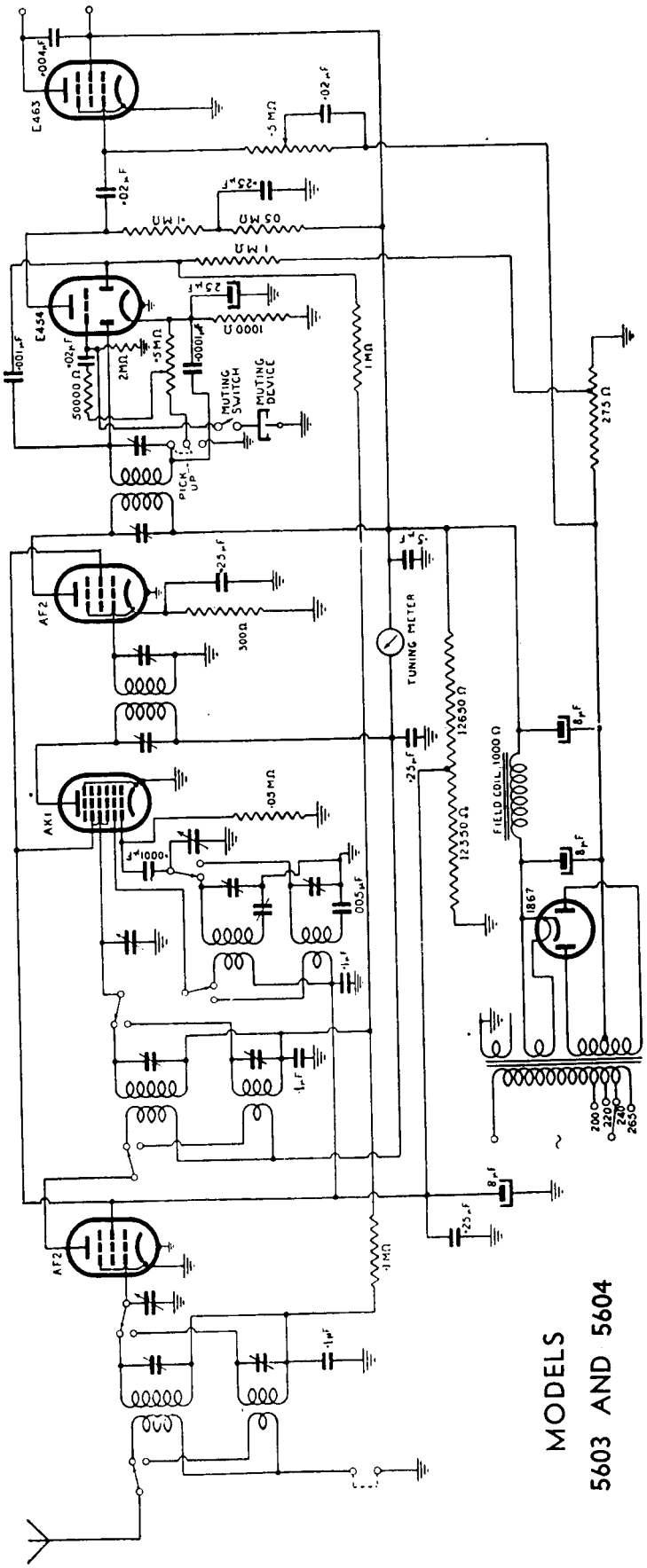
# Philips "Radioplayer" Dual-wave Models 5603, 5604




Philips' Radioplayer models "5603" and "5604" are 6-valve receivers designed for dual-wave coverage and operation from 200-260 volts, 40-60 cycles A.C. mains. The chassis employed in these two models are identical, the only difference being in the cabinet style.

Features to note when servicing these models are the "Selective Muting" control, a mechanical device which operates in conjunction with the tuning dial and serves to silence the receiver when tuning between stations, and the interchangeable scale of the dial. The selective muting feature is important, as anyone unfamiliar with its operation may quite easily fall into the error of thinking that the set is "dead." As may be seen from the circuit diagram, this device is connected across the input to the triode section of the second detector. A switch is placed in series to cut it out of circuit if desired. The earthed contact of the muting device is attached to a slipping band on the tuning knob spindle.

In operation rotation of the tuning knob causes the contact to move to one side and make connection with one of the contacts from the E454 grid. Having made contact, the driving band then slips, but the connection is maintained by the drag of the rotating spindle. The receiver is thus effectually "muted" whilst the tuning knob is being rotated in one direction. To disengage the muting device, it is only necessary to reverse the direction of rotation of the tuning knob. This moves the earthed contact away from the grid lead and allows the receiver to operate. When tuning in a station, the correct procedure is therefore to tune slightly past the correct position and then reverse in order to tune accurately. A meter-type tuning indicator is fitted which facilitates handling considerably.

The interchangeable scale dial was first introduced to take care of the large number of station changes which took place late in 1935 and early in 1936. The idea was that users could obtain a new dial scale free if any major changes in calibrations made their existing dial scales useless. The chief interest to the serviceman in this dial, at present, lies in the fact that the removable scale must be taken out of its slot in the escutcheon before the chassis can be removed from the cabinet.

The controls fitted to models 5603/5604 consist of a volume control, concentric tuning and wave-change controls, and a tone control. At the back of the chassis will be found the muting switch, connections for a transposed lead-in (with bridging bar to earth), and connection for a gramo. pick-up (with bridging bar to complete the radio circuit when a pick-up is not in use).

## VALVE COMBINATION.

The valves used in these receivers, together with their functions and operating voltages, are as follows:—

**AF2 R.F. Amplifier:** Plate 250 v., screen 75 v., cathode earthed.

**AK1 Frequency Converter:** Plate 250 v., osc. plate 75 v., screen 75 v., cathode earthed.

**AF2 I.F. Amplifier Operating at 460 KC.:** Plate 250 v., screen 75 v., cathode 1.5 v.

**E454 (or ABC1) Detector, A.V.C. rectifier and audio amplifier:** plate 100 v., cathode 7.5 c.

**E463 Output Pentode:** Plate 240 v., screen 250 v., cathode earthed.

**1867:** Indirectly-heated full-wave rectifier..

Bias for the R.F. amplifier, frequency converter and output pentode is obtained from the voltage drop across the 275 ohms resistor in series with the return to the high-tension secondary centre-tap. The AF2 and AK1 bias is obtained from a tapping on this resistor and the potential of this tapping should be about 2 volts negative to chassis. The total drop, which provides bias for the E463, should be between 20 and 22 volts.

The speaker used on models 5603/5604 is an eight-inch energised type and has a field resistance of 1,000 ohms.

For convenience of assembly, some of the components in the 5603/5604 chassis are mounted on a strip at the back of the chassis. This strip is numbered for easy identification of the components and corresponding values and numbers are as follows (1) 300 ohms; (2) 0.0001 mfd.; (3) 2 megohms; (4) 0.25 megohms; (5) 0.02 mfd.; (6) 1,000 ohms: (7) 50,000 ohms; (8) 100,000 ohms; (9) 0.02 mfd.