

BEETHOVEN**Model U3038**

General Description : Four-valve (including rectifier), three-waveband universal superheterodyne receiver. Released 1947.

Power Supply : A.C./D.C. mains, 200–250 volts.

Wavebands : S.W. 16–50m.; M.W. 200–550 m.; L.W. 1000–2000m.

Intermediate Frequency : 465 kc/s.

Valves : (V₁) CCH35; (V₂) EF39; (V₃) CBL31; (V₄) CY31.

Pilot Lamps : Two 6.5 volts, 0.3 amp.

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

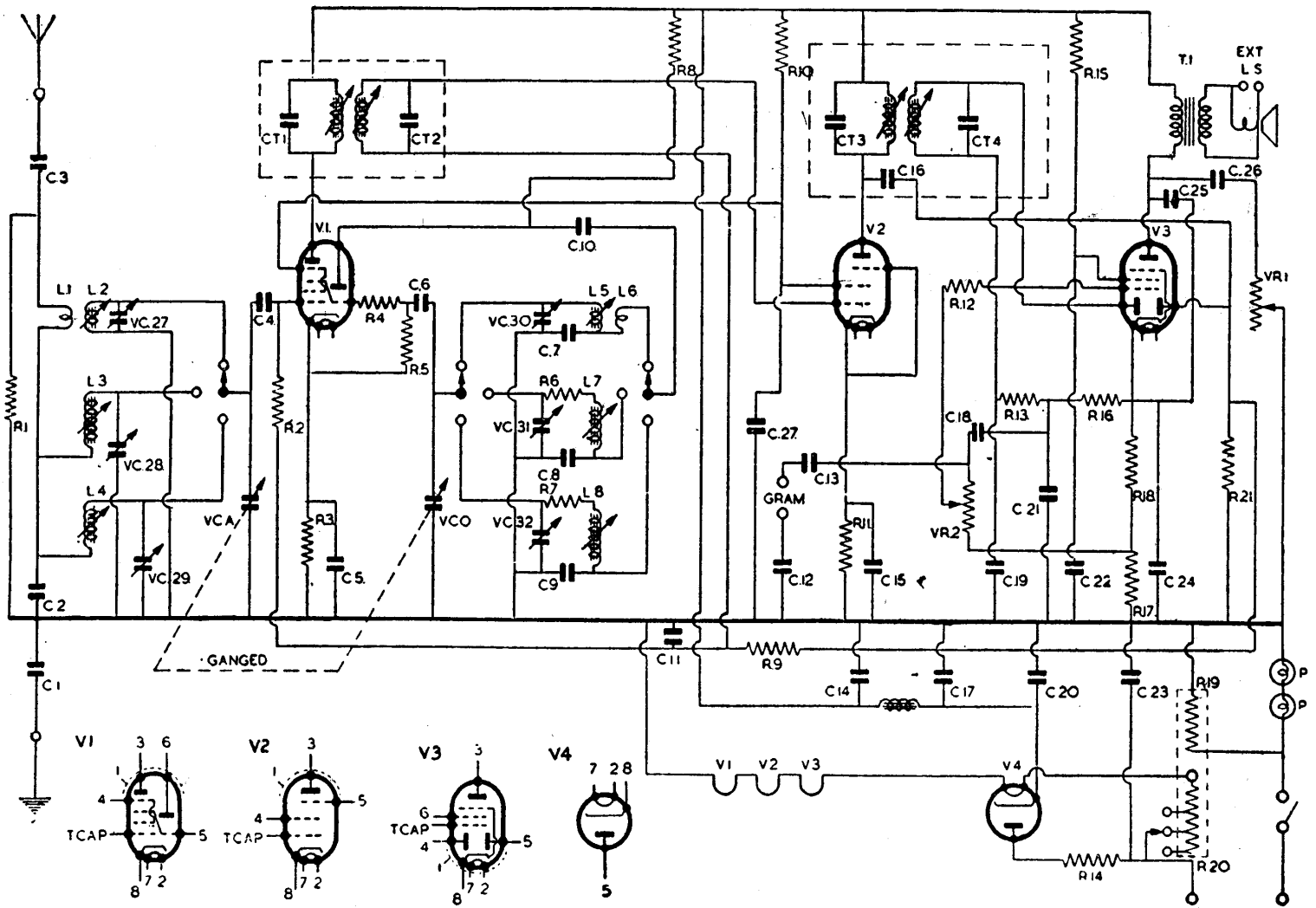
Connect signal generator to aerial socket via a dummy aerial. Set pointer to 150 kc/s. and adjust core of L₈ to tune 150-kc/s. signal. Adjust core of L₄ for maximum output. Set pointer to 300 kc/s. and adjust VC₃₂ and VC₂₉. Check at 150 kc/s. and re-adjust if necessary.

Repeat this process on M.W. at 600 kc/s. (500 m.), adjusting cores L₇ and L₃, and 1400 kc/s. (214 m.) adjusting VC₃₁ and VC₂₈.

Repeat on S.W. at 6 Mc/s., adjusting cores L₅ and L₂, and 19 Mc/s., adjusting VC₃₀ and VC₂₇.

Check Points :

V ₁	Anode (pin 3) 208 v., 5 mA.	Screen (pin 4) 100 v., 1.6 mA.	Osc. anode (pin 6) 80 v., 4 mA.	Cathode (pin 8) 2.5 v.
V ₂	Anode (pin 3) 208 v., 6 mA.	Screen (pin 4) 100 v., 1.8 mA.	Cathode 2.3 v.	—
V ₃	Anode (pin 3) 195 v., 40 mA.	Screen (pin 6) 180 v., 5 mA.	Cathode (pin 8) 15 v.	—
V ₄	Anode (pin 5) 210 v. A.C.	Cathode (pin 8) 225 v. D.C.	—	—



CIRCUIT DIAGRAM—BEETHOVEN MODEL U3038

Capacitors.

C1	0.1 (1000 v.)
C2	2000 pF. (1%)
C3	0.1
C4	100 pF.
C5	0.1
C6	100 pF.
C7	0.005 (5%)
C8	335 pF. (1%)
C9	130 pF. (1%)
C10	0.01 (1000 v.)
C11	0.1
C12	0.01 (1000 v.)
C13	0.01 (1000 v.)
C14	16 (350 v.)
C15	0.1
C16	10 pF.
C17	16 (350 v.)
C18	0.02 (1000 v.)
C19	150 pF.
C20	0.01 (1000 v.)
C21	150 pF.

C22	4 (350 v.)
C23	0.01 (1000 v.)
C24	25 (25 v.)
C25	0.002 (1000 v.)
C26	0.05 (1000 v.)
C27	0.1
CT1	100 pF. (2%)
CT2	100 pF. (2%)
CT3	100 pF. (2%)
CT4	200 pF. (2%)
VC27	3-30 pF.
VC28	3-30 pF.
VC29	20-75 pF.
VC30	3-30 pF.
VC31	3-30 pF.
VC32	20-75 pF.

Resistors.

R1	10k
R2	1M
R	220

R4	20
R5	47k
R6	50
R7	180
R8	33k (1/2 W.)
R9	1.2M
R10	33k (1/2 W.)
R11	270
R12	47k
R13	33k
R14	100 (1 W.)
R15	6.8k
R16	0.47M
R17	180 (1 W.)
R18	180 (1 W.)
R19	100 (10 W.)
R20	625 tapped at 50 and 100.
R21	1.2M
VR1	50k Pot.
VR2	1M Pot.