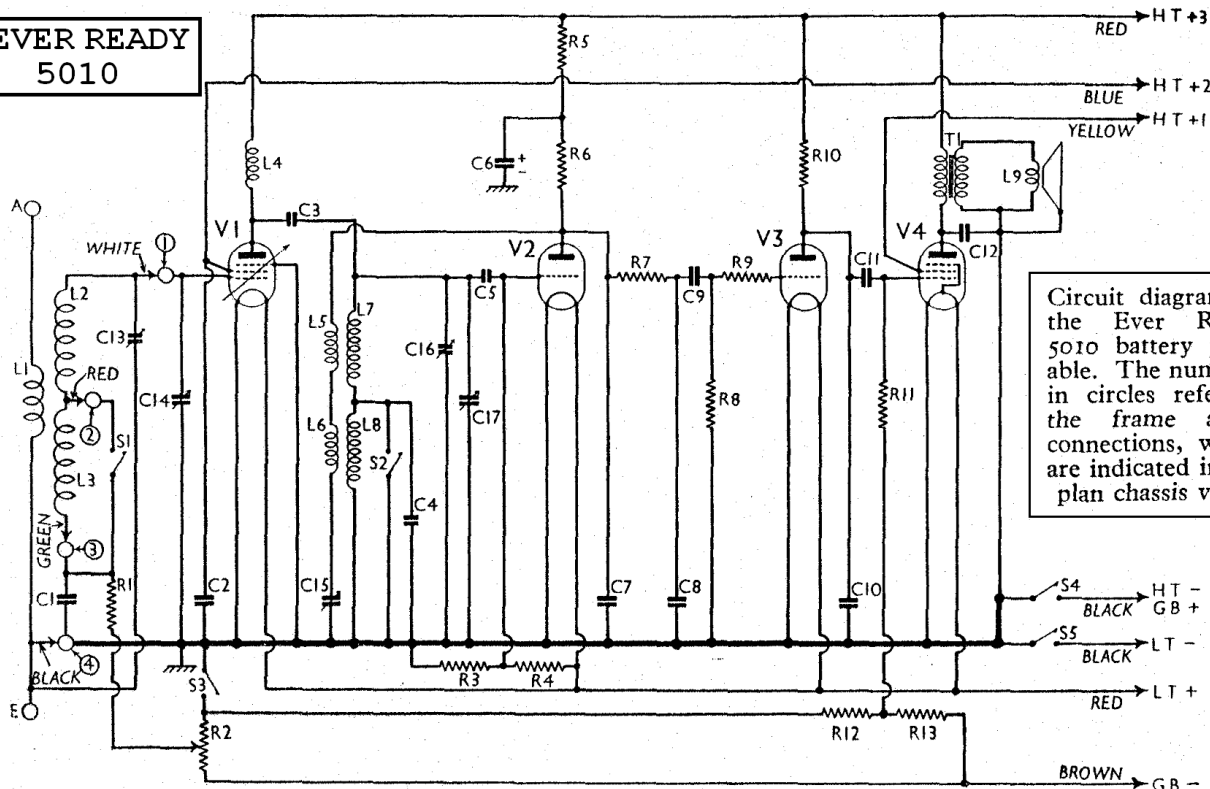


# EVER READY 5010



Circuit diagram of the Ever Ready 5010 battery portable. The numbers in circles refer to the frame aerial connections, which are indicated in the plan chassis view.

## COMPONENTS AND VALUES

CONDENSERS			Values (μF)
C1	V1 CG decoupling	..	0.1
C2	V1 SG decoupling	..	0.1
C3	V1 to V2 RF coupling	..	0.00005
C4	V1 anode LW trimmer	..	0.000005
C5	V2 CG condenser	..	0.00005
C6*	V2 anode decoupling	..	2.0
C7	V2 anode RF by-pass con-	..	0.0002
C8	densers	..	0.001
C9	V2 to V3 AF coupling	..	0.025
C10	V3 anode RF by-pass	..	0.001
C11	V3 to V4 AF coupling	..	0.025
C12	V4 anode RF by-pass	..	0.001
C13†	Frame aerial MW trimmer	..	—
C14†	Frame aerial circuit tuning	..	—
C15†	Reaction control, ganged R2	..	—
C16†	V1 anode circuit MW trimmer	..	—
C17†	V1 anode circuit tuning	..	—

\* Electrolytic. † Variable. ‡ Pre-set.

RESISTANCES			Values (ohms)
R1	V1 CG decoupling	..	110,000
R2	V1 gain control, ganged C15	..	3,000
R3	V2 grid leak and filament	..	2,100,000
R4	potential divider resistances	..	2,100,000
R5	V2 anode decoupling	..	30,000
R6	V2 anode load resistance	..	30,000
R7	V2 anode RF stopper	..	50,000
R8	V3 CG resistance	..	510,000
R9	V3 CG RF stopper	..	50,000
R10	V3 anode load resistance	..	50,000
R11	V4 CG resistance	..	260,000
R12	V4 GB resistance	..	300
R13	V4 GB potential divider resis-	..	1,400

OTHER COMPONENTS			Approx. Values (ohms)
L1	External aerial coupling	..	0.2
L2	Frame aerial windings	..	1.8
L3	Frame aerial windings	..	16.0
L4	V1 anode RF choke	..	550.0
L5	Reaction coils	..	8.6
L6	Reaction coils	..	8.6
L7	V2 grid circuit tuning coils	..	3.0
L8	V2 grid circuit tuning coils	..	19.0
L9	Speaker speech coil	..	2.4
T1	Output trans. 1 Sec.	..	840.0
S1, S2	Waveband switches	..	0.3
S3	GB circuit switch	..	—
S4	HT circuit switch	..	—
S5	LT circuit switch	..	—

## VALVE ANALYSIS

Valve voltages and currents given in the table (col. 2) are those measured in our receiver when it was operating with a new combined HT and GB battery reading 128 V overall, on load. The receiver was tuned to the lowest wavelength on the medium band and the combined gain and reaction control was at *minimum*, but there was no signal input as the top three frame aerial terminals (white, red and green leads) were shorted.

Voltages were measured on the 400 V scale of a model 7 Universal Avometer, chassis being negative.

In our receiver V4 was grade C.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 K50M	119	Nil†	64	Nil†
V2 K30K	52	0.8	—	—
V3 K30K	61	1.1	—	—
V4 K70LD	116	3.8	100	0.7

† 0.7 mA { With combined gain and reaction control  
‡ 0.2 mA { at a position just short of oscillation.

## GENERAL NOTES

**Switches.**—S1, S2 are the waveband switches, and S3-S5 the battery circuit switches, ganged in a single unit beneath the chassis, the individual switches being identified in the under-chassis view.

The table below gives the switch positions for the three control settings, starting from the off position, and turning the knob clockwise. A dash indicates open, and C, closed.

Switch	Off	MW	LW
S1	C	C	—
S2	C	C	—
S3	—	C	C
S4	—	C	C
S5	—	C	C

**Coils.**—L1, L2 and L3 are the external aerial coupling and frame windings, in the lid of the cabinet. L4 is an RF choke beneath the chassis, and L5-L8 are in a screened unit, partially sunk in the chassis deck. This unit also contains the trimmer C16 and the fixed condensers C3 and C5.

**Components R2, C15.**—The gain control R2 is ganged with the reaction control C15, and matters are so arranged that the gain reaches its maximum before reaction begins to be applied.

**Trimmer C13.**—This is inside the frame aerial in the lid, to one side of the paxolin connection panel (which also carries the external aerial and earth sockets).

**Batteries.**—LT, Ever Ready 2 V 20 AH celluloid cased jelly-acid cell, type J203. HT and GB, Ever Ready Winner 126 V combined HT and GB battery, tapped in 1.5 V steps from negative to 12 V, and then at greater intervals.

**Battery Leads and Voltages.**—Black lead, spade tag, LT negative; red lead, spade tag, LT positive 2 V; brown lead and plug, GB negative, in negative socket of battery; black lead and plug, HT negative and GB positive, in 9 V positive socket of battery; yellow lead and plug, HT positive 1, voltage socket depending on letter on V4; A, 124.5 V; B, 117 V; C, 108 V; D, 99 V; blue lead and plug, HT positive 2, 70 V socket; red lead and plug, HT positive 3, 126 V socket.

## CIRCUIT ALIGNMENT

To adjust the pointer, remove the chassis and rotate the gang until pointer is at the higher wavelength end of the scale. The gang should now be fully in mesh. If it is not, release the two grub screws which fix the rotor drive to the condenser spindle, and adjust the rotor while keeping the pointer at the stop at the top of the scale. Tighten the two grub screws.

To align the set, it is not necessary to remove the chassis. However, remove the fibre cover from the cabinet lid, exposing the frame aerial MW trimmer C13. Switch the set to MW, and set pointer to 200 m on the scale. Connect signal generator to external A and E sockets, feed in a 200 m (1,500 KC/S) signal, and adjust C16, then C13, for maximum output. The volume control should be in a mid-way position so that the slider of R2 is at the chassis potential end, while C15 is at minimum capacity. There are no LW adjustments.