

**BEETHOVEN****Model BP2040**

**General Description :** Four-valve, two-waveband, portable super-heterodyne receiver for "all-dry" batteries. Released 1949.

**Power Supplies :** L.T. 1.5 volts; H.T. 90 volts.

**Wavebands :** M.W. 200–550 m.; L.W. 1000–2000 m.

**Intermediate Frequency :** 465 kc/s.

**Valves :** (V1) 1C1; (V2) 1F3; (V3) 1FD9; (V4) 1P10.

**Alignment Procedure :** Connect signal generator to grid (pin 6) of V1 and adjust I.F. transformer cores for maximum output at 465 kc/s.

Loosely couple signal generator to frame aerial. Set pointer to 2000 m. and inject 150-kc/s. signal. Adjust core of L4 so that receiver tunes to this frequency and peak sensitivity by adjusting L2. Set pointer to 1000 m., inject 300-kc/s. signal and adjust C4 and C2.

Set pointer to 500 m., inject 600-kc/s. signal and adjust L3 and L1. Set pointer to 214 m., inject 1400-kc/s. signal and adjust C3 and C1.

**Check Points :**

V1	Anode (pin 2)	85 v., 0.35 mA.	Screen (pin 3)	45 v., 1.25 mA.
V2	Anode (pin 2)	85 v., 1.7 mA.	Screen (pin 3)	45 v., 0.7 mA.
V3	Anode (pin 5)	8 v., 0.15 mA.	Screen (pin 4)	7 v., 0.03 mA.
V4	Anode (pin 2)	80 v., 6 mA.	Screen (pin 4)	67.5 v., 1 mA.

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V1	Anode (pin 3) 255 v., 2 mA.	Screen (pin 4) 85 v., 8 mA.	Osc. anode (pin 6) 85 v., 4.5 mA.	Cathode (pin 8) 2.7 v.
V2	Anode (pin 3) 255 v., 12 mA.	Screen (pin 4) 110 v., 2.5 mA.	Cathode (pin 8) 3.2 v.	—
V3	Anode (pin 3) 75 v., 0.4 mA.	Cathode (pin 8) 1.3 v.	—	—
V4	Anode (pin 3) 170 v., 2.5 mA.	Cathode (pin 8) 80 v.	—	—
V5	Anodes (pins 4 and 6) 270 v. A.C.	Cathode (pin 8) 275 v. D.C.	—	—
V6 and V7	Anode (pin 3) 225 v., 40 mA.	Screen (pin 4) 255 v., 5 mA.	Cathode (pin 8) 12 v.	—

