Breville 84 (Circuit Diagram appears on page 260)

Breville model 84 is a five-valve receiver designed for dual-wave coverage and operation from a six-volt accumulator, a synchronous vibrator unit being employed for conversion of the low-tension supply to high-tension. This receiver is of the console type and is fitted with five controls—volume, tuning, wave-change, tone (continuous), and battery-switch (with extra position for dial-lamp control). The circuit arrangement of the vibrator-type high-tension supply unit is shown on Page 256, together with the loudspeaker socket connections. Bias voltages are obtained within the receiver, from the drop across the series-parallel filament network. The loudspeaker employed is an 8 inch, permanent magnet unit.

The circuit arrangement of this receiver incorporates several interesting features and merits careful study before attempting any major service operations. Chief among these are the extremely complete filtering arrangements incorporated in the receiver circuit and inspection of the wiring will show that practically every circuit is decoupled by a resistance-capacity filter. Particularly noteworthy in this respect is the 0.5 megohm—25 mfd. combination which serves to isolate the low-volume end of the volume control from earth and ensures that complete attenuation may be obtained by means of the volume control. Attention should also be paid to the delayed A.V.C. system which ensures that the R.F. and converter valves are operated on zero bias under "no-signal" conditions, and the absence of A.V.C. voltage at the grid of the I.F. amplifier.

OPERATING VOLTAGES.

The following measurements were made under "no signal" conditions, with a "1,000 ohms per volt" meter between chassis and the socket contact indicated. It should be noted that the screen voltage applied to the R.F. and I.F. valves is increased when the receiver is adjusted for short wave operation; both voltages are given.

1C4, R.F. Amplifier. Plate, 150 v.; screen (B.C.) 50 v. (S.W.) 75 v.; grid, zero.

KK2, Frequency Converter. Plate, 150 v.; screen, 35 v.; grid, zero; osc. anode grid (B.C.) 70 v. (S.W.) 90 v.

1C4, 182 KC. I.F. Amplifier. Plate, 150 v.; screen (B.C.) 50 v. (S.W.) 75 v.; negative filament, 2 v.

1B5, Detector, A.V.C. rectifier and A.F. Amplifier. Plate, 80 v.; negative filament, 2 v.

1D4, Output Pentode. Plate, 145 v.; screen, 150 v.; negative filament, 4 v.

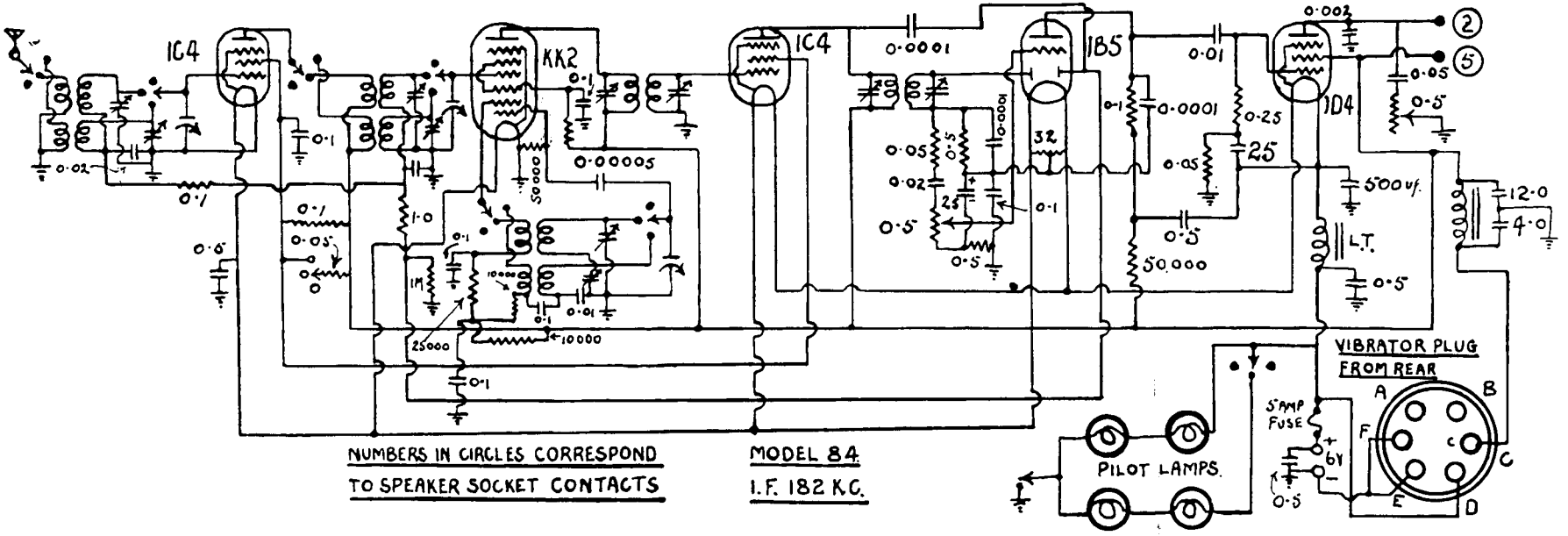
Breville Model 79

(Cont. from page 257)

that the low-potential pick-up terminal is returned to the 1.5 v. "C" battery tapping in order to bias the 1B5 triode section when the receiver is being used for gramo. reproduction.

Subject to the variations noted above, the voltage distribution system in this receiver is fairly simple and there is no necessity to completely tabulate the various electrode potentials. Under "broadcast" conditions, the R.F., converter, and I.F. screens receive about 45 volts, while on short waves this figure goes up to a little over 50 volts. Similarly, the oscillator anode grid potential is approximately 80 volts on broadcast, and increases to about 95 volts on short waves. Finally, the first four valves in the receiver operate on zero bias under "no signal" conditions.

"Breville" Vibrator-powered Dual-wave Model 84



Descriptive matter and operating voltages for this model will be found on page 259.