

# "His Master's Voice" Models 305 & 310

## Vibrator-Powered Dual-Wave Console and Radiogram

Model "310" Radiogram differs from "305" in the use of a separate "phonoradio" switch. Both models use 10-inch permag. loudspeaker. Circuit diagram shown opposite.

### OPERATING VOLTAGES.

All measurements taken to chassis with a "1,000 ohms per volt" meter, with the receiver tuned to a point of no reception. Bias voltages are measured between the negative side of filament and chassis. It should be noted that the bias of the 1F5G valve is secured from two sources, one, due to a valve filament drop of 2 v., and the other to a drop of 5 v. developed across a back bias resistor in the negative high tension circuit, making a total bias of 7 v. on the grid of this valve. Since the back bias voltage is decoupled in the vibrator chassis, it is not possible to measure it at the receiver, but only at the vibrator unit. When the receiver is operating on S.W. the

normal (B.C.) voltage on the screen of the 1st 1D5G valve is altered to the value shown in parenthesis.

**1D5G, R.F. Amplifier:** Plate, 140 v.; screen, 40 v. (55 v.); neg. fil., 2 v.

**1C7G, Frequency Converter:** Plate, 140 v.; screen, 45 v.; neg. fil., zero; osc. anode grid, 115 v.

**1D5G, 460 kC. 1st I.F. Amplifier;** Plate, 130 v.; screen, 60 v.; neg. fil., zero.

**1F7G, 460 kC. 2nd I.F. Amplifier and Detector:** Plate, 140 v.; screen, 60 v.; neg. fil., zero.

**1F7G, A.V.C. Rectifier and A.F. Voltage Amplifier:** Plate, 30 v.; screen, 30 v.; neg. fil., 2 v.

**1F5G, Driver:** Plate and screen (tied to-

gether), 140 v.; neg. fil., 2 v. See introductory notes for further particulars regarding the bias for this valve.

**1J6G, Double Triode, Class B, Output:** Each plate, 140 v.; neg. fil., 4 v.

Battery consumption, 1.5 A at 6 v.

### TONE MONITOR.

This is an interesting feature of the Model 305, and takes the form of a six-position, three-band switch used as a tone control and battery switch.

**1st Position:** Receiver switched off.

**2nd Position (Wide Range):** Receiver on, extra coupling switched into the 1st and 2nd I.F. Amplifier, thus broadening the I.F. channel and so providing maximum top note reproduction.

**3rd Position (Normal):** Extra coupling switched out of I.F. transformers giving maximum selectivity.

**4th Position (Bass):** High audio frequency cut introduced by condenser shunted across the driver transformer primary, otherwise same as switch position 3.

**5th Position (Speech):** Low audio frequency cut introduced by series resonant circuit shunted across the 1st audio valve plate load; otherwise the same as switch position 3.

**6th Position (Overseas):** High and low audio frequency cut introduced, with broad tuning.

