

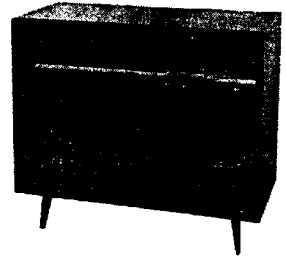
# PHILIPS RADIOPLAYER

## MODEL 202

### SPECIFICATIONS

(Subject to alteration without notice)

Power Supply	200/250V, 40/50 c/s
Tuning Ranges	530-1620 Kc/s
Intermediate Frequency	455 Kc/s
Cabinet	Radiogram
Record Changer	Philips type AG1014
Pick-up Head	Philips type AG3016
Pick-up Head	Philips type AG3025



### VALVE EQUIPMENT AND VOLTAGE ANALYSIS

Valve Function	Valve No.	Valve Type	Plate Volts	Screen Volts	Osc. P. Volts	Cathode Volts
Frequency Converter	V1	6AN7	237	46	72	
I.F. Amplifier, A.V.C. and Demodulator	V2	6N8	237	46		
Audio Amplifier	V3a	12AX7	65			
Phase Splitter	V3b		115			31
Power Amplifier	V4	6M5	275	237		7.9
Power Amplifier	V5	6M5	275	237		7.9
Rectifier	V6	6V4	253/253V AC		Unfiltered B+, 283V DC Filtered B+, 237V DC	
Dial Lamps (2)	V11, 12	8045D			6.3V, 0.32A tubular screw	
Heater Volts, 6.35V AC; Voltage across R27, 2.2V DC						

NOTE: All voltages are "1,000 ohms per volt" meter reading 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

Withdraw the power plug from the mains outlet socket. Loosen the four knob retaining grub screws and remove knobs. Remove cabinet back panel. Unscrew the aerial and earth terminal strip, disconnect the internal aerial wire and unclip the aerial and earth leads from the cabinet.

Remove the pick-up and loudspeaker plugs from their respective chassis sockets together with the record changer unit power plug. Extract the two wood screws at either side extreme top edge of dial back plate and the two 5/32" Whit. metal thread screws at chassis side flanges. The chassis may now be withdrawn from the cabinet.

Procedure for chassis replacement is a reversal of the foregoing.

#### MAINS VOLTAGE ADJUSTMENT

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

Check dial calibration and, if necessary, adjust cursor position as described in the foregoing.

For I.F.T. and R.F. trimmer locations refer to circuit diagram inset drawing.

Set volume control to maximum and tone control to a central position.

#### I.F. Alignment

Screw out iron core of 2nd I.F.T. primary.

Apply modulated 455 Kc/s signal via a 100 pF capacitor to control grid (pin 2) of V1 and peak I.F.T. cores in the following sequence—

Secondary 2nd I.F.T. (L7)

Secondary 1st I.F.T. (L6)

Primary 1st I.F.T. (L5)

Primary 2nd I.F.T. (L8)

Do not repeat any adjustments.

#### R.F. Alignment

Use a standard R.M.A. dummy aerial and apply a modulated R.F. signal to aerial terminal.

Alignment frequencies are: 1,420 Kc/s, 3XY (peak oscillator (C8) and aerial (C2) trimmers), and 600 Kc/s, 7ZL (peak L3, 4 oscillator slug while rocking gang).

Do not attempt to adjust the iron-core of the aerial coil.

## PARTS LIST

## CAPACITORS

No.	Description	Code No.
C1, 7, 9, 13, 16	100pF mica	
C2	30pF air trimmer	CZ.113.700
C3, 17	0.047 $\mu$ F 200V paper	
C4, 5	2 gang tuning condenser	CZ.107.755
C6	475pF $\pm$ 2% mica	CZ.066.119
C8	60pF air trimmer	49.005.58
C10, 11	Part of 1st I.F. transformer	
C12	0.047 $\mu$ F 400V paper	
C14, 15	Part of 2nd I.F. transformer	
C18, 19	0.0035 $\mu$ F 400V paper	
C20	0.01 $\mu$ F 600V paper	
C21	0.001 $\mu$ F 400V paper	
C22	0.27 $\mu$ F 400V paper	
C23	0.0022 $\mu$ F 400V paper	
C24, 25	40 $\mu$ F 350VP electrolytic	
C26, 27	0.01 $\mu$ F 600V paper	
C28	25 $\mu$ F 25VW electrolytic	
C29	0.0015 $\mu$ F 600V paper	
C30	50 $\mu$ F 6VW N.P. electrolytic	CZ.099.870
C31	0.0047 $\mu$ F 600V paper	

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

## RESISTORS

No.	Description	Code No.
R1	100 ohms $\frac{3}{4}$ W $\frac{1}{4}$ W	
R2	22,000 ohms $\frac{1}{4}$ W carbon	
R3	47,000 ohms $\pm$ 10% 1W carbon	
R4	68,000 ohms 1W carbon	
R5, 19	47,000 ohms $\frac{1}{4}$ W carbon	
R6	10,000 ohms $\pm$ 10% $\frac{1}{4}$ W carbon	
R7	0.5 megohm potentiometer taper "C", tapped at 40,000 ohms with S.P.S.T. switch	CZ.032.025
R8	10 megohm $\frac{1}{4}$ W carbon	
R9	1.5 megohm $\frac{1}{4}$ W carbon	
R10	3.3 megohm $\frac{1}{4}$ W carbon	
R12	220,000 ohms $\frac{1}{4}$ W carbon	
R13	10 megohm $\frac{1}{4}$ W carbon	
R14, 18	47,000 ohms $\pm$ 10% $\frac{1}{4}$ W carbon	
R15	68,000 ohms $\pm$ 10% $\frac{1}{4}$ W carbon	
R16	0.5 megohm potentiometer taper "A", tapped at 0.25 megohm	CZ.029.151
R17	120,000 ohms $\pm$ 10% $\frac{1}{4}$ W carbon	
R20, 23	4,700 ohms $\frac{1}{4}$ W carbon	
R21, 22	0.47 megohm $\frac{1}{4}$ W carbon	
R24	150 ohms $\pm$ 10% 1W $\frac{1}{4}$ W/W	CZ.001.621
R25, 26	4,700 ohms $\pm$ 10% 1W carbon	
R27	33 ohm $\pm$ 10% $\frac{1}{4}$ W carbon	CZ.000.317
R28	220,000 ohms $\frac{1}{4}$ W carbon	
R29	150,000 ohms $\frac{1}{4}$ W carbon	
R30	180,000 $\pm$ 10% $\frac{1}{4}$ W carbon	

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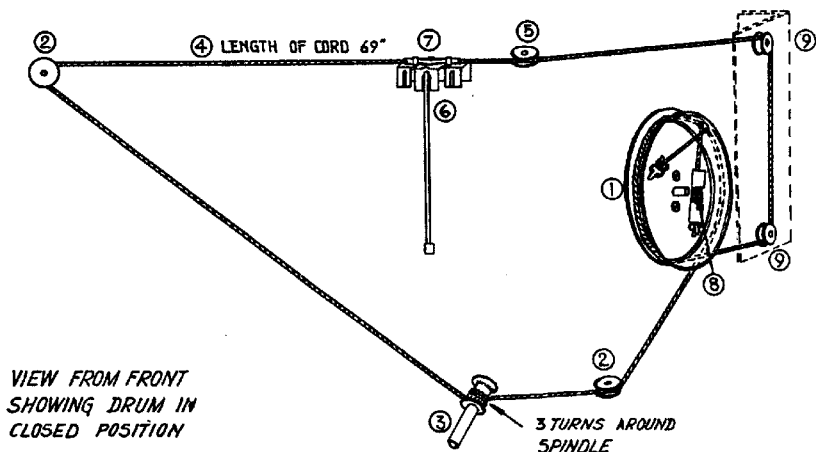
## COILS

No.	Ohms	Description	Type or Code No.
L1	19.6-26.4	B/C aerial coil	CZ.323.026
L2	1.5-2.0		
L3	1.2-1.7	B/C oscillator coil	CZ.350.613
L4	<0.5		
L5	4.7-5.2	1st I.F. transformer	A3.126.84
L6	8.0-9.0		
L7	4.7-5.2	2nd I.F. transformer	CZ.320.444
L8	8.3-9.2		
L9	150/158	Output transformer	Role KOL53, CZ.345.043
L10	<0.5		
L11	—	Loudspeaker	Role 12M, F25
L12	—	Loudspeaker	Role 5FX, F95
L13	315-425		
L14	<0.5	Power transformer	CZ.344.089
L15	26-36		
L16	—	Choke dividing network	Role CH17

**IMPORTANT!** When ordering spare parts, quote CODE NUMBER of part and MODEL NUMBER of Receiver. In claiming free replacement under WARRANTY, return defective part PROMPTLY and quote MODEL and SERIAL NUMBER of Receiver and DATE OF PURCHASE.

## MISCELLANEOUS COMPONENTS

Drawing Reference No.	Description	Type or Code No.	Drawing Reference No.	Description	Type or Code No.
6	Assembly, cursor	CR.480.664	—	Name "Philips"	CR.531.428
—	Assembly, lampholder, x2	C/F 733-5-4	—	Plug, chassis, power	CZ.365.115
3	Assembly, tuning spindle	CR.371.335	—	Plug 2 pin polarised, x2	C/F 691-5-1
—	Badge	CR.531.408	5	Pulley, dial (large)	CS.359.618
9	Bracket assy., cord support	CR.262.465	2	Pulley, dial (small)	CS.359.617
—	Channel, rubber (scale mtg.)	CS.424.194	—	Scale, dial	CS.412.415
—	Clamp, dial, L.H.	CS.233.582	—	Socket, 2 pin polarised, x2	C/F 733-16-1
—	Clamp, dial, R.H.	CS.233.584	—	Socket, power chassis	CZ.365.116
—	Clip, spring (I.F.T. mtg.), x2	A3.652.58	7	Spring, cursor	CS.212.016
—	Clip, spring (knob), x4	CS.281.832	8	Spring, dial cord	CS.210.043
4	Cord, dial drive	69" required	—	Spring, I.F.T. retaining	A3.652.58
1	Drum, dial	CS.360.006	—	Strip, A & E terminal	C/F 679-2-5
—	Ferrule, cabinet leg, x4	CS.420.216	—	Stay, cabinet lid	EFFCO C41, CR.285.809
—	Holder, pick-up head retaining	P4.380.35	—	Switch (A1), gram/radio	OAK 37011, CZ.200.250
—	Knob, x4	CR.523.762			
—	Name "High Fidelity"	CS.436.451			



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