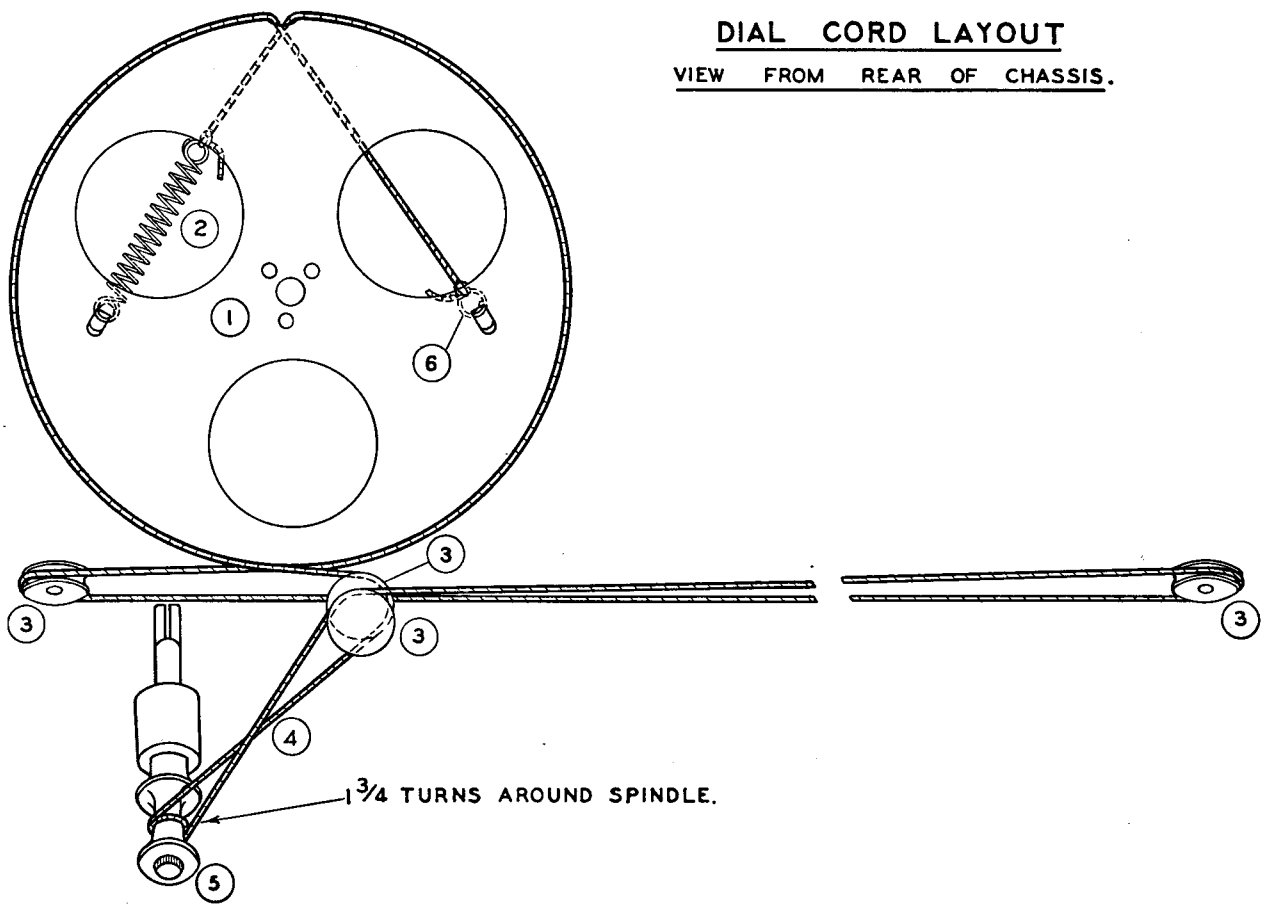
# MISCELLANEOUS COMPONENTS

| No. on Dial Cord Layout Drawing | Description | Code No. |
|---|---|---|
| — | Assembly, cursor | CR.480.642 |
| — | Assembly, lamp socket, 2x | CZ.367.900 |
| 5 | Assembly, tuning spindle | CR.371.328 |
| — | Assembly, T/C switch | CZ.200.237 |
| — | Assembly, T/C clicker | CR.450.039 |
| — | Assembly, W/C switch | CZ.200.227 |
| — | Assembly, W/C clicker | CR.450.040 |
| — | Badge, Philips | CR.531.408 |
| — | Bank, T/C switch | CZ.200.204 |
| — | Bank, W/C switch | CZ.200.231 |
| — | Clip, I.F.T. mounting, 6x | CS.235.833 |
| 4 | Cord, dial drive (63" of cord required) | |
| 1 | Drum, dial | CS.360.007 |

| No. on Dial Cord Layout Drawing | Description | Code No. |
|---|---|---|
| — | Knob, control, 4x | CS.432.630 |
| — | Plug, 2-pin polarised (speaker and pick-up) | CZ.365.108 |
| — | Plug, male (gramo. unit power) | CZ.365.115 |
| 3 | Pulley, dial drive, 4x | CS.359.602 |
| — | Rod, dial slide | CS.382.213 |
| — | Scale, dial | CS.412.371 |
| — | Socket, 2-pin polarised (speaker and pick-up) | CZ.370.107 |
| — | Socket, female (gramo. unit power) | CZ.365.116 |
| 2 | Spring, dial drum | CS.210.021 |
| — | Switch, mains on/off | CZ.210.108 |

## DIAL CORD LAYOUT

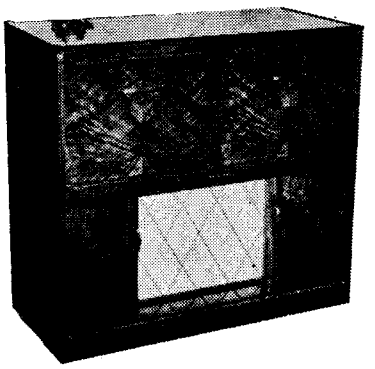
VIEW FROM REAR OF CHASSIS.



# PHILIPS RADIOPLAYER

## MODEL 154-A

NOTE: Model 154A varies from Model 154 in type of record changer. Refer to "Specifications" for details.



## SPECIFICATIONS

(Subject to alteration without notice)

| | |
|---|---|
| Power Supply | 200–250V, 40–60 c/s. |
| Tuning Ranges | B/C band, 530–1620 kc/s. S/W band, 5.9–18.4 Mc/s |
| Intermediate Frequency | 455 kc/s. |
| Cabinet | Radiogram |
| Gramo. Unit, 154 | Philips type 2508 |
| 154A | Collaro type 3RC531 |

## VALVE EQUIPMENT AND VOLTAGE ANALYSIS

| Valve Function | Valve No. | Valve Type | Plate Volts | Screen Volts | Osc. P. Volts |
|---|---|---|---|---|---|
| Frequency Converter | V1 | 6AN7 | 245 | 50 | 80 |
| I.F. Amplifier, A.V.C. and Demodulator | V2 | 6N8 | 245 | 70 | — |
| Audio Amplifier | V3 | 6N8 | 120 | — | — |
| Power Amplifier | V4 | 6M5 | 210 | 245 | — |
| Rectifier | V5 | EZ82 | Cathode — L17 C.T., 287V. | | |
| Dial Lamps | V11 & V12 | 6.3V, 0.32A tubular screw | | | |
| Voltage across R23, –2.1V; across R23, 24, –6.6V. | | | | | |

NOTE: These voltages are measured with an "1,000 ohms per volt" meter and may vary ± 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) and the cabinet back. Remove the aerial and earth leads from the terminal assembly. Remove the plugs for speaker, pick-up and gramo unit power, from their respective sockets.

Remove two screws at the top of the dial back plate and two at the rear of the chassis. The chassis may now be lifted out of the cabinet.

Replacement of the chassis is a reversal of the above procedure. In order to prevent damage to the damping cylinder when replacing the chassis, put it into the cabinet dial back plate first. Make sure that the front of the chassis engages under the lips of the mounting brackets.

### MAINS VOLTAGE ADJUSTMENT.

The power transformer is provided with two mains voltage tappings—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.

If it is necessary to make a primary tapping change, care should be taken to see that the gramo. unit leads are also changed.

### ALIGNMENT.

The iron cores for the secondaries of the I.F. transformers are located in the top of the cans; those for the primary are in the bottom of the cans. When trimming the I.F. circuits, care should be taken not to screw the iron cores in too far, otherwise undesired coupling may give rise to a false peak. A preliminary positioning to the outer edge of the former of all iron cores should be made. Then, when trimming is being carried out, the cores should not be screwed in beyond the first peak. Metallic tools should not be used for I.F. transformer adjustment.

Damped alignment of the I.F. channel is necessary. The procedure is:—

(a) Connect an 100 pF capacitor across the secondary of the 1st I.F.T.
(b) Trim in order, secondary of 2nd I.F.T., primary of 2nd I.F.T., primary of 1st I.F.T.
(c) Check (b).
(d) Remove the shunt from the secondary of the 1st I.F.T. and trim this circuit.
(e) Check (d).
(f) Do not alter adjustments without 100 pF shunt in position.

Broadcast band alignment frequencies are 1,420 kc/s, 3XY (oscillator and aerial trimmers) and 600 kc/s, 7ZL (slug padding); short wave alignment frequencies are 18.4 Mc/s (tuning gang fully open, oscillator trimmer) and 17.8 Mc/s (aerial trimmer, rock gang). Before commencing alignment, set the dial cursor, with the tuning gang fully closed, to the stop mark, which is the thin vertical mark at the extreme bottom on the right-hand end of the dial scale.

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

### DIAL CALIBRATION.

If it is required to correct dial calibrations for an equal error on all stations, provision is made for moving the cursor assembly with respect to the dial cord. Loosen the clamping screw, make the necessary adjustment to the cursor position and securely retighten the clamping screw.

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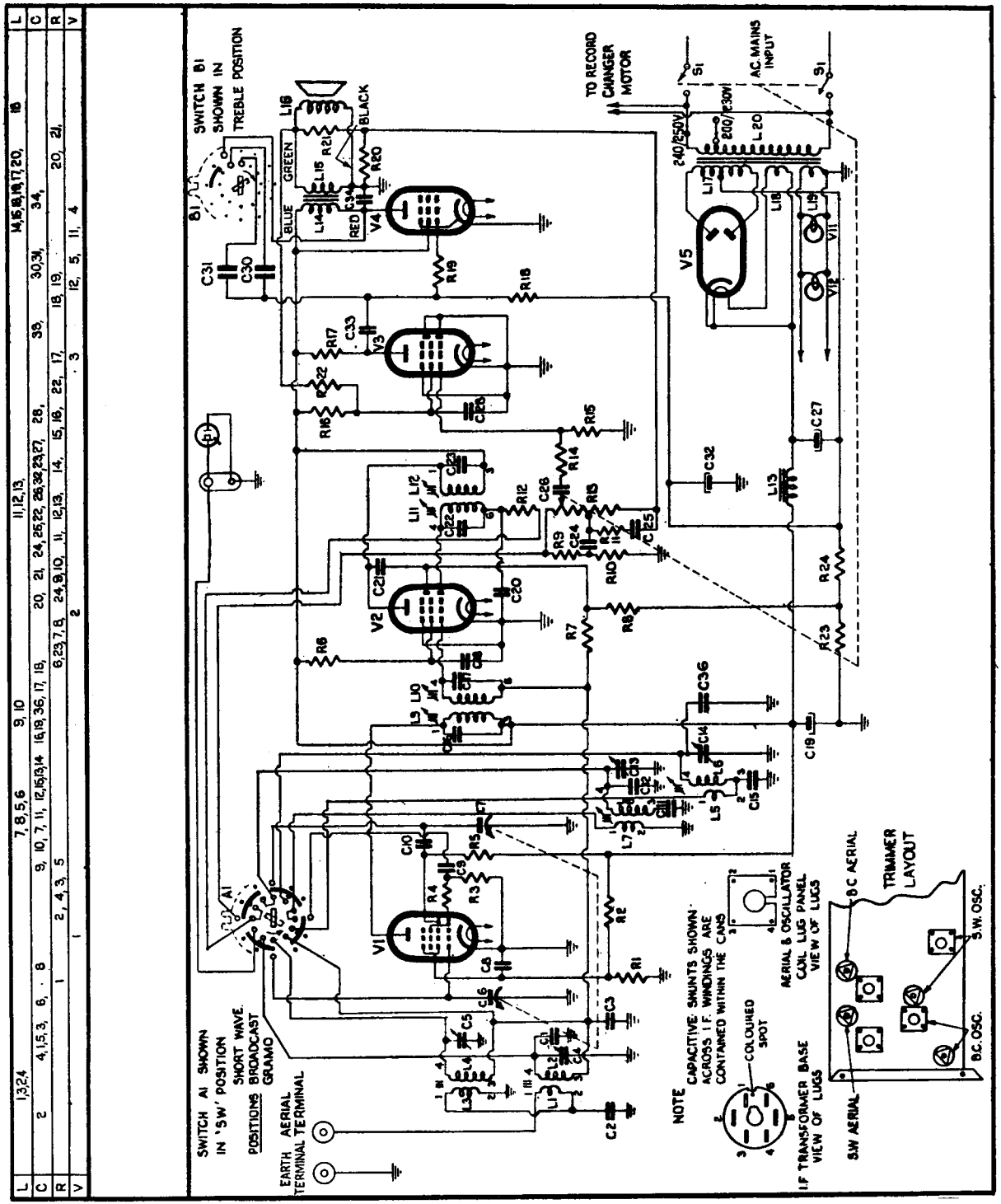
L 1,3,2,4 7,8,5,6 9, 10 11,12,13, 14,15,18,19,17,20, 16
C 2 4,1,5,3, 6, 8 9, 10, 7, 11, 12,16,13,14 16,18, 36, 17, 18, 20, 21, 24, 25,22, 26,38,23,27, 28, 38, 30,31, 34, 35
R 1 2, 4, 3, 5 6,23,7,8, 24,9,10, 11, 12,13, 14, 15, 16, 22, 17, 18, 19, 20, 21,
V 1 2 3 12, 5, 11, 4
SWITCH B1 SHOWN IN TREBLE POSITION
TO RECORD CHANGER MOTOR
A.C. MAINS INPUT
240/250V
200/230V
SWITCH A1 SHOWN IN 'SW' POSITION
POSITIONS SHORT WAVE. BROADCAST GRAMO
EARTH AERIAL TERMINAL
NOTE CAPACITIVE SHUNTS SHOWN ACROSS I.F. WINDINGS ARE CONTAINED WITHIN THE CANS
COLOURED SPOT
I.F. TRANSFORMER BASE VIEW OF LUGS
AERIAL & OSCILLATOR COIL LUG PANEL VIEW OF LUGS
TRIMMER LAYOUT
B.C. AERIAL
S.W. OSC.
B.C. OSC.
S.W. AERIAL
BLUE
GREEN
RED
BLACK

## CAPACITORS

| No. | Description | Code No. |
|---|---|---|
| C1, 36 | 10 pF mica | |
| C2, 9, 20, 31 | 100 pF mica | |
| C3 | 0.05 mF 200V paper | |
| C4, 5, 13, 14 | 30 pF air trimmer | CZ.113.700 |
| C6, 7 | 2 gang tuning | CZ.107.746 |
| C8, 18, 33 | 0.01 mF 600V paper | |
| C10 | 50 pF mica 10% | |
| C11 | 475 pF mica 2% | CZ.066.199 |
| C12 | 20 pF mica | |
| C15 | 0.008 mF mica 10% | |
| C16, 17, 22, 23 | Part of I.F. transformers | |
| C19, 27 | 24 mF 350V electrolytic | |
| C21 | 30 pF mica | |
| C24 | 0.002 mF 600V paper | |
| C25 | 0.05 mF 200V paper | |
| C26, 28 | 0.02 mF 400V paper | |
| C30 | 30 pF mica | |
| C32 | 10 mF 40V electrolytic | |
| C34 | 0.02 mF 600V paper | |

All tolerances are 20% unless otherwise stated.

## RESISTORS

| No. | Description | Code No. |
|---|---|---|
| R1, 5 | 33,000 ohms 1W carbon | |
| R2 | 82,000 ohms 1W carbon | |
| R3, 10, 14, 19 | 47,000 ohms ½W carbon | |
| R4 | 100 ohms ½W carbon | |
| R6 | 150,000 ohms 1W carbon | |
| R7, 8 | 2.2 megohms ½W carbon | |
| R9, 22 | 0.47 megohm ½W carbon | |
| R11 | 10,000 ohms ½W carbon 10% | |
| R12 | 100,000 ohms ½W carbon | |
| R13 | 0.5 megohm tapped carbon potentiometer | CZ.029.137 |
| R15 | 10 megohms 1W carbon | |
| R16 | 2.2 megohms 1W carbon | |
| R17 | 220,000 ohms 1W carbon | |
| R18 | 1 megohm ½W carbon | |
| R20 | 22 ohms ½W W/W 10% | |
| R21 | 390 ohms ½W carbon 10% | |
| R23 | 33 ohms ½W W/W 10% | |
| R24 | 75 ohms ½W W/W 10% | |

All tolerances are 20% unless otherwise stated.

## COILS

| No. | Ohms | Description | Code No. |
|---|---|---|---|
| L1 | 1.3-1.7 | S/W aerial coil (white spot) | CZ.323.006 |
| L2 | <0.5 | | |
| L3 | 25.5-34.5 | B/C aerial coil (2 blue spots) | CZ.323.007 |
| L4 | 1.7-2.3 | | |
| L5 | <0.5 | S/W oscillator coil (yellow spot) | CZ.330.601 |
| L6 | <0.5 | | |
| L7 | 1.0-1.4 | B/C oscillator coil (red spot) | CZ.330.600 |
| L8 | 2.9-3.9 | | |
| L9 | 11.5-12.5 | 1st I.F. transformer | CZ.320.429 |
| L10 | 11.5-12.5 | | |
| L11 | 11.5-12.5 | 2nd I.F. transformer | CZ.320.430 |
| L12 | 11.5-12.5 | | |
| L17 | 365-495 | Power transformer | CZ.344.080 |
| L18 | <0.5 | | |
| L19 | <0.5 | | |
| L20 | 31-43 | | |
| L13 | | Filter choke | Type 14/60 |
| L14 | | Speaker transformer (6,000 ohms) | Type CCG55 |
| L15 | | | |
| L16 | | Speaker | Type 12J (F25) |

**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.**