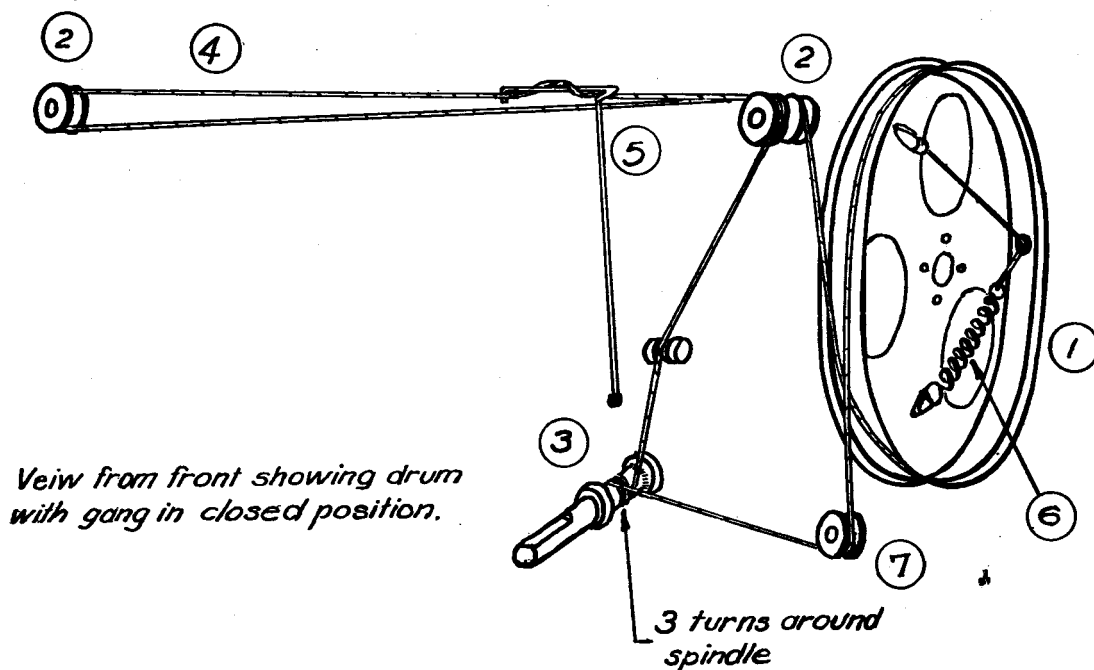


MISCELLANEOUS COMPONENTS

No. on Dial Cord Layout Drawing	Description	Code No.	No. on Dial Cord Layout Drawing	Description	Code No.
5	Assembly, cursor	CR.480.666	—	Plug, 2-pin polarised (pick-up and speaker)	C/F691-5-1
—	Assembly, bracket lampholder, x2	C/F733-5-4	2	Pulley, large, x3	CS.382.618
3	Assembly, tuning spindle	CR.371.223	7	Pulley, small	CS.359.617
—	Badge	CR.531.423	—	Philips, name	A3.308.24
—	Bank, W/C switch (aerial)	CZ.200.060	—	Scale, dial	CS.412.397
—	Bank, W/C switch (osc.)	CZ.200.061	—	Socket, 2-pin polarised (pick-up and speaker)	C/F733-16-1
—	Card, knob	CS.439.214	—	Socket, valve (noval), x7	C/F733-2-14
—	Clip, spring (I.F.T. mtg.), x2	A3.652.58	6	Spring, dial cord	CS.210.020
4	Cord, dial drive (66" required)	06.606.28 Bulk	—	Strip, A/E terminal	C/F679-2-5
1	Drum, dial	CS.360.006	—	Washer, felt, x4	CS.467.130
—	Knob, control, x4	CR.523.722			



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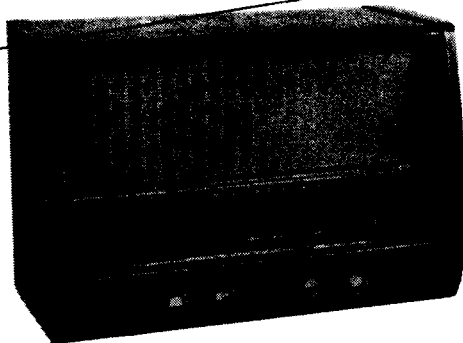
PHILIPS RADIOPLAYER

MODEL 147

SPECIFICATIONS

(Subject to alteration without notice)

Power Supply	.....	.....	200-250, 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	.....	.....	Wooden, table



VALVE EQUIPMENT AND VOLTAGE ANALYSIS

Valve Function	Valve No.	Valve Type	Plate Volts	Screen Volts	Osc. P. Volts	Cathode Volts	
Frequency Converter	V1	6AN7	235	63	67	—	
I.F. Amplifier	V2	6BH5	235	63	—	—	
Demodulator, A.V.C. and 1st Audio	V3	6BD7	75	—	—	—	
Phase Splitter	V4	6BD7	115	—	—	23	
Push-Pull Power Amplifier	V5	6M5	274	235	—	7.6	
Push-Pull Power Amplifier	V6	6M5	274	235	—	7.6	
Rectifier	V7	6V4	260/260	—	—	—	
Dial Lamps (2)	V11, 12	6.3V, 0.32A tubular screw					
Unfiltered: B+280 volts			Across C34: 140 volts				
Filtered: B+235 volts			Across R30: 2.1 volts				
Filaments: 6.35 volts							

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

The method of mounting chassis in cabinet is conventional, but the existence of lead extended pick-up terminals from rear of chassis to cabinet back requires the withdrawal of pick-up plug from chassis before complete removal of back panel is possible.

Withdraw power plug from main socket, unscrew cabinet back, but prior to complete removal, extract pick-up plug from chassis. Remove the four control knobs (a firm pull is all that is necessary), loud speaker plug and aerial/earth terminal strip. Removal of the two chassis securing bolts through base of cabinet and also the two dial back plate support screws (outer) will now allow withdrawal of chassis complete with dial scale assembly.

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 set 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 at maximum and tone control anti-clockwise. With the tuning condenser fully closed, set the dial cursor on the 120 mark of the relocation scale.

I.F. Alignment

Screw out iron core of the primary of the 2nd I.F.T. (nearer V2) as far as possible. Adjust iron cores for maximum output in the following order.

1. Second I.F.T. secondary (nearer V3)
2. First I.F.T. secondary (nearer V2)
3. First I.F.T. primary (nearer V1)
4. Second I.F.T. primary (nearer V2)

Do not re-adjust iron cores.

R.F. Alignment

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 (small white triangle), (oscillator coil slug) and 8.9 Mc/s (small white triangle), (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).

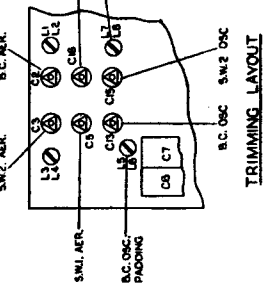
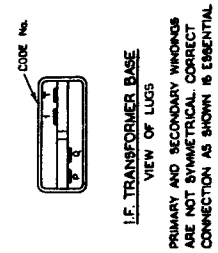
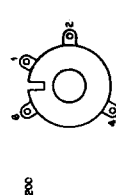
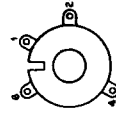
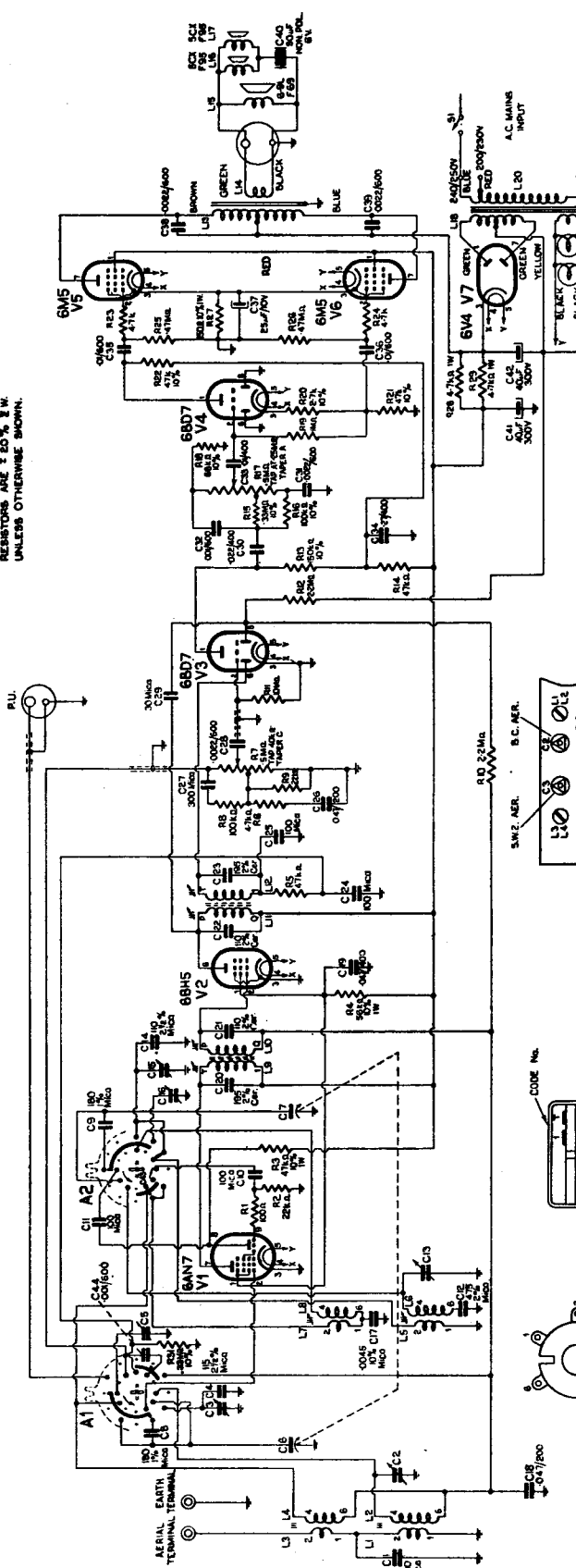
Do not attempt to adjust the iron cores of the aerial coils.

1	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0
1	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0
2	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0
3	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0

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

NOTE-
NEUTRALIZING CONDENSER C43 IS FORMED BY THE CAPACITY BETWEEN THIS STATOR LUG AND THE ADJACENT STATOR CONTACT.

NOTE-
CONDENSER VALUES: WHOLE NUMBERS = pF. DECIMALS = uF. SECOND FIGURE = DC.V.W. TOLERANCE ± 20%, UNLESS OTHERWISE SHOWN. RESISTORS ARE ± 20% ± 1/4 W. UNLESS OTHERWISE SHOWN.



VOLTAGE ANALYSIS

VALVE	PLATE VOLTS	SCREENING VOLTS	OSC. R. VOLTS	CATH. VOLTS	FIL. B+ VOLTS
V1	235	83	67		Across C34
V2	235	63			Across R30
V3	75			23	Fil. Volts
V4	115			7.6	Measured with 2000V/Voltmeter.
V5	274	235		7.6	Measured with 2000V/Voltmeter.
V6	274	235		7.6	Measured with 2000V/Voltmeter.
V7	250				Measured with 2000V/Voltmeter.

All voltages measured from chassis.

NOTE: SWITCH S1 MOUNTED ON VOLUME CONTROL (No.)

PARTS LIST

CAPACITORS

No.	Description	Code No.
C1, 10, 11, 24, 25	100 pF mica	
C2, 3, 4, 15, 16	30 pF air trimmer	
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 µF 200V paper	
C19	0.047 µF 400V paper	
C20, 21, 22, 23	Part of I.F. transformer	
C27	300 pF mica	
C28, 31, 38, 39	0.0022 mF 600V paper	
C29	30 pF mica	
C30	0.022 µF 400V paper	
C32, 44	0.001 µF 600V paper	
C33	0.01 µF 400V paper	
C34	0.27 µF 400V paper	
C35, 36	0.01 µF 600V paper	
C37	25 µF 10V electrolytic	
C40	50 µF 6V non-polarised electrolytic	CZ.099.870
C41, 42	40 µF 300V electrolytic	
C43	Inbuilt neutralising capacitor (refer circuit diagram drawing)	

All tolerances are ± 20% unless otherwise specified.

RESISTORS

No.	Description	Code No.
R1	100 ohms ½W W/W	
R2, 9	22,000 ohms ½W carbon	
R3	47,000 ohms 1W carbon 10%	
R4	56,000 ohms 1W carbon 10%	
R5, 14	47,000 ohms ½W carbon	
R6, 23, 24	4,700 ohms ½W carbon	
R7	0.5 megohm carbon potentiometer tapped at 40,000 ohms with S.P.S.T. switch	CZ.032.016
R8	100,000 ohms ½W carbon	
R10, 12	2.2 megohm ½W carbon	
R11	10 megohm ½W carbon	
R13	150,000 ohms ½W carbon	
R15, 31	0.33 megohm ½W carbon 10%	
R16	100,000 ohms ½W carbon 10%	
R17	0.5 megohm carbon potentiometer tapped at 0.25 megohm	CZ.029.150
R18	68,000 ohms ½W carbon 10%	
R19	1 megohm ½W carbon	
R20	2,700 ohms ½W carbon 10%	
R21, 22	47,000 ohms ½W carbon 10%	
R25, 26	0.47 megohm ½W carbon	
R27	150 ohms 1W W/W 10%	
R28, 29	4,700 ohms 1W carbon	
R30	33 ohms ½W carbon 10%	

All tolerances are ± 20% unless otherwise specified.

COILS

No.	Ohms	Description	Code No.
L1	19.6-26.4 } 1.5-2.0 }	B/C aerial coil	CZ.323.026
L2			
L3	1.2-1.7 } <0.5 }	S/W aerial coil	CZ.323.027
L4			
L5	0.8-1.2 } 2.7-3.7 }	B/C oscillator coil	CZ.330.613
L6			
L7	<0.5 } <0.5 }	S/W oscillator coil	CZ.330.614
L8			
L9	4.7-5.2 } 8.0-9.0 }	1st I.F. transformer	A3.126.84
L10			
L11	8.3-9.2 } 4.7-5.2 }	2nd I.F. transformer	CZ.320.444
L12			
L13		Output transformer type KOL53	
L14		10,000 ohms p-p	CZ.345.043
L15		Speaker type 6-9L, F69	
L16		Speaker type 5CX, F95	
L17		Speaker type 5CX, F95	
L18	26-36		
L19	315-425	Power transformer	CZ.344.089
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.