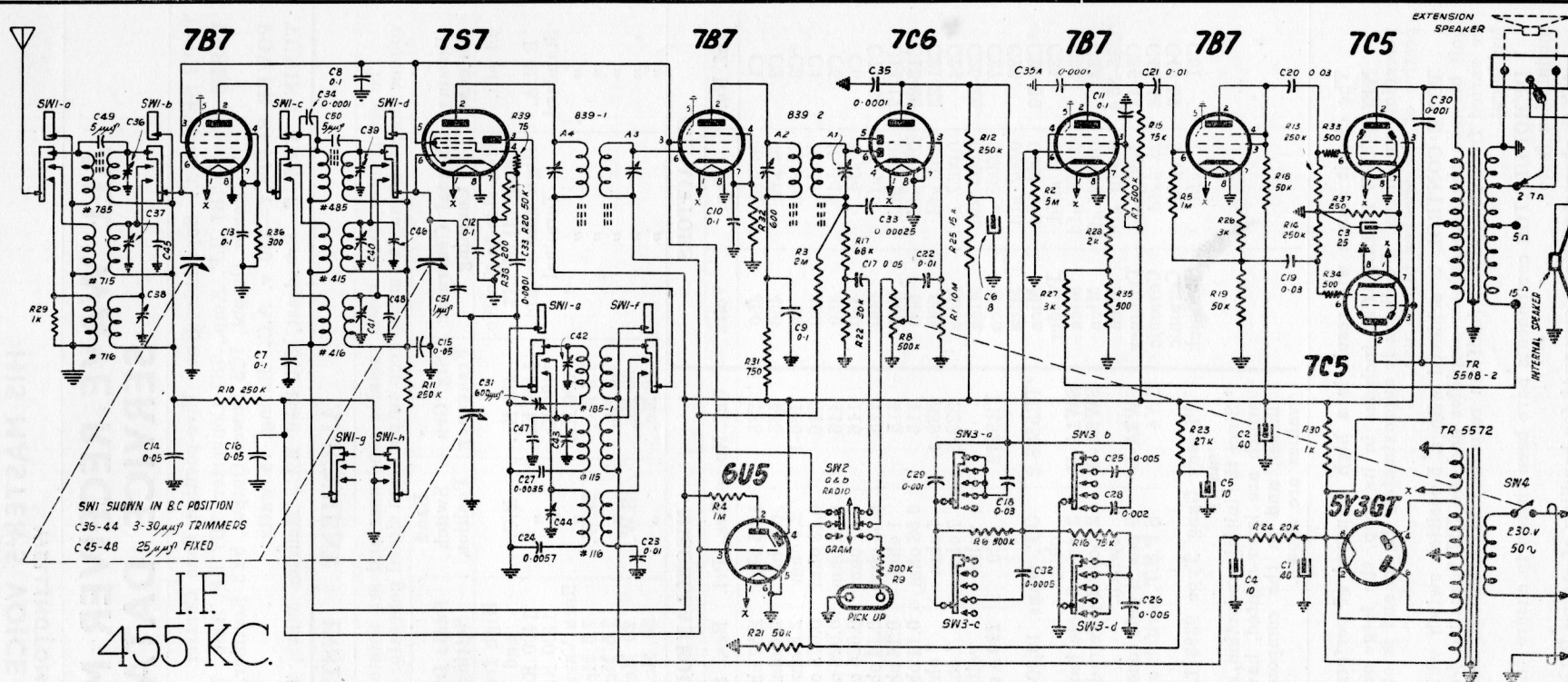
The circuit shown will result in a high standard of performance, including:—

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.



SCHEMATIC DIAGRAM MODEL 4910 A.W.

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.-A.F.	7C6	6.3A.C.	115	0	—	0	0	—	—
Eq'izer	7B7	6.3A.C.	110	55	4.4	—	0	4.4	—
Inv.	7B7	6.3A.C.	125	125	—	15	82	—	—
Output	7C5	6.3A.C.	250	225	0	—	0	14	—
Output	7C5	6.3A.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.-A.F.	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	250	—
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.

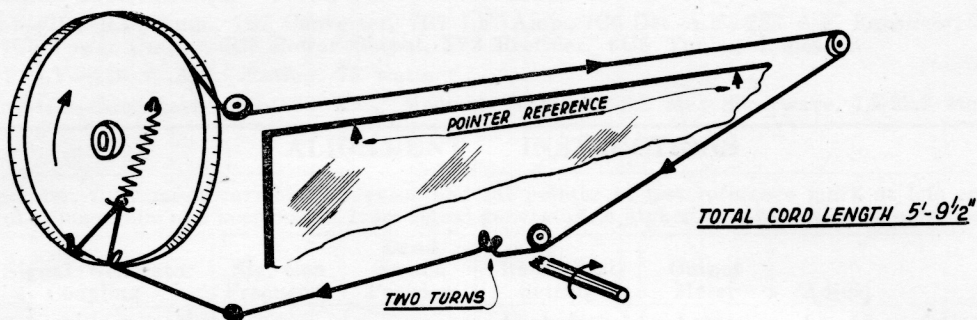
4. Nominal Tolerance on component value make possible a variation of $\pm 10\%$ in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.
6. Resistance readings in B+ circuits may vary widely according to the condition of filter capacitors.



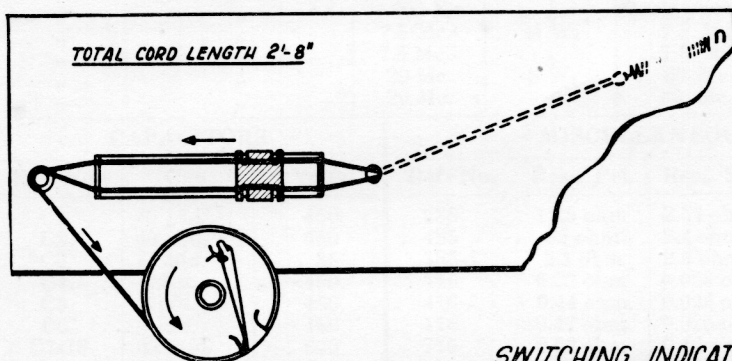
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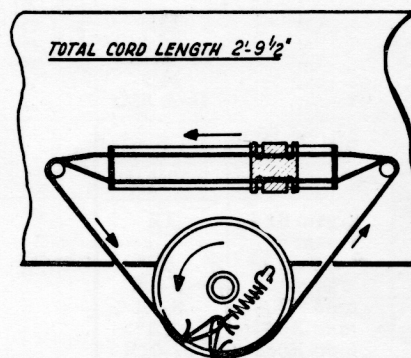


DIAL STRINGING ARRANGEMENT



SYSTEM INITIALLY EMPLOYED IN RECEIVERS

SWITCHING INDICATORS
STRINGING DIAGRAMS



LATER CONSTRUCTION

TONE SELECTOR SWITCHING

CIRCUIT CONDITION IN EACH SETTING

