



# MODEL CRK. GRAMO-RADIO COMBINATION

ASTOR MODEL CRK.

An automatic 4 Speed Record Changer (78,45,33-1/3,16-2/3 r.p.m.) and an 8 valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

**POWER CONSUMPTION:-**

Radio Operation:- 55 Watts-approx.  
Gramo Operation:- 75 Watts-approx.

**FOR OPERATION FORM:-**

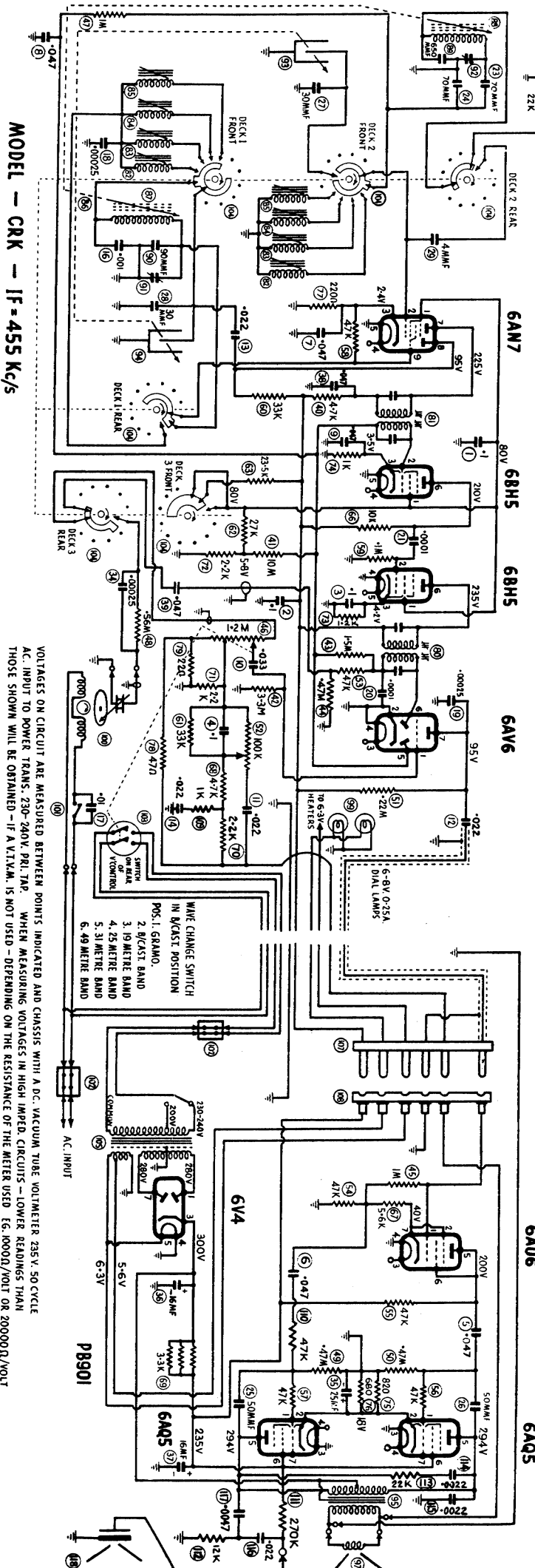
- 200-240 Volt 50 Cycle Supply Mains (Power Transformer T119)
- Power Trans. Primary Mains Tap-red-common.
- " " " " -green-200V mains.
- " " " " -black-230 & 240V. mains.
- 200-250 Volt 40 Cycle Supply Mains (power Transformer T120)
- Power Trans. Primary Mains Tap-red-common.
- " " " " -green-200V mains
- " " " " -black-230 & 240V. mains
- " " " " -white-250V. mains

**TUNING RANGES:-**

- Broadcast Band, 535-1610 Kc/s.
- 19 Metre Band, 14.9-15.5 Mc/s. (Bandspread)
- 25 Metre Band, 11.6-12.1 Mc/s. (Bandspread)
- 31 Metre Band, 9.4-9.8 Mc/s. (Bandspread)
- 49 Metre Band, 5.95-6.25 Mc/s. (Bandspread)

**RECEIVER COVERAGE:-**

- 560.7-186.3 Metres. (approx.)
- 20.13-19.29 Metres (approx.)
- 25.86-24.79 Metres (approx.)
- 31.91-30.61 Metres (approx.)
- 50.42-48.0 Metres (approx.)



MODEL - CRK - IF - 455 Kc/s

VOLTAGES ON CIRCUIT ARE MEASURED BETWEEN POINTS INDICATED AND CHASSIS WITH A D.C. VACUUM TUBE VOLTMETER 25V. 50 CYCLE AC. INPUT TO POWER TRANS. 230-240V. PRI. TAP. WHEN MEASURING VOLTAGES IN HIGH IMPED. CIRCUITS - LOWER READINGS THAN THOSE SHOWN WILL BE OBTAINED - IF A V.I.V.M. IS NOT USED - DEPENDING ON THE RESISTANCE OF THE METER USED EG. 1000Ω/VOLT OR 20000Ω/VOLT

ALIGNMENT PROCEDURE

B/CAST AND S/WAVE ALIGNMENT

EQUIPMENT		ALIGNMENT CONDITIONS		
Signal Generator:	Load Impedance:	2 Ohms (output meter connected across sec. of 10,000-2 Ohm imped. trans. circuit No. 95)		
Output Meter:		50 Milliwatts		
Mica Capacitor:	0.01MF (for IF. trans. alignment)	Max. Vol. fully clockwise		
Dummy Antenna:	200 IMF Mica capacitor	455 Kc/s.		
Dummy Antenna:	400 Ohm non-inductive Vol. Control: resistor	230 Volts 50 Cycle AC. input to trans. 230-240 Volt pri. tap		
Alignment Tools:	Type M195 and PMS61	Intermed Freq.: Input Voltage:		
		Tone Control:	Treble position	
<u>IF. TRANS. ALIGNMENT</u>				
Operation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	Remove receiver power supply chassis and tuning unit chassis from cabinet as detailed on page 9.			
2.	Remove dial back plate assembly from tuning unit chassis.-			
	A. Pull dial pointer up, then twist it over to rear of dial background.			
	B. Slide dial lamp sockets off edge of dial background.			
	C. Unscrew and remove two screws from mount plate at each end of dial background.			
	D. Pull dial background assy. forward straight off control spindles.			
3.	Connect speaker leads and leads from tuning unit chassis to power supply chassis.			
4.	To control grid of 6BH5 2nd IF. Valve pin No. 2	455 Kc/s.	0.01MF Mica capacitor in series with generator	Turn wave change switch to b/cast band. Leave grid wire attached to valve socket. Peak 2nd IF. trans. pri. and sec. for max. output.
5.	To control grid of 6AV7 valve, pin No. 2	455 Kc/s.	0.01MF Mica capacitor in series with generator	Leave grid wire attached to valve socket. Turn perm. tuner so that iron cores are out of windings on coil formers. Peak 1st IF. trans. pri. and sec. for max. output
6.	Refit dial plate assembly and dial pointer.			
7.	To antenna lead	9.6 Mc/s.	400 Ohm non-inductive resistor in series with generator	Turn wave change switch to 31 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with 9.6 Mc/s. mark on dial. Adjust 31 metre oscil. coil ind. trimmer (iron core) for logging, then peak 31 metre antenna coil ind. trim. (iron core) for max. output.
8.	To antenna lead	11.8 Mc/s.	400 Ohm non-inductive resistor in series with generator	Turn wave change switch to 25 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with the 11.8 Mc/s. mark on the dial.
9.	Turn wave change switch to the 31, 25 and 19 metre bands).			
10.	To antenna lead	6.08 Mc/s.	400 Ohm Non-inductive resistor in series with generator	Turn wave change switch to 49 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with the 6.08 Mc/s. mark on the dial. Adjust 49 metre band oscil. coil ind. trimmer (iron core) for logging, then peak 49 metre antenna coil ind. trimmer (iron core) for max. output.
11.	Turn wave change switch to 49 metre band.			
12.	Turn tuning unit centre of dial pointer aligns with centre of spot on dial reading at 1000 Kc/s.			
13.	Peak b/cast oscil. coil trimmer cond., then peak b/cast antenna coil trim. cond. for max. output.			
14.	Re-peak oscil. coil trim. condenser.			
15.	Tuning range after alignment 535-1610 Kc/s.			
16.	Check logging at each end of the dial.			

Operation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
9.	To antenna lead	15.2 Mc/s.	400 Ohm non inductive resistor in series with generator	Adjust 25 metre band oscil. coil ind. trim. (iron core) for logging, then peak 25 metre antenna coil ind. trim. (iron core) for max. output. Turn wave change switch to 19 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with 15.2 Mc/s. mark on the dial. Adjust 19 metre band oscil. coil ind. trim. (iron core) for logging, then peak 19 metre antenna coil ind. trim (iron core) for max. output. Check logging on 49, 31, 25 and 19 metre bands at each 100 Kc/s. mark on the dial.
10.	To Antenna lead	Multi-vibrator		

**NOTE:** The iron cores in the perm. tuner coils and the s/w. conds. on the perm. tuner are set to an exact dimension. No adjustment to the dimensions is to be made if misalignment and incorrect logging are to be avoided.

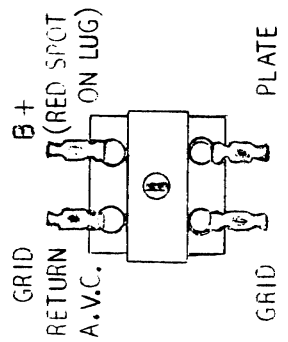
**COIL**

- 49 Metre spreadband coil, YELLOW spot on iron core end of former.
- 31 Metre spreadband coil, RED spot on iron core end of former.
- 25 Metre spreadband coil, WHITE spot on iron core end of former.
- 19 Metre spreadband coil, BROWN spot on iron core end of former.

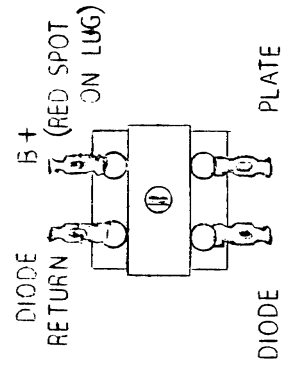
**SHORTWAVE SPREADBAND COIL IDENTIFICATION COLOURS.**

- 49 Metre spreadband coil, YELLOW spot on iron core end of former.
- 31 Metre spreadband coil, RED spot on iron core end of former.
- 25 Metre spreadband coil, WHITE spot on iron core end of former.
- 19 Metre spreadband coil, BROWN spot on iron core end of former.

**1ST. I.F. TRANS.**

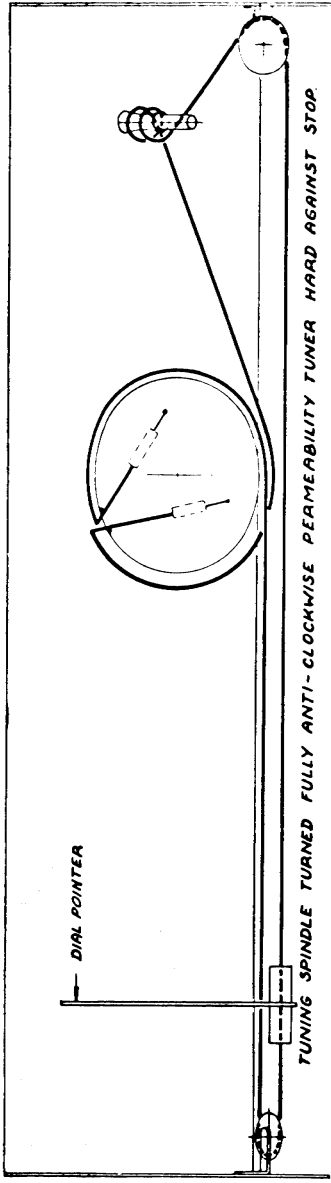


**2ND. I.F. TRANS.**

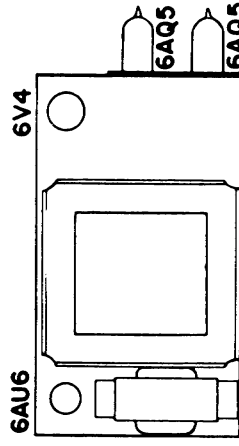


**CORDING OF DIAL DRIVE**

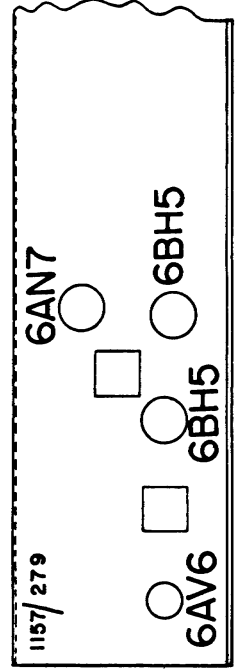
Length of cord required is 4 ft. 6 ins., which includes about 8 ins. to spare for tying to tension springs.  
Cord Part No. 34/754.  
Tension Spring (2) Part No. 503/30C.



PR 783



**VALVE PLACEMENT DIAGRAM**  
1156/279



**VALVE PLACEMENT DIAGRAM**