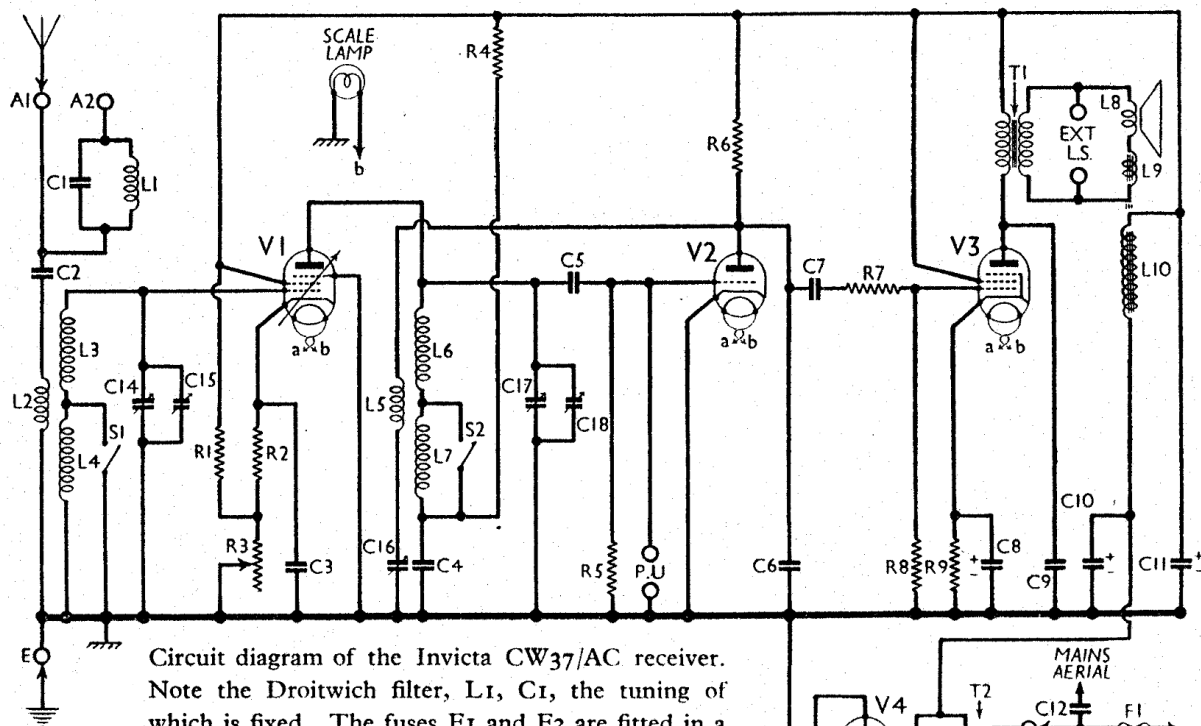


INVICTA - CW 37 AC



Circuit diagram of the Invicta CW37/AC receiver. Note the Droitch filter, L1, C1, the tuning of which is fixed. The fuses F1 and F2 are fitted in a special mains plug. C12 is the mains aerial condenser, while C13 is the mains H.F. by-pass.

COMPONENTS AND VALUES

Condensers		Values (μF)
C1	Droitwich rector tuning	0.00015
C2	Aerial series condenser	0.0003
C3	V1 cathode by-pass	0.1
C4	V1 anode decoupling	0.1
C5	V2 C.G. condenser	0.00007
C6	V2 anode H.F. by-pass	0.0003
C7	L.F. coupling to V3	0.01
C8*	V3 cathode by-pass	25.0
C9	Tone corrector	0.005
C10*	H.T. smoothing	8.0
C11*		8.0
C12	Mains aerial condenser	0.001
C13	Mains H.F. by-pass	0.01
C14†	Aerial circuit tuning	0.0005
C15†	Aerial circuit trimmer	—
C16†	Reaction control	0.0005
C17†	V1 anode circuit tuning	0.0005
C18†	V1 anode circuit trimmer	—

* Electrolytic † Variable ‡ Pre-set

Resistances		Values (ohms)
R1	V1 cathode circuit bleeder	50,000
R2	V1 fixed G.B. resistance	140
R3	V1 gain control	10,000
R4	V1 anode decoupling	11,000
R5	V2 grid leak	300,000
R6	V2 anode load	300,000
R7	V3 C.G. H.F. stopper	300,000
R8	V3 C.G. resistance	1,000,000
R9	V3 G.B. resistance	140

GENERAL NOTES

Switches.—There are only two wave-band switches, **S1** and **S2**, and these are both *closed* on the M.W. band and *open* on the L.W. band. They are indicated in the under-chassis view.

S3 is the Q.M.B. mains switch, ganged with the gain control **R3**.

Other Components		Approx. Values (ohms)
L1	Droitwich rector coil	29.5
L2	Aerial coupling coil	17.5
L3	Aerial tuning coils	3.8
L4		16.5
L5	Reaction coil	3.8
L6	V1 anode tuning coils	1.8
L7		17.0
L8	Speaker speech coil	1.6
L9	Hum neutralising coil	0.2
L10	Speaker field coil	3,000.0
T1	Output trans.	Pri. 460.0 Sec. 0.2
T2	Mains trans.	Pri. total 43.0 Heater sec. 0.1 Rect. heat. sec. 0.2 H.T. sec. tot. 340.0
S1, S2	Waveband switches	—
S3	Mains switch, ganged R3	—
F1, F2	Mains circuit fuses, 1A	—

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on mains of

Valve	Anode Volts	Anode Current (mA)	Screen Volts	Screen Current (mA)
V1 VP4B	114	9.8	212	3.5
V2 354V	27	0.8	—	—
V3 6X4VB	192	39.0	212	4.7
V4 1W3	360†	—	—	—

† Each anode, A.C.

230 V and with the transformer adjusted to the 216-235 V tapping. The volume control was at maximum and the reaction control was at minimum, but there was no signal input.

Coils.—L1 is the Droitch filter coil, beneath the chassis. L2-L4 are in a tubular unscreened unit on the chassis deck, and are indicated in the plan chassis view. L5-L7 are in a similar unit beneath the chassis. In this unit, the single layer coil is L6, the larger multi-layer coil L7, and the central (smaller) multi-layer coil L5.

Scale Lamp.—This is an Ever Ready M.E.S. type rated at 6.2 V, 0.3 A.