

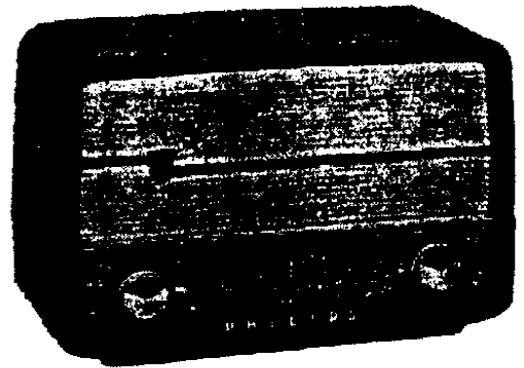
PHILIPS RADIOPLAYER

MODEL 166

SPECIFICATIONS

(Subject to alteration without notice)

| | | |
|------------------------|-------|----------------------|
| Power Supply | | 200-250V, 40-50 c/s. |
| Tuning Range | | 530-1620 kc/s. |
| Intermediate Frequency | | 455 kc/s. |
| Cabinet | | Bakelite mantel |



VALVE EQUIPMENT AND VOLTAGE ANALYSIS

| Valve Function | Valve No. | Valve Type | Plate Volts | Screen Volts | Osc. P. Volts |
|--|-----------|---------------------------|------------------------------|--------------|---------------|
| Frequency Converter | V1 | 6AN7 | 210 | 55 | 55 |
| I.F. Amplifier, Demodulator and A.V.C. | V2 | 6N8 | 210 | 55 | — |
| Power Amplifier | V3 | 6M5 | 208 | 210 | — |
| Rectifier | V4 | 6V4 | V4 cathode — L13 C.T., 232V. | | |
| Dial Lamp | V11 | 6.3V, 0.32A tubular screw | | | |
| Voltage across R13, -6.7V | | | | | |

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. Pull the control knobs from their spindles. Remove the combined back and bottom cover. Unsolder the speaker voice coil connections from the lug strip alongside the output transformer. Unwind the dial cursor from the dial drive cord.

The chassis is held to the cabinet by two screws at the rear. Removal of these two screws and the associated mounting brackets and packing pieces allows the chassis to be withdrawn from the cabinet leaving the speaker and dial scale in the cabinet.

The chassis may be replaced by a reversal of the above procedure.

DIAL SCALE REMOVAL.

The dial scale is removed from the front of the cabinet. The control knobs must first be withdrawn. In removing the dial scale securing screws, care must be taken to ensure that damage is not caused to the scale by tools.

ALIGNMENT.

By making use of short length tools, alignment can be undertaken with the chassis in the cabinet.

I.F. transformer adjustments are:—

2nd I.F.T.—

Secondary — front screw

Primary — rear screw

1st I.F.T.—

Secondary — screw nearer 6N8

Primary — screw nearer 6AN7

Before commencing R.F. alignment, fully close the tuning capacitor and set the dial cursor to the stop mark which will be found at the bottom of the dial scale at the low frequency end. Use an 100 pF capacitor as dummy aerial for R.F. alignment. Trimming adjustments are: oscillator trimmer (1,420 kc/s, 3XY) front of tuning capacitor, aerial trimmer (1,420 kc/s) rear of tuning capacitor, padding 600 kc/s, 7ZL) iron core in oscillator coil.

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.

No attempt should be made to adjust the aerial coil iron core.

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.

DIAL CALIBRATION ADJUSTMENT.

If dial calibrations are incorrect over the dial scale by an equal amount, the error can be corrected by sliding the cursor on the dial cord to the correct position.

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PARTS LISTS

CAPACITORS

| No. | Description | Code No. |
|---------------|----------------------------|------------|
| C1 | 100pF mica | |
| C2, 3, 4, 5 | 2 gang tuning and trimmers | CZ.107.756 |
| C6 | 330 pF mica 2% | CZ.066.124 |
| C7, 8, 11, 12 | Part of I.F. transformers | |
| C9 | 0.047 mF 400V paper | |
| C10, 14 | 0.047 mF 200V paper | |
| C13 | 220 pF mica | |
| C15 | 0.22 mF 100V paper | |
| C16 | 0.01 mF 400V paper | |
| C17, 18 | 24 mF 350V electrolytic | |

All tolerances are 20% unless otherwise stated.

RESISTORS

| No. | Description | Code No. |
|--------|---|------------|
| R1 | 22,000 ohms 1/2W carbon | |
| R2, 3 | 47,000 ohms 1W carbon | |
| R4, 8 | 2.2 megohms 1/2W carbon | |
| R5 | 560,000 ohms 1/2W carbon 10% | |
| R6, 7 | 0.5 megohm carbon potentiometer with stop at 100,000 ohms and S.P.S.T. switch | CZ.032.019 |
| R9, 10 | 470,000 ohms 1/2W carbon | |
| R11 | 47,000 ohms 1/2W carbon | |
| R12 | 1,000 ohms 1W carbon | |
| R13 | 160 ohms 1W W/W 10% | |

All tolerances are 20% unless otherwise stated.

COILS

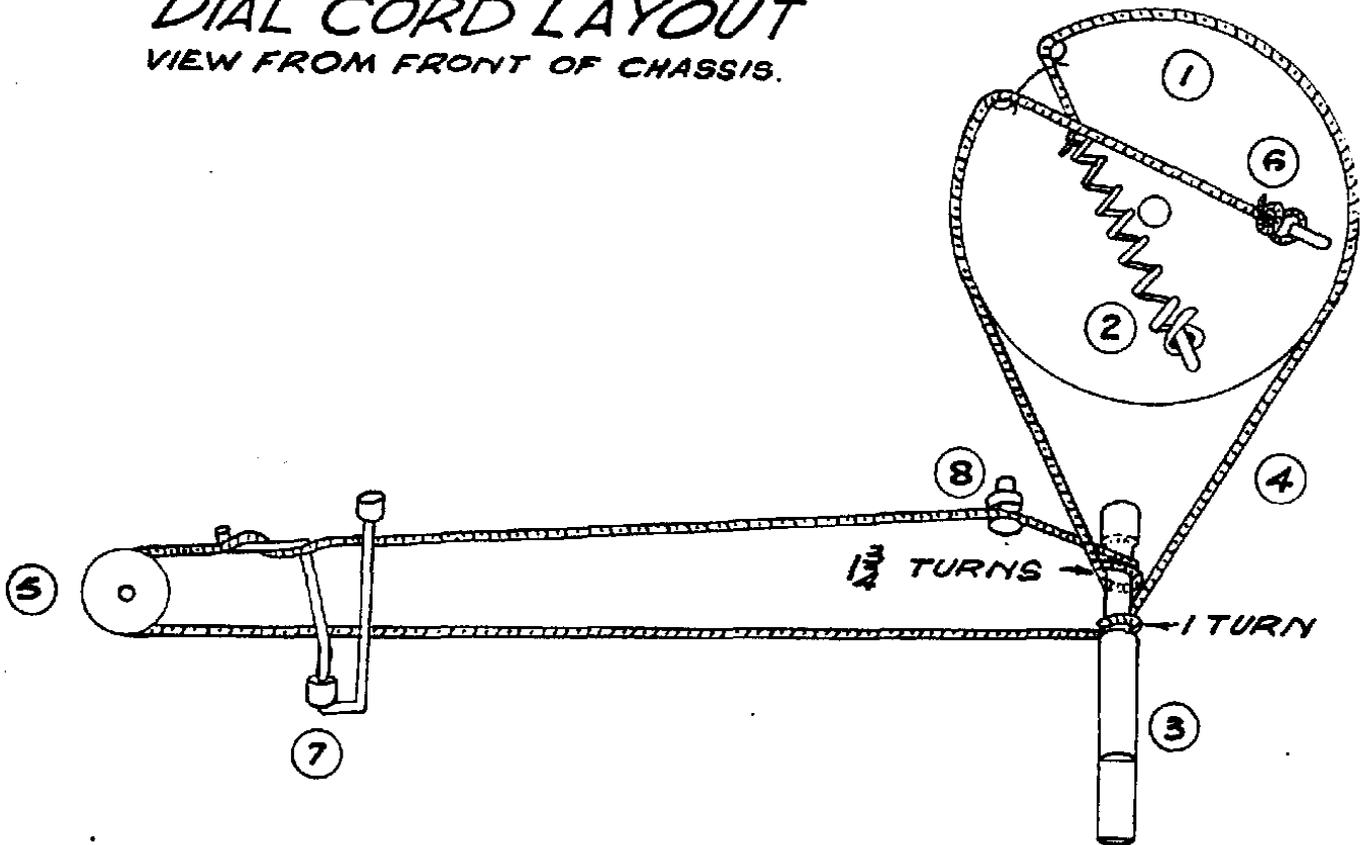
| No. | Ohms | Description | Code No. |
|-----|-----------|----------------------------------|--------------|
| L1 | 24.0-32.5 | Aerial coil | CZ.323.019 |
| L2 | 2.0-3.0 | | |
| L3 | 1.0-2.0 | Oscillator coil | CZ.330.606 |
| L4 | 3.5-5.0 | | |
| L5 | 8.0-9.0 | 1st I.F. transformer | A3.126.84 |
| L6 | 4.7-5.2 | | |
| L7 | 8.0-9.0 | 2nd I.F. transformer | A3.126.84 |
| L8 | 4.7-5.2 | | |
| L9 | | Output transformer 7,000 ohms | Type EBG96 |
| L10 | | | |
| L11 | | Speaker | Type 5C, F87 |
| L12 | 55-75 | Power transformer | CZ.344.084 |
| L13 | 630-850 | | |
| L14 | <1 | | |

IMPORTANT! When 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**.

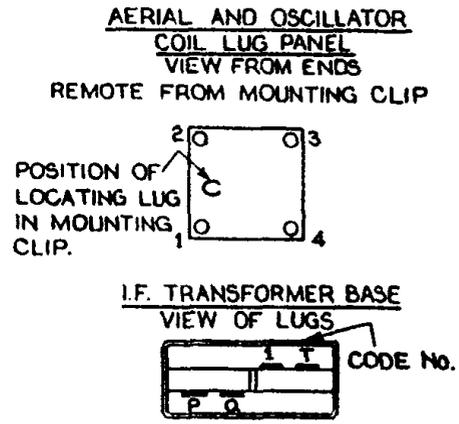
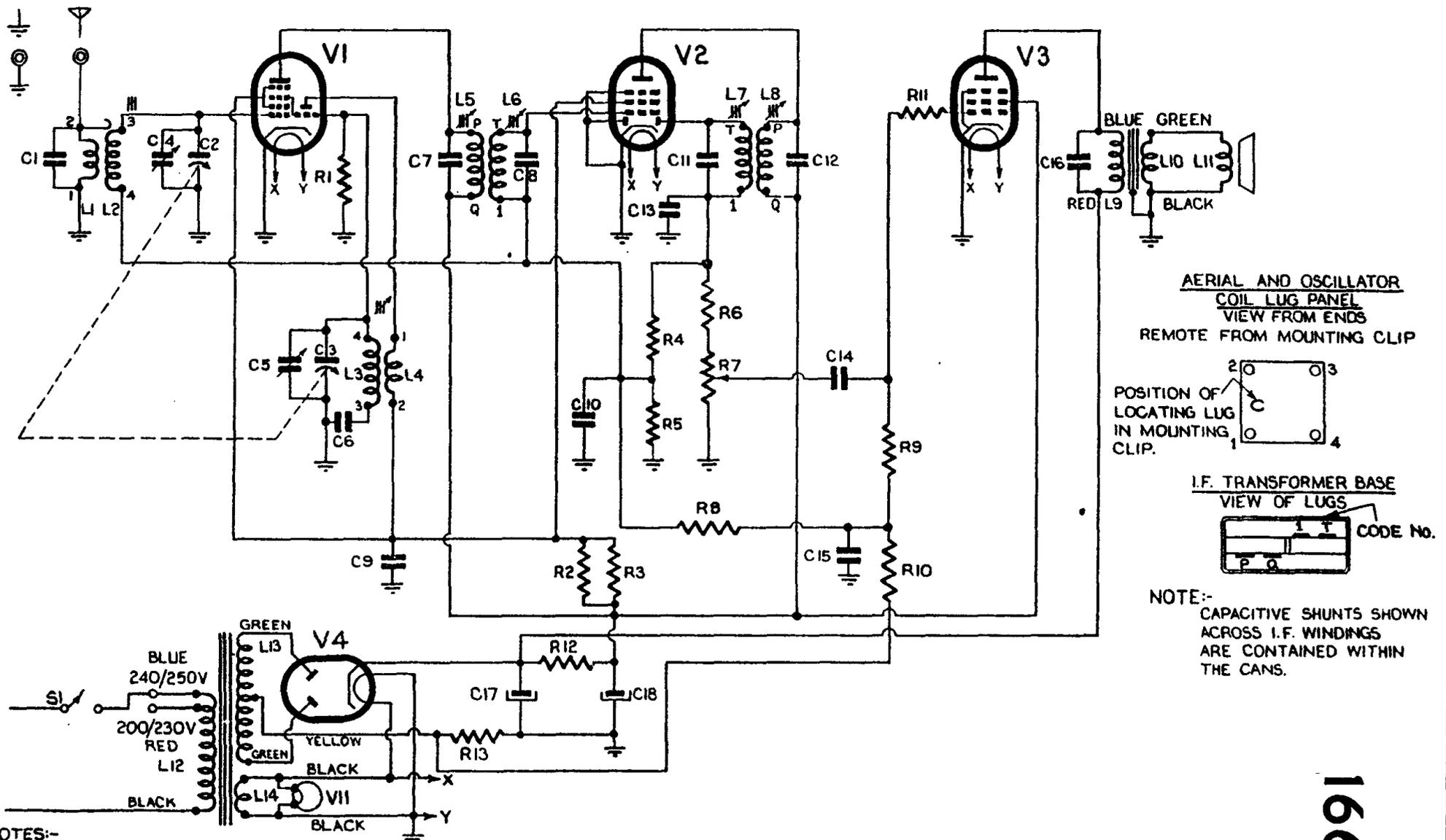
MISCELLANEOUS COMPONENTS

| No. on Dial Cord Layout Drawing | Description | Code No. | No. on Dial Cord Layout Drawing | Description | Code No. |
|------------------------------------|--|------------|------------------------------------|--------------------------------|----------------------|
| 7 | Assembly, cursor | CR.480.662 | — | Clip, spring, I.F.T. mtg., x2 | A3.652.58 |
| — | Assembly, lampholder | CZ.367.920 | 4 | Cord, dial drive | 37" of cord required |
| — | Back, cabinet, coral | CS.462.681 | 1 | Drum, dial | CS.359.810 |
| — | Back, cabinet, grey | CS.462.680 | — | Knob, control, x2 | CR.523.731 |
| — | Back, cabinet, ivory | CS.462.624 | — | Lug strip, speaker transformer | C/F 245-2-6 |
| — | Back, cabinet, red | CS.462.679 | — | Philips name | CS.436.446 |
| — | Badge, Philips | CR.531.422 | 8 | Post | CS.237.019 |
| — | Bracket, cabinet back mtg., x3 | CS.244.602 | — | Prism, dial scale | 23.678.74 |
| — | Bracket, chassis retaining, x2 | CS.225.229 | 5 | Pulley, dial | CS.359.618 |
| — | Bracket, speaker mounting, x3 | CS.233.505 | — | Ring "C," tuning spindle, x2 | CS.281.802 |
| — | Cabinet, with grille, badge, dec. strip and Philips name— | | 6 | Ring, dial cord | CS.281.807 |
| | Coral | CR.573.513 | — | Scale, dial | CS.412.393 |
| | Grey | CR.573.516 | — | Screw, dial scale mtg., x2 | CS.258.856 |
| | Ivory | CR.573.515 | 3 | Spindle, tuning | CS.351.359 |
| | Red | CR.573.517 | 2 | Spring, dial drum | CS.210.029 |
| | | | — | Spring, knob retaining, x2 | CS.281.832 |
| | | | — | Strip, decorative | CS.430.920 |

*DIAL CORD LAYOUT
VIEW FROM FRONT OF CHASSIS.*



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



NOTE:-
CAPACITIVE SHUNTS SHOWN
ACROSS I.F. WINDINGS
ARE CONTAINED WITHIN
THE CANS.

- NOTES:-
- (i) SWITCH S1 IS MOUNTED ON VOLUME CONTROL (R6,R7).
 - (ii) R6 IS INCLUDED IN POTENTIOMETER R7.