

H.M.V. Battery Broadcast Models 345, 350

(Circuit Diagram and commencement of descriptive matter will be found on

Page 264.)

OPERATING VOLTAGES.

The following voltages were taken with a "1,000 ohms per volt" meter between the socket contacts indicated and chassis. The receiver was detuned from any signal. A tolerance of plus-minus 10 per cent. is permissible.

1C4, R.F. Amplifier. Plate, 135 v.; screen, 70 v.

1C6, Frequency Converter. Plate, 135 v.; oscillator plate, 60 v.; screen, 55 v.

1C4, I.F. Amplifier operating at 460 KC. Plate, 135 v.; screen, 70 v. This valve and the R.F. amplifier have 1.5 volts bias applied through the A.V.C. system.

1B5, Detector, delayed A.V.C. rectifier and audio amplifier. Plate, 60 v. The bias applied to this valve is 1.5 volts.

30, Audio Driver. Plate, 135 v. Grid bias, 9 v.

19, Class "B" output. Each plate, 135 v. Grid bias, 4.5 volts.

The "standing" high-tension current drain of this receiver is 13.5 mA. when the "radio-gramo" switch is on "radio," and 4.0 mA. on "gramo."

WAVE-TRAP OPERATION.

Under normal conditions, the aerial should be connected to the red terminal marked "A" on this receiver. If interference is being experienced from any station in the frequency range 1,500 K.C. to 920 KC., the aerial connection may be

transferred to the adjacent terminal marked "WT." This brings the trap circuit (T.C.1, L11) into operation.

To adjust the wave-trap, connect up the test oscillator to the normal aerial and earth terminals and adjust both oscillator and receiver to the frequency of the interfering station. Then disconnect the oscillator lead from the "A" terminal and reconnect it to "WT"; adjust trimmer T.C.1 by means of a screw-driver until the signal heard from the oscillator is at a minimum. T.C.1 is correctly adjusted when an adjustment in

either direction results in increased output. With a little care, this adjustment may be made when the receiver is actually tuned-in to the unwanted station. Should the frequency of the unwanted station be outside the range 1,500 KC. to 920 KC. (200 metres to 325 metres), the range of the wave-trap may be increased by adding a fixed mica condenser in parallel with T.C.1. Suitable values are as follows:—

925 KC.—715 KC., add 0.0003 mfd.

715 KC.—615 KC., add 0.005 mfd.

615 KC.—570 KC., add 0.0008 mfd.

570 KC.—550 KC., add 0.00085 mfd.

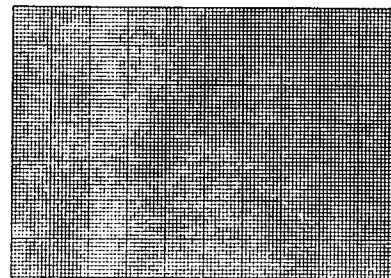
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"His Master's Voice" Broadcast Models 345, 350

His Master's Voice Models 345 and 350 are both six-valve broadcast receivers designed for operation from a two-volt accumulator and dry "B" and "C" batteries. Points of difference are the dial used; the cabinet style, and the loudspeaker. Identical chassis are used for both receivers and the designation "345/350" will be used in the following service data.

Before proceeding with the service data, it should be noted that the dial fitted to Model "345" is a circular scale, 270 degree movement, floodlit type, while the dial on Model "350" is a rectangular scale, 180 degree movement, edgelit type. Both cabinets are of the upright console type and differ mainly in "line." The Model "345" speaker has a diameter of 6½ inches, while that fitted to Model "350" is 8 inches in diameter. Both loudspeakers are of the permanent-magnet type, and both have their coupling transformer fitted to the receiver chassis.

Features of the "345/350" chassis are the use of Class "B" output; zero bias operation of the frequency converter; minimum biasing of the R.F. and I.F. amplifiers by the A.V.C. delay voltage; "radio-gramo" switching which cuts out the R.F. mixer, and I.F. filaments at the same time as it brings the pick-up terminals into circuit; and a built-in wave-trap.

There are five controls fitted to the front of the "345/350" chassis, and another pre-set adjustment for the wave-trap on the back of the chassis near the aerial terminal. The five panel controls are for battery and dial-lamp switching (three positions); radio-gramo switching (two positions); tuning; tone (four positions); and volume (also operates on gramo.). The chassis of this receiver is rubber-mounted and care should be taken to replace the rubbers correctly.

BATTERY CONNECTIONS.

The batteries required for this receiver are:
One two-volt accumulator;
Three 45 volt "B" batteries; and
One type W.S.9, 9 volt bias battery.

A special feature of the battery wiring is the use of separate cables for each source of supply. These cables are clamped into position to obviate any possibility of connection errors. Separate receptacles are provided for the "A" and "C" batteries.

Connections to the batteries are as follows:

"A" Battery. Red, tagged, lead in green-black cable to positive; black, tagged, lead in same cable to negative.

"B" Battery. Three 45 volt units to be connected in series. Red, tagged, lead in green cable to positive; black lead in same cable to negative.

"C" Battery. Black, tagged, lead in black cable to positive; maroon, tagged, lead in same cable to 1.5 volt tapping; green, tagged, lead in same cable to 4.5 volt tapping; orange, tagged, lead in same cable to negative.

A fuse, consisting of a 0.3 ampere dial lamp, is fitted to a holder on the chassis. This is wired in series with the "B" positive lead and should be inspected if the receiver suddenly stops operating.

All R.F. and I.F. trimmers for this receiver, with the exception of the oscillator padder, are accessible from underneath the chassis. Their positions are shown in the underchassis diagram. The I.F. of this receiver is exactly 460 KC.

(Further information regarding these two H.M.V. models will be found on Page 270.)

