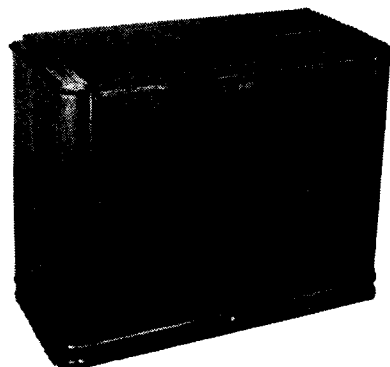


# PHILIPS RADIOPLAYER

## MODEL 177



### SPECIFICATIONS

(Subject to alteration without notice)

Power Supply	.....	.....	.....	.....	200-250V, 40-50 c/s.
Tuning Ranges	.....	.....	.....	.....	530-1620 kc/s. 4.7-9.2 Mc/s. 9.1-18.4 Mc/s.
Intermediate Frequency	.....	.....	.....	.....	455 kc/s.
Cabinet	.....	.....	.....	.....	Radiogram
Record Changer	.....	.....	.....	.....	Philips type AG1000

### VALVE EQUIPMENT AND VOLTAGE ANALYSIS

Valve Function	Valve No.	Valve Type	Plate Volts	Screen Volts	Osc. P. Volts	Bias Volts	
Frequency Converter	V1	6AN7	233	55	55	—	
I.F. Amplifier	V2	6BH5	233	55		—	
Demodulator, A.V.C. and 1st Audio	V3	6BD7	70			—	
2nd Audio Amplifier	V4	6BH5	130			10	
Phase Splitter	V5	6BD7	170			—	
Push-Pull Power Amplifier	V6	6M5	270	233		8	
Push-Pull Power Amplifier	V7	6M5	270	233		8	
Rectifier	V8	6V4	Cathode — L18 C.T.,—282V				
Dial (2) and Bezel Lamps	V11, 12, 13	6.3V, 0.32A tubular screw					
Voltage across R18/19, 40V; R19, 35V; R28, -3V							

NOTE: These voltages are measured with an "1,000 ohms per volt" meter and may vary  $\pm 10\%$  from the figures quoted. They are measured from the socket points indicated to chassis, or across the resistors listed. The receiver should be in a "no signal" condition.

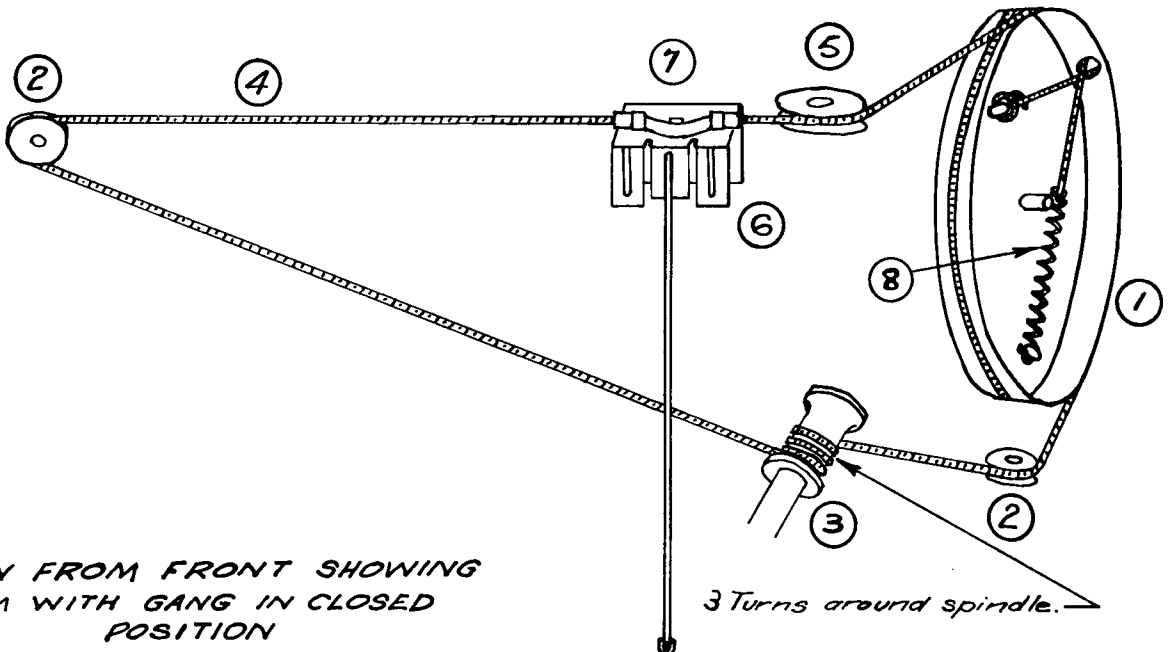
Published by Philips Electrical Industries Pty. Ltd.

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Sydney — Melbourne — Brisbane — Adelaide — Perth

### MISCELLANEOUS COMPONENTS

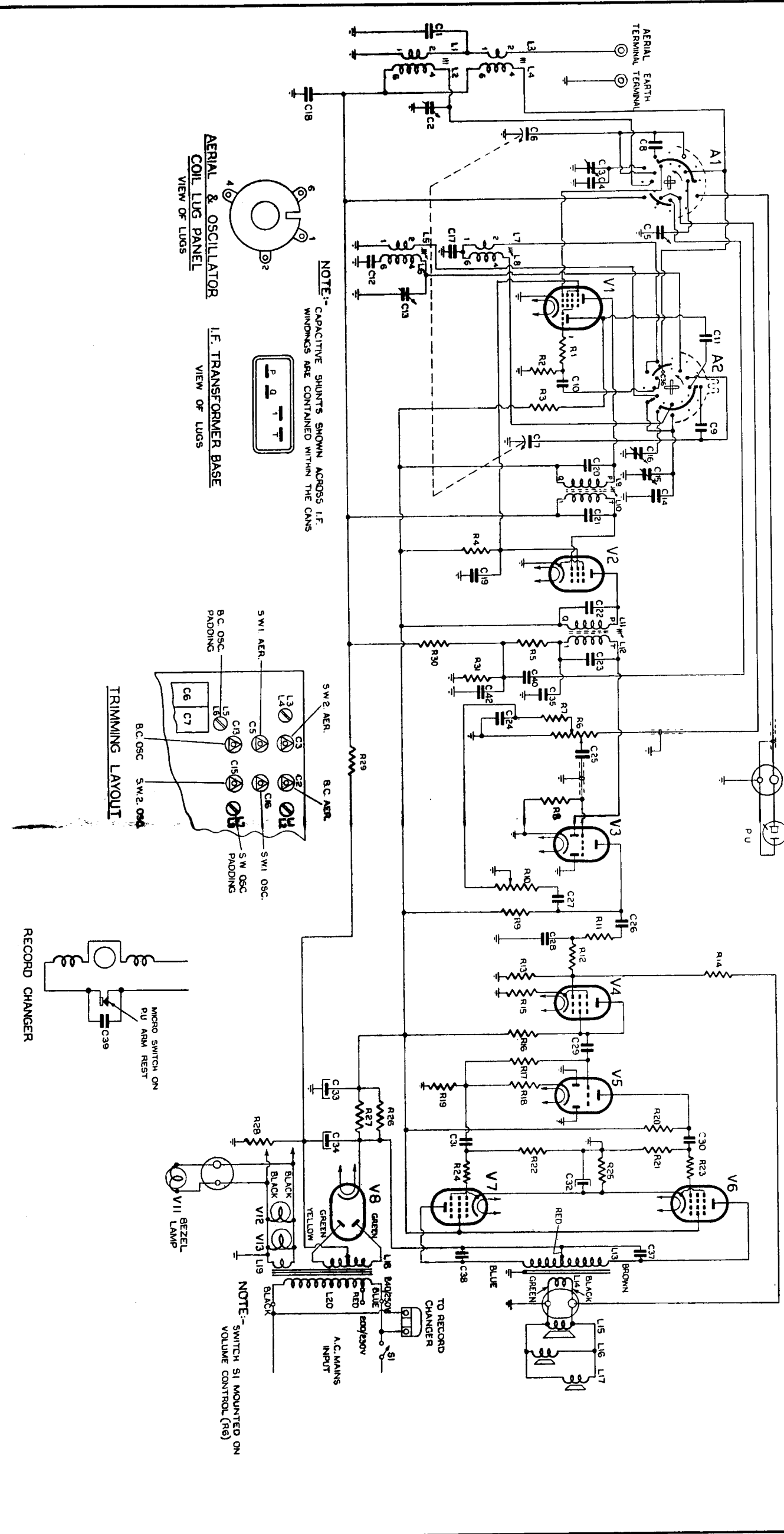
No. on Dial Cord Layout Drawing	Description	Code No.	No. on Dial Cord Layout Drawing	Description	Code No.
6	Assembly, cursor	CR.480.664	—	Plug, male (gramo. unit power)	CZ.365.115
—	Assembly, lampholder, 2x	C/F733-5-4	—	Plug, 2 pin polarised (speaker and pick-up)	C/F691-5-1
—	Assembly, lampholder (bezel)	CZ.367.920	5	Pulley, dial (large)	CS.359.613
3	Assembly, tuning spindle	CR.371.223	2	Pulley, dial (small), 2x	CS.359.612
—	Badge, Philips	CR.531.408	—	Scale, dial	CS.412.395
—	Bank, W/C switch (aerial)	CZ.200.060	—	Socket, female (gramo. unit power)	CZ.365.116
—	Bank, W/C switch (osc.)	CZ.200.061	—	Socket, 2 pin polarised (speaker and pick-up)	C/F733-16-1
—	Bezel	CS.430.023	—	Socket, valve (noval), 8x	C/F733-2-14
—	Clip, spring (knob), 4x	CS.281.832	7	Spring, cursor	CS.212.016
—	Clip, spring (I.F.T. mtg.), 2x	A3.652.58	8	Spring, dial cord	CS.210.043
4	Cord, dial drive	69" of cord required			
1	Drum, dial	CS.360.006			
—	Knob, control, 4x	CR.523.714			



L	1,2,3,4	5,7,8	9,10	11,12	13,14,15	16,17	18,19,20,21,22,23,24,25	26,27,28,29,30,31	32	31,38	13,18,19,24,29	15	16	17
C	1	2	3	4	5	6	7,8,9,10,11,12,13,14,15	16	17	18,19,20,21,22,23,24,25	26,27,28,29,30,31	32	33	34
R	1	2	3	4	5	6	7,8,9,10,11,12,13,14,15	16	17	18,19,20,21,22,23,24,25	26,27,28,29,30,31	32	33	34
V	1	2	3	4	5	6	7,8,9,10,11,12,13,14,15	16	17	18,19,20,21,22,23,24,25	26,27,28,29,30,31	32	33	34

SWITCH A1 & A2 SHOWN  
IN S.W. 1 POSITION  
SHORT WAVE 1  
SHORT WAVE 2  
BROADCAST  
GRAMMO

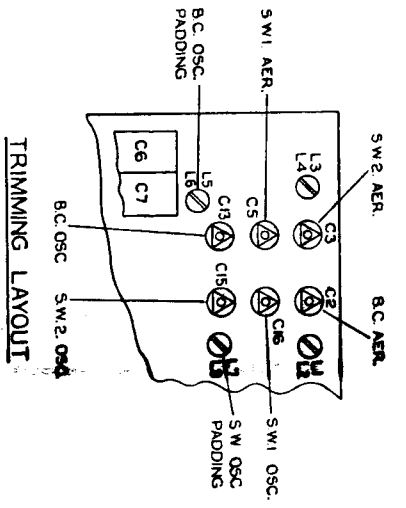
**A2**  
NOTE:- NEUTRALIZING CONDENSER C36  
IS FORMED BY THE CAPACITY  
BETWEEN THIS STATOR LUG AND  
THE ADJACENT STATOR CONTACT



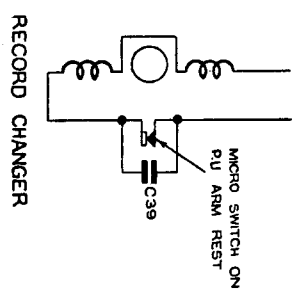
AERIAL & OSCILLATOR  
COIL LUG PANEL  
VIEW OF LUGS

I.F. TRANSFORMER BASE  
VIEW OF LUGS

NOTE:- CAPACITIVE SHUNTS SHOWN ACROSS I.F.  
WINDINGS ARE CONTAINED WITHIN THE CANS



TRIMMING LAYOUT



NOTE:- SWITCH S1 MOUNTED ON  
VOLUME CONTROL (R6)

## PARTS LISTS

## CAPACITORS

No.	Description	Code No.
C1, 10, 11, 35, 42	100 pF mica	
C2, 3, 5, 15, 16	30 pF air trimmer	CZ.113.700
C4	115 pF mica 2½%	CZ.066.138
C6-7	2 gang tuning	CZ.107.746
C8, 9	180 pF mica 1%	CZ.065.722
C12	475 pF mica 2%	CZ.066.119
C13	60 pF air trimmer	49.005.58
C14	110 pF mica 2½%	CZ.066.140
C17	0.0045 mF mica 10%	
C18, 40	0.05 mF 200V paper	
C19	0.05 mF 400V paper	
C20, 21, 22, 23	Part of I.F. transformers	
C24	0.03 mF 200V paper	
C25	0.01 mF 400V paper	
C26, 27	0.005 mF 600V paper	
C28	150 pF mica	
C29, 30, 31, 39	0.01 mF 600V paper	
C32	25 mF 10V electrolytic	
C33, 34	40 mF 350V electrolytic	
C36	In-built neutralising capacitor (refer circuit diagram drawing)	
C37, 38	0.002 mF 600V paper	

All tolerances are  $\pm 20\%$  unless otherwise specified.

## RESISTORS

No.	Description	Code No.
R1	100 ohms ½W carbon	
R2	22,000 ohms ½W carbon	
R3	47,000 ohms 1W carbon 10%	
R4	68,000 ohms 1W carbon	
R5, 16	47,000 ohms ½W carbon	
R6	0.5 megohm carbon potentiometer, tapped at 0.25 megohm, with S.P.S.T. switch	CZ.032.014
R7	12,000 ohms ½W carbon 10%	
R8	10 megohms ½W carbon	
R9, 31	0.22 megohm ½W carbon	
R10	1 megohm carbon potentiometer	CZ.029.149
R11, 12, 13	0.1 megohm ½W carbon	
R14	0.15 megohm ½W carbon 10%	
R15, 23, 24	4,700 ohms ½W carbon	
R17	1 megohm ½W carbon	
R18	1,800 ohms ½W carbon 10%	
R19, 20	47,000 ohms ½W carbon 10%	
R21, 22	0.47 megohms ½W carbon	
R25	150 ohms 1W W/W 10%	
R26, 27	4,700 ohms 1W carbon	
R28	56 ohms ½W carbon 10%	
R29	3.3 megohms ½W carbon	
R30	2.2 megohms ½W carbon	

All tolerances are  $\pm 20\%$  unless otherwise specified.

## COILS

No.	Ohms	Description	Code No.	No.	Ohms	Description	Code No.
L1	19.6-26.4	} B/c aerial coil	CZ.323.026	L13	}	Output transformer	
L2	1.5-2.0			L14			
L3	1.2-1.7	} S/W aerial coil	CZ.323.027	L15	Speaker	type 12M, F25	
L4	<0.5			L16	Speaker	49.240.55	
L5	0.8-1.2	} B/C oscillator coil	CZ.330.613	L17	Speaker	49.240.55	
L6	2.7-3.7			L18	315-425	} Power transformer	CZ.344.089
L7	<0.5	} S/W oscillator coil	CZ.330.614	L19	<0.5		
L8	<0.5			L20	26-36		
L9	11.5-15.5	} 1st I.F. transformer	A3.124.25				
L10	11.5-15.5						
L11	11.5-15.5	} 2nd I.F. transformer	CZ.320.434				
L12	11.5-15.5						

**IMPORTANT!** In ordering spare parts, quote **CODE NUMBER** of part and **MODEL NUMBER** of Receiver. In claiming free replacement under

**GUARANTEE,** return defective part **PROMPTLY** and quote **MODEL** and **SERIAL NUMBER** of Receiver and **DATE OF PURCHASE.**

**ALIGNMENT.**

During alignment, set volume control at maximum and tone control at central position. With the tuning capacitor fully closed, set the dial cursor on the 120 mark of the relocation scale.

I.F. channel alignment is carried out in the following sequence:—

Connect 100 pF capacitor from plate of 6BH5 to chassis and peak secondary of 2nd I.F.T. (screw near 6BD7).

Transfer 100 pF capacitor to 6BD7 diode to chassis position and peak primary of 2nd I.F.T. (screw nearer 6BH5).

Remove the detuning capacitor and peak secondary of 1st I.F.T. (screw nearer 6BH5).

Peak primary of 1st I.F.T. (screw nearer 6AN7). Repeat operations on 1st I.F.T. ONLY.

The trimmer layout drawing is shown as an inset on the circuit diagram drawing.

B/C band alignment frequencies are: 1,420 kc/s, 3XY (oscillator and aerial trimmers) and 600 kc/s, 7ZL (slug padding with gang rocking).

On the short wave band the oscillator operates on a frequency above signal frequency, so that of the two signals tunable on the receiver, the high frequency one is correct. In short wave alignment, SW2 band (4.7-9.2 Mc/s) should be done first before attempting alignment of SW1 band.

On SW2 band (4.7-9.2 Mc/s) alignment frequencies are: 4.825 Mc/s (114 on relocation scale), (oscillator coil slug) and 8.9 Mc/s (16 on relocation scale), (oscillator and aerial trimmers). Rock the tuning gang while adjusting the aerial trimmer.

SW1 band (9.1-18.4 Mc/s) alignment frequency is 17.8 Mc/s (small green triangle), (oscillator and aerial trimmers, rock gang while adjusting aerial trimmer). Calibration should be checked at 9.65 Mc/s (small green triangle).

**Do not attempt to adjust the iron cores of the aerial coils.**

**TO REMOVE CHASSIS FROM CABINET**

Remove the power plug from the mains outlet socket. Remove the four control knobs (a firm pull is all that is necessary). Remove the cabinet back. Remove the aerial and earth terminal panel and unclip the leads from the cabinet.

Remove the pick-up, speaker, grammo. unit power and bezel lamp plugs from their respective sockets. Remove the two screws at the top of the dial back plate and the two screws at the rear of the chassis. The chassis may now be withdrawn from the cabinet.

The replacement of the chassis is a reversal of the above procedure. Care should be taken to see that the front edge of the side chassis flange engages under the lip of the front mounting bracket.

**MAINS VOLTAGE ADJUSTMENT.**

The power transformer is provided with two mains voltage tappings on the primary winding—200/230 volts and 240/250 volts—for adjustment to the supply voltage at the point of installation. The receiver is adjusted at the factory to the 240/250 volts tapping.

**DIAL CALIBRATION.**

In the event of an equal calibration error over the entire dial scale, the dial cursor can be moved on the dial drive cord to correct the error.

AERIAL  
TERMINA