

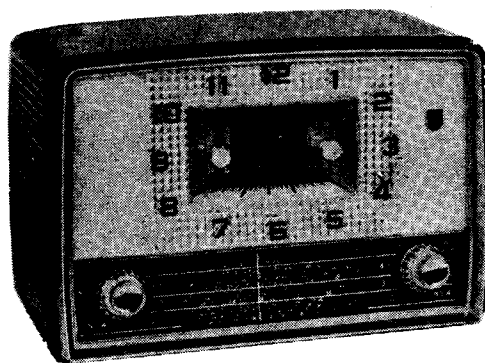
PHILIPS RADIOPLAYER

MODEL 155

SPECIFICATIONS

(Subject to alteration without notice)

Power Supply	200-250V, 50 c/s
Tuning Range	530-1620 Kc/s
Intermediate Frequency	455 Kc/s
Cabinet	Plastic Table
Timer Unit	Telechron C98



VALVE EQUIPMENT AND VOLTAGE ANALYSIS

Valve Function	Valve No.	Valve Type	Plate Volts	Screen Volts	Osc. Plate Volts	Cath. Volts
Frequency Converter	V1	6AN7	225	43	43	—
I.F. Amplifier	V2	6BH5	225	43	—	—
Audio Amplifier, A.V.C. and Demodulator	V3	6BD7	72	—	—	—
Power Amplifier	V4	6M5	219	225	—	6.75
Rectifier	V5	6V4	227/227V A.C.			
Dial Lamp	V11	6.3V 0.32A tubular screw				
Unfiltered B+ 237 volts. Filaments 6.4 volts.						
Filtered B+ 225 volts. Across R11 1.9 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

Remove the power plug from the wall outlet socket. Remove cabinet back (4 screws) and unplug external aerial and earth leads. Release the timer unit plug from its socket on the radio chassis and unscrew four chassis mounting screws from the counter bored holes in the base of the cabinet. The chassis may now be withdrawn from the cabinet, but care should be exercised with the rod aerial. When fitting chassis, ensure the speaker slides between the cabinet edge and screw column. With the removal of the timer unit plug from its socket, it is not possible to get power to the chassis until pins 2 and 4 of the socket are bridged (refer to circuit diagram).

REMOVAL OF TIMER UNIT FROM CABINET

For this operation it is necessary to remove the chassis from the cabinet (see "To Remove Chassis from Cabinet").

Remove the two timer unit knobs—a firm pull is all that is necessary. Inside the cabinet, remove the four screws securing timer unit to clock mounting brackets. The timer may now be withdrawn from the cabinet.

REMOVAL OF CLOCK OVERLAY

It is necessary to first remove the cabinet frame which is secured by 4 screws situated inside cabinet, and a further three in the base. Unscrew the badge and remove the clock overlay.

MAINS VOLTAGE ADJUSTMENT

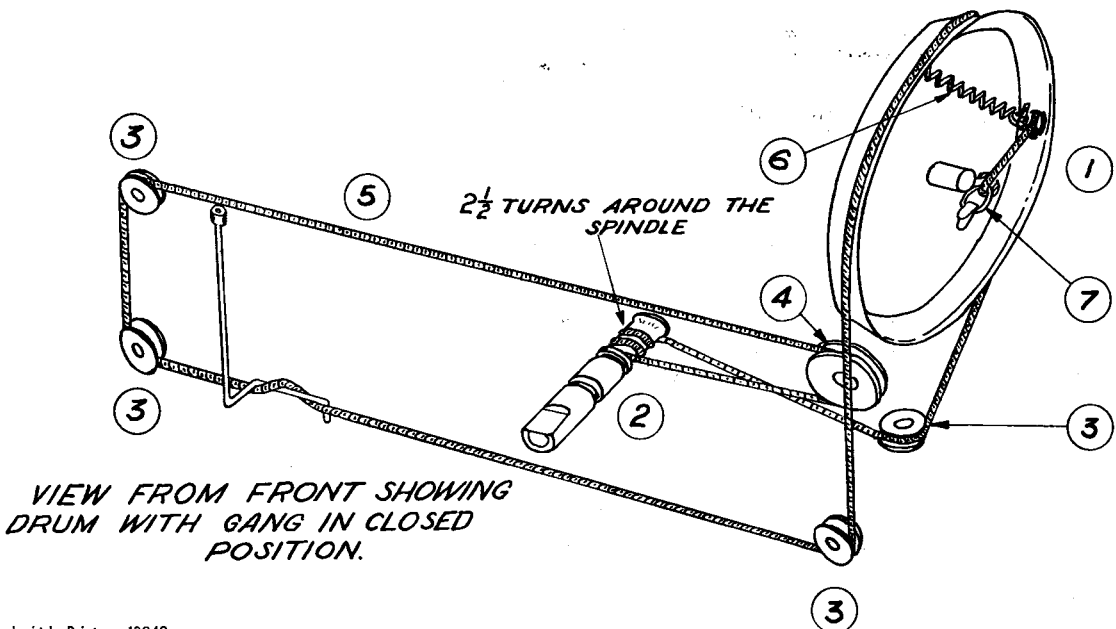
The power transformer is provided with two primary winding tapings—200/230 volts and 240/250 volts—for adjustment of the receiver to the supply voltage at the point of installation. The receiver is adjusted at the factory to the 240/250 volts tapping.

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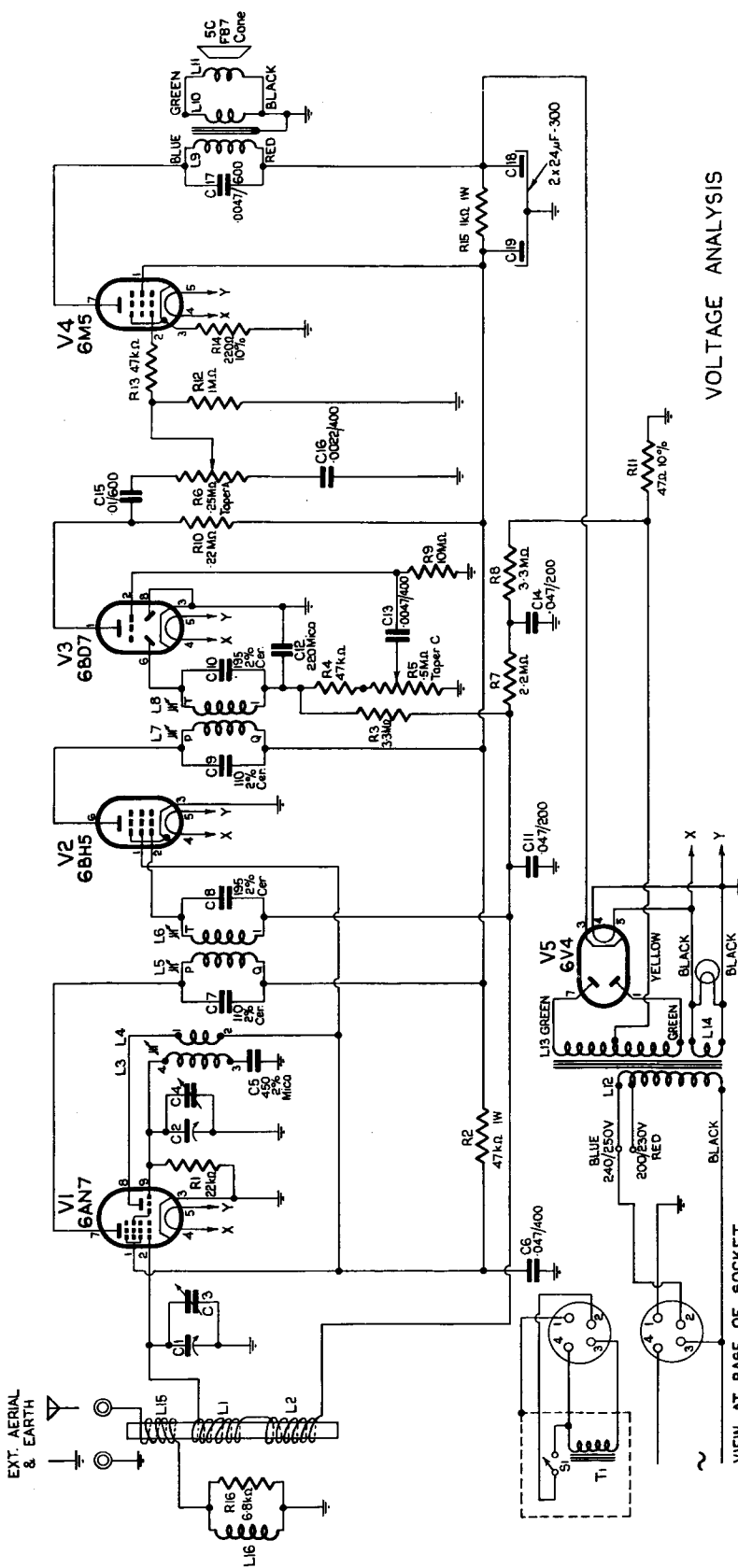
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MISCELLANEOUS COMPONENTS

No. on Dial Cord Layout Drawing	Description	Code No.	No. on Dial Cord Layout Drawing	Description	Code No.
—	Assy. cursor	CR.480.657	—	Grommet, x2 (gang mtg.)	CS.422.483
—	Assy. dial back	CR.022.216	—	Grommet (lampholder)	CS.422.473
—	Assy. cabinet back, Brown	CR.572.108	—	Hand, minute	CS.410.015
—	Assy. cabinet back, Burgundy	CR.572.109	—	Hand, hour	CS.410.016
—	Assy. cabinet back, Ivory	CR.572.100	—	Hand, second	CS.410.012
—	Badge	CR.531.424	—	Hand, time set	CS.410.013
—	Bush, tuning spindle	CS.381.655	—	Knob, large (tone)	CS.432.676
—	Bracket pulley	CS.228.626	—	Knob, small (volume)	CR.523.723
—	Bracket, cabinet back mtg.	CS.225.411	—	Knob, tuning	CR.523.740
—	Bracket, speaker mtg.	CS.233.495	—	Knob, clock, x2	CS.432.659
—	Bracket, dial back plate mtg.	CS.232.206	—	Mask, Pink	CS.050.430
—	Bracket, dial support	CS.228.628	—	Mask, Azure	CS.050.431
—	Bracket, dial support	CS.228.629	3	Pulley, special, x4	CS.359.617
—	Bracket, clock mtg.	CS.231.247	4	Pulley	CS.359.613
—	Cabinet, Ivory (carcass only—packed)	CR.573.507	—	Plate, clock face	CS.413.002
—	Cabinet, Burgundy (carcass only—packed)	CR.573.508	—	Pad, speaker securing	CS.424.109
—	Cabinet, Walnut (carcass only—packed)	CR.573.509	—	Ring "C"	CS.281.801
—	Channel, rubber, x3	CS.424.146	—	Ring "C" (tuning spindle to chassis)	CS.281.802
—	Cover, clock	CS.462.665	7	Ring, cord	CS.281.807
5	Cord, dial drive	50" of cord required	2	Spindle, tuning	CS.351.249
1	Drum, dial	CS.360.005	—	Sleeve, spindle	CS.381.670
—	Dial, clock overlay	CS.413.001	6	Spring, dial drum	CS.210.020
—	Frame, overlay	CS.030.015	—	Spring, I.F.T. mtg.	A3.652.58
			—	Socket, lampholder	CF733.8.1
			—	Scale, dial	CS.412.379



L	10	12, 15	1	3, 6	2	4	12, 13, 14, 4	5	6	7	8	9	10	11	2	3	4, 5, 7	8, 9	10	6, 11	12	13	14	4	15	16	17	18	9	10	11
C	16																														
R																															
V																															



VOLTAGE ANALYSIS

VALVE No.	PLATE VOLTS	SCREEN VOLTS	OSC. PL. VOLTS	CATH. VOLTS	UNFIL. B+ FIL. B+	237 225
V1	225	43	43		ACROSS R11	1-9 *
V2	225	43			FIL. VOLTS	6-4 *
V3	72				1000/V METER	
V4	219	225		6.75*	300 V SCALE	
V5	227/227 V. A.C.				* INDICATES 15V SCALE	

NOTES: 1- CAPACITOR VALUES:-
WHOLE NOS. - PF.
DECIMALS - UF.

2- TOLERANCE- 20% UNLESS OTHERWISE SHOWN.
UNLESS OTHERWISE SHOWN.

3- MAINS SWITCH IS OPERATED MANUALLY BY FUNCTION KNOB OR AUTOMATICALLY BY TIMER.

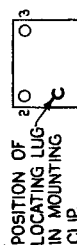
4- R5, R6 IS A DUAL CONCENTRIC POTENTIOMETER.
UNLESS OTHERWISE SHOWN.

OSCILLATOR COIL I.F. TRANSFORMER BASE
LUG PANEL

CODE NO.



VIEW OF LUGS



VIEW FROM ENDS

REMOTE FROM MOUNTING CLIP

PRIMARY AND SECONDARY WINDINGS ARE NOT SYMMETRICAL CORRECT CONNECTION AS SHOWN IS ESSENTIAL.

PARTS LIST

CAPACITORS

No.	Description	Code No.
C1, 2	2 gang tuning	CZ.107.755
C3	30 pF air trimmer	CZ.113.700
C4	60 pF air trimmer	49.005.58
C5	450 pF mica 2%	CZ.066.117
C6	0.047 mF 400V paper	
C7, 8, 9, 10	Part of I.F. transformers	
C11, 14	0.047 mF 200V paper	
C12	220 pF mica	
C13	0.0047 mF 400V paper	
C15	0.01 mF 600V paper	
C16	0.0022 mF 400V paper	
C17	0.0047 mF 600V paper	
C18, 19	24 mF 350V dual electrolytic	CZ.099.908

All tolerances are \pm 20% unless otherwise specified.

RESISTORS

No.	Description	Code No.
R1	22,000 ohms $\frac{1}{2}$ W carbon	
R2	47,000 ohms 1W carbon	
R3, 8	3.3 megohm $\frac{1}{2}$ W carbon	
R4, 13	47,000 ohms $\frac{1}{2}$ W carbon	
R5	0.5 megohm potentiometer (vol.) (inner)	
R6	0.25 megohm potentiometer (tone) (outer) (dual concentric unit)	CZ.029.068
R7	2.2 megohm $\frac{1}{2}$ W carbon	
R9	10 megohm $\frac{1}{2}$ W carbon	
R10	0.22 megohm $\frac{1}{2}$ W carbon	
R11	47 ohms $\frac{1}{2}$ W WW 10%	
R12	1 megohm $\frac{1}{2}$ W carbon	
R14	220 ohms $\frac{1}{2}$ W carbon 10%	
R15	1,000 ohms 1W carbon	
R16	6,800 ohms $\frac{1}{2}$ W carbon	

All tolerances are \pm 20% unless otherwise specified.

COILS

No.	Ohms	Description	Code No.
L1	<0.5		
L2	<0.5		
L15	<0.5	Rod aerial assy.	CZ.323.038
L16	18-20		
R16	6,800		
L3	0.9-1.1	B/C oscillator coil	CZ.330.612
L4	3.1-3.9		
L5	8.0-9.0	1st I.F.T.	A3.126.84
L6	4.7-5.2		
L7	8.0-9.0	2nd I.F.T.	A3.126.84
L8	4.7-5.2		
L9		Output transformer 7,000 ohms	
L10		type EBG96	CZ.345.049
L11		Speaker	Type 5C F87
L12	55-75		
L13	630-850	Power transformer	CZ.344.094
L14	<0.5		

REPLACEMENT OF TIMER UNIT HANDS

Power should not be applied. Push on both timer knobs temporarily. Pull out the left-hand knob and turn it to the off position. The hand setting knob at the rear should be rotated until the switch just operates. This is indicated by the movement of the small bakelite piece into the body of the switch. This operation should be exact. If the knob is turned too quickly, the correct point will be passed over. To correct this, push the left-hand knob in and pull out again, turn the hand setting knob anti-clockwise about a turn, then turn it clockwise slowly until the switch just operates.

Replace the alarm hand (red), hour, minute and sweep second hand in that order, setting each one exactly at 12. Ensure that each hand is pressed down firmly and that all are clear of one another and the clock face.

Check these operations by setting the alarm hand to any other hour by using the right-hand knob. Push in the left-hand knob and pull it out again. Turn the hands by means of the hand setting knob, doing this very slowly as the set time is approached, and check that the switch operates within 5 minutes either side of this time.

ALIGNMENT

I.F. Alignment

Alignment procedure of the I.F. channel is as under:—
Set volume control at maximum, tone control at high and tuning condenser in closed position. Screw out iron core of primary of second I.F. transformer (nearer 6BH5) as far as possible. Adjust iron cores at 455 Kc/s for maximum output in the following order:

- First I.F.T. secondary (screw nearer 6BD7)
- First I.F.T. secondary (screw nearer 6BH5)
- First I.F.T. primary (screw nearer 6AN7)
- Second I.F.T. primary (screw nearer 6BH5)

Do not re-adjust any iron cores.

R.F. Alignment

With the gang in closed position, set the cursor at the point where the bordering line is broken on the L.F. end of dial scale. Connect a shunt consisting of a 25,000 ohms 1 watt 10% carbon resistor and a 0.1 μ F 200V 20% paper capacitor in series across secondary of 1st I.F. transformer. This is necessary as it is desirable to desensitise the receiver because of the noise pick-up of the rod aerial. Connect generator through standard I.R.E. dummy to aerial and earth leads. Align-

ment frequencies are: oscillator trimmer (1,420 Kc/s 3XY) rear of tuning capacitor, rod aerial trimmer (1,420 Kc/s) near 6AN7, padding (600 Kc/s 7ZL) iron core in oscillator coil, rear of tuning capacitor.

In the event of replacement of the oscillator coil, it is advisable to make a preliminary peaking of the iron core at 600 Kc/s before commencing alignment.

DIAL CALIBRATION ADJUSTMENT

If dial calibrations are incorrect over the dial scale by an equal amount, the condition can be corrected by sliding the cursor on the dial cord. An access hole for this purpose is provided in the base of the cabinet.

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.