

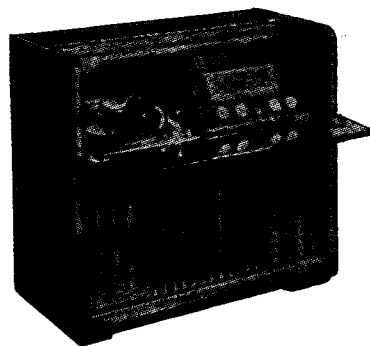
PHILIPS RADIOPLAYER

MODEL 179 E

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	Garrard type RC110



VALVE EQUIPMENT AND VOLTAGE ANALYSIS

Valve Function	Valve No.	Valve Type	Plate Volts	Screen Volts	Osc. P. Volts	Cathode Volts
Frequency Converter	V1	6AN7	240	55	68	—
I.F. Amplifier	V2	6BH5	240	55	—	—
Demodulator, A.V.C. and 1st Audio	V3	6BD7	75	—	—	—
Phase Splitter	V4	6BD7	128	—	—	23
Push-Pull Power Amplifier	V5	6M5	280	240	—	7.6
Push-Pull Power Amplifier	V6	6M5	280	240	—	7.6
Rectifier	V7	6V4	Cathode — L18 C.T., 285V.			
Dial Lamps (2), Bezel Lamp	V11, 12, 13	6.3V, 0.32A tubular screw				
Voltage across R26, -2.1V.						

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.

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, gramophone 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 The chassis may now be withdrawn from the cabinet.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 tapings 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 easily be moved on the dial drive cord to correct the error.

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:—

Screw out iron core of 2nd I.F.T. primary (nearer 6BH5) as far as possible. Adjust iron cores for maximum output in the following sequence—

Peak secondary of 2nd I.F.T. (nearer 6BD7).

Peak secondary of 1st I.F.T. (nearer 6BH5).

Peak primary of 1st I.F.T. (nearer 6AN7).

Peak primary of 2nd I.F.T. (nearer 6BH5).

Do not repeat any adjustments.

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 bands 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.

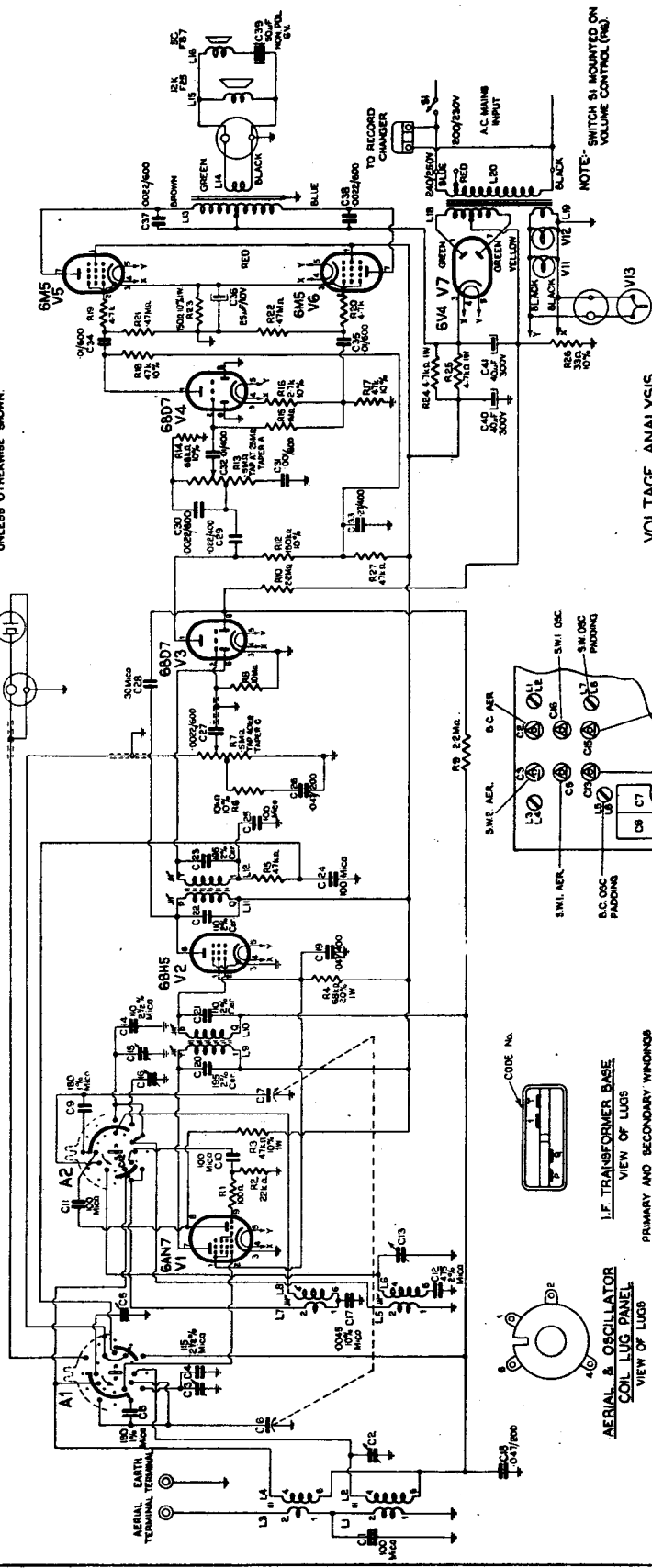
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NOTE-
SWITCH A1 & A2 SHOWN
IN S.W.1 POSITION
SHORT WAVE &
BROADCAST
ORANGE

NOTE-
NEUTRALIZING CONDENSER C42
IS FORMED BY THE CAPACITY
BETWEEN THE STATOR LUGS
AND THE ADJACENT STATOR CONTACT

NOTE-

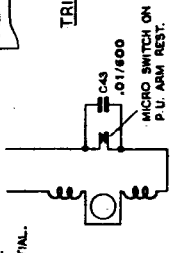
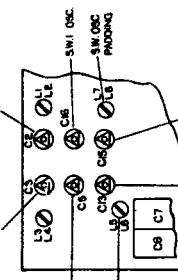
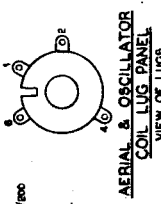
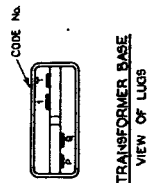
CONDENSER VALUES:
WHOLE NUMBERS = μF
DECIMALS = μF
SECOND FIGURE = D.C.V.V.
TOLERANCE $\pm 20\%$ UNLESS OTHERWISE SHOWN.
RESISTORS ARE $\pm 20\%$ UNLESS OTHERWISE SHOWN.



VOLTAGE ANALYSIS

VALVE	PLATE	SCREEN	OSC. PL.	GRID	WIPER	BY	2B5
No	VOLTS	VOLTS	VOLTS	FIL			2A0
V1	240	55	65	Across C33			140
V2	240	55					
V3	78			Across R36			21F
V4	128			23	FIL	VOLTS	6-35F
V5	280	240		7-8 F	Measured with 1000V V.M.F. meter on 300V Scale.		
V6	280	240		7-8 F	Measured with 1000V V.M.F. meter on 300V Scale.		
V7	250	250	A.C.				

All voltages measured from chassis.



NOTE- SWITCH S1 MOUNTED ON VOLUME CONTROL (2A0)

CAPACITORS

No.	Description	Code No.
C1, 10, 11, 24, 25	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, 26	0.047 mF 200V paper	
C19	0.047 mF 400V paper	
C20, 21, 22, 23	Part of I.F. transformer	
C27, 30, 37, 38	0.0022 mF 600V paper	
C28	30 pF mica	
C29	0.022 mF 400V paper	
C31	0.001 mF 600V paper	
C32	0.01 mF 400V paper	
C33	0.27 mF 400V paper	
C34, 35, 43	0.01 mF 600V paper	
C36	25 mF 10V electrolytic	
C39	50 mF 6V non-polarized electrolytic	CZ.099.870
C40, 41	40 mF 350V electrolytic	
C42	Inbuilt neutralising capacitor refer circuit diagram drawing	

All tolerances are ± 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, 27	47,000 ohms ½W carbon	
R6	10,000 ohms ½W carbon 10%	
R7	0.5 megohm carbon potentiometer tapped at 40,000 ohms with SPST switch	CZ.032.016
R8	10 megohm ½W carbon	
R9, 10	2.2 megohm ½W carbon	
R12	150,000 ohms ½W carbon 10%	
R13	0.5 megohm carbon potentiometer tapped at 0.25 megohm	CZ.029.150
R14	68,000 ohms ½W carbon 10%	
R15	1 megohm ½W carbon	
R16	2,700 ohms ½W carbon 10%	
R17, 18	47,000 ohms ½W carbon 10%	
R19, 20	4,700 ohms ½W carbon	
R21, 22	0.47 megohm ½W carbon	
R23	150 ohms 1W W/W 10%	
R24, 25	4,700 ohms 1W carbon	
R26	33 ohms ½W carbon 10%	

All tolerances are ± 20% unless otherwise specified.

COILS

No.	Ohms	Description	Code No.
L1	19.6-26.4	B/C aerial coil	CZ.323.026
L2	1.5-2.0		
L3	1.2-1.7	S/W aerial coil	CZ.323.027
L4	<0.5		
L5	0.8-1.2	B/C oscillator coil	CZ.330.613
L6	2.7-3.7		
L7	<0.5	S/W oscillator coil	CZ.330.614
L8	<0.5		
L9	4.7-5.2	1st I.F. transformer	A3.126.84
L10	8.0-9.0		
L11	8.3-9.2	2nd I.F. transformer	CZ.320.444
L12	4.7-5.2		
L13		Output transformer	type KOL53
L14		10,000 Ω p-p	CZ.345.043
L15		Speaker	type 12K F25
L16		Speaker	type 5C F87
L18	26-36	Power transformer	CZ.344.089
L19	315-425		
L20	<0.5		

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.

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, pick-up and bezel lamp)	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, pick-up and bezel lamp)	C/F733-16-1
—	Bezel	CS.430.023	—	Socket, valve (noval), 7x	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			

