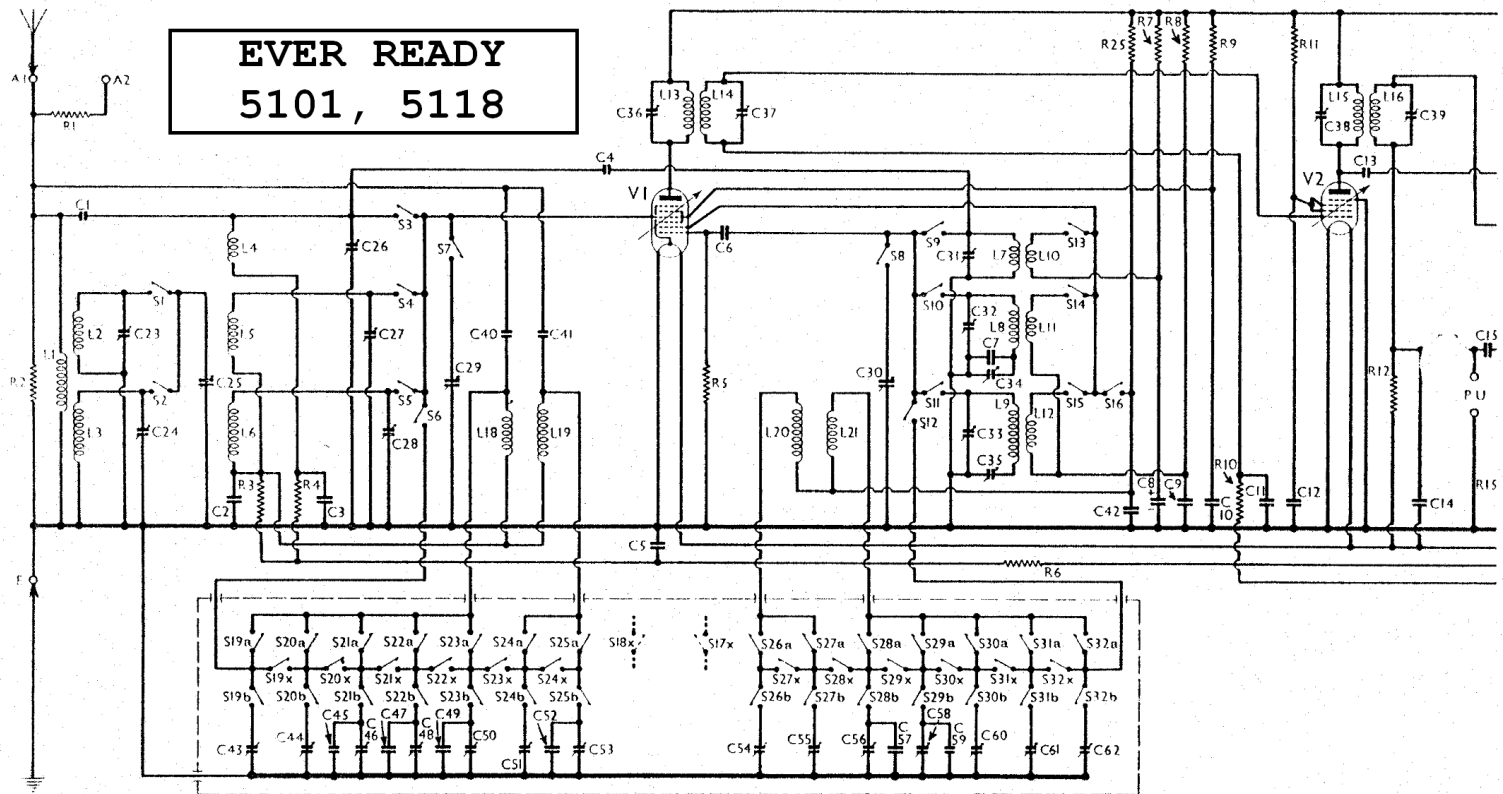


EVER READY 5101, 5118



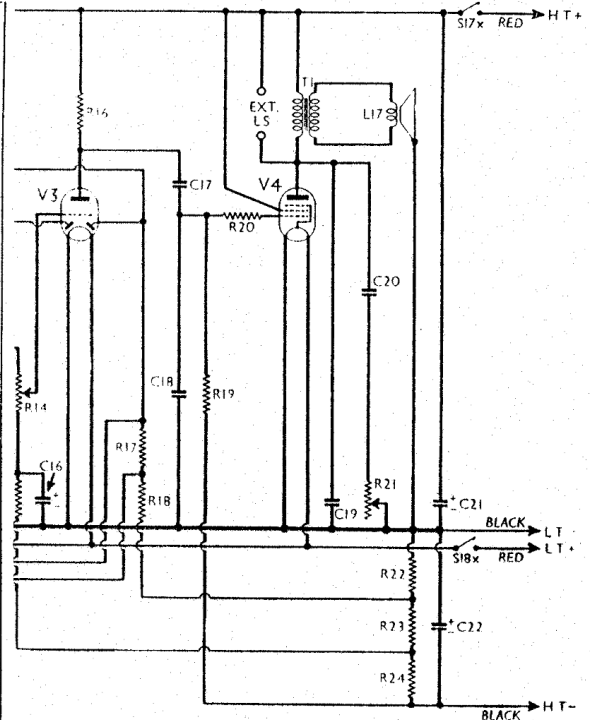
COMPONENTS AND VALUES

RESISTANCES	Values (ohms)
R1 A2 aerial input potential divider resistances	110,000
R2 V1 pent. MW and LW CG decoupling	11,000
R3 V1 pent. SW CG decoupling	110,000
R4 V1 pent. SW CG decoupling	110,000
R5 V1 osc. CG resistance	26,000
R6 AVC line decoupling	510,000
R7 V1 osc. anode SW HT feed	11,000
R8 V1 osc. anode MW and LW HT feed	110,000
R9 V1 SG HT feed	51,000
R10 V2 CG decoupling	110,000
R11 V2 SG HT feed	260,000
R12 V3 signal diode load	510,000
R13 IF stopper	110,000
R14 Manual volume control	500,000
R15 V3 triode CG decoupling	51,000
R16 V3 triode anode load	51,000
R17 V3 AVC diode load resistances	510,000
R18 V4 CG resistance	260,000
R19 V4 IF stopper	110,000
R20 Variable tone control	50,000
R21 Automatic GB potential divider resistances	100
R22 V1 osc. anode automatic tuning HT feed	50
R23	350
R24	40,000
R25	

OTHER COMPONENTS	Approx. Values (ohms)
L1 Aerial MW and LW coupling	12.0
L2 Band-pass primary coils	2.5
L3 Aerial SW tuning coil	11.0
L4 Band-pass secondary coils	2.5
L5 Osc. circuit SW tuning coil	1.8
L6 Osc. circuit LW tuning coil	5.5
L7 Oscillator SW reaction coil	0.4
L8 Oscillator MW reaction coil	7.25
L9 Oscillator LW reaction coil	18.0
L10 1st IF trans. Pri.	7.0
L11 1st IF trans. Sec.	7.0
L12 2nd IF trans. Pri.	7.0
L13 2nd IF trans. Sec.	7.0
L14 Speaker speech coil	3.0
L15 Aerial auto tuning MW coil	2.5
L16 Aerial auto tuning LW coil	11.0
L17 Osc. circuit auto tuning LW coil	7.5
L18 Osc. circuit auto tuning MW coil	2.5
L19 Speaker input trans.	600.0
L20 Waveband and manual/auto change switches	0.3
L21 HT circuit switch	
L22 LT circuit switch	
L23 Aerial circuit auto tuning trimmer selector switches	
L24 Oscillator circuit auto tuning trimmer selector switches	

CONDENSERS	Values (μF)
C1 Aerial SW coupling	0.00001
C2 V1 pent. MW and LW decoupling	0.1
C3 Aerial circuit SW tracker	0.01
C4 Small coupling	Very low
C5 AVC line decoupling	0.1
C6 V1 osc. CG condenser	0.0001
C7 Osc. circuit MW fixed tracker	0.0005
C8* V1 osc. anode SW decoupling	2.0
C9 V1 osc. anode MW and LW decoupling	0.1
C10 V1 SG decoupling	0.1
C11 V2 CG decoupling	0.1
C12 V2 SG decoupling	0.1
C13 Coupling to V3 AVC diode	0.00001
C14 IF by-pass condenser	0.0001
C15 AF coupling to V3 triode	0.05
C16* V3 triode CG decoupling	50.0
C17 V3 triode to V4 AF coupling	0.05
C18 IF by-pass condensers	0.0001
C19 Part of variable tone control	0.0005
C20 HT reservoir condenser	0.05
C21* Auto GB by-pass	2.0
C22* Band-pass pri. MW trimmer	50.0
C23 Band-pass pri. LW trimmer	0.00001
C24 Band-pass primary tuning	0.00009
C25 Aerial circuit SW trimmer	0.00004
C26 Band-pass sec. MW trimmer	0.00004
C27 Band-pass sec. LW trimmer	0.00009
C28 Aerial SW and band-pass secondary tuning	
C29 Oscillator circuit manual tuning	
C30* Osc. circuit SW trimmer	0.00002
C31 Osc. circuit MW trimmer	0.0001
C32 Osc. circuit LW trimmer	0.0001
C33 Osc. circuit MW tracker	0.00025
C34 Osc. circuit LW tracker	0.00025
C35 1st IF trans. pri. tuning	0.0003
C36 1st IF trans. sec. tuning	0.0003
C37 2nd IF trans. pri. tuning	0.0003
C38 2nd IF trans. sec. tuning	0.0003
C39 Aerial auto tuning MW coupling	0.00001
C40 Aerial auto tuning LW coupling	0.00001
C41 V1 osc. anode auto coupling	0.00002
C42	0.0001
C43	0.0001
C44	0.0001
C45	0.00005
C46	0.0003
C47	0.0001
C48	0.0003
C49	0.0002
C50	0.0003
C51	0.0003
C52	0.0002
C53	0.0003
C54	0.0001
C55	0.0001
C56	0.0003
C57	0.0003
C58	0.0003
C59	0.00005
C60	0.0003
C61	0.0001
C62	0.0001

* Electrolytic, † Variable, ‡ Pre-set.



VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating with a new HT battery reading 148 V on load. The receiver was tuned to the lowest wavelength on the medium band and the volume control was at maximum, but there was no signal input.

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

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 K80B	142	0.6	42	1.7
V2 K50N	35	1.0	35	0.3
V3 K23B	85	0.8	142	0.7
V4 K70B	139	4.6		

GENERAL NOTES

Switches.—**S1-S16** are the waveband and manual/auto switches, in two rotary units beneath the chassis. These are indicated in our under-chassis view, and shown in detail in the diagrams in column 4, where they are drawn as seen looking from the rear of the underside of the chassis.

The table (col. 4) gives the switch positions for the four control settings, starting from fully anti-clockwise. A dash indicates *open*, and **C**, *closed*.

S17x, S18x are the battery circuit switches, **S19a, b, x** to **S25a, b** and **S26a, b** to **S32a, b, x** the aerial and oscillator circuits auto-tuning switches, contained in a double-sided press-button unit mounted vertically at the front of the chassis. This is indicated in our plan chassis view, and shown in detail in the diagrams in column 6. The diagrams are drawn looking from the rear of the chassis, with the chassis standing normally on a bench. The left-hand diagram shows the left-hand side of the unit (nearest the bank of auto trimmers) while the right-hand diagram shows the right-hand side of the unit (nearest the gang condenser).

In all cases but one, each button controls six switches. Thus the top button controls **S19a, b, x** and **S32a, b, x**, the second from the top controls **S20a, b, x** and **S31a, b, x** and so on. The bottom button controls **S25a, b** and **S26a, b**. Although there are tags for switches which would be **S25x** and **S26x**, and these switches are wired up, they play no part in the circuit and are not shown in our circuit diagram. The tags are marked as bearers (**Be**) in the switch diagrams.

The **a** and **b** switches *close* when their appropriate buttons are pressed, and the **x** switches *open*, and *vice versa*.

Note that by pushing the bottom button, **S17x** and **S18x** open, and switch the set off. To switch it on, any other button is pressed, thus releasing the "off" button, closing **S17x** and **S18x**, and switching the set on.

Coils.—**L1-L6** are in a tubular unscreened unit beneath the chassis. **L7-L12**, and the IF transformers **L13, L14** and **L15, L16** are in three screened units on the chassis deck, with their associated trimmers.

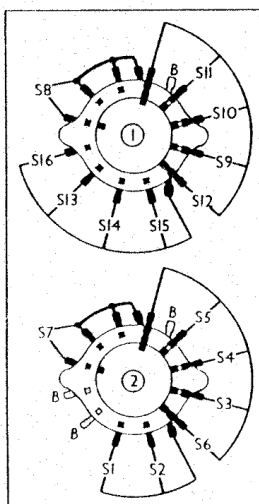
The auto-tuning coils **L18, L19** and **L20, L21** are in pairs in two unscreened units beneath the chassis.

External Speaker.—Two sockets are provided at the rear of the chassis for a high impedance (16,000 Ω) external speaker.

Pre-Set Condensers.—All the auto-tuning trimmers are adjustable through holes in the wooden panel at the side of the chassis. Of the remaining trimmers eight are reached through holes in the

SWITCH TABLE AND DIAGRAM

Switch	Auto	SW	MW	LW
S1	---	---	C	---
S2	---	C	---	C
S3	---	---	C	---
S4	---	---	C	---
S5	---	---	---	C
S6	C	---	---	---
S7	---	C	C	C
S8	---	C	C	C
S9	---	C	---	---
S10	---	---	C	---
S11	---	---	---	C
S12	C	---	---	---
S13	---	C	---	---
S14	---	---	C	---
S15	---	---	---	C
S16	C	---	---	---



Wavechange and manual/auto switches as seen from the rear of the underside of the chassis. These units are modified in model 5118, by the omission of **S6, S7, S8, S12** and **S16**.

chassis deck, while six are at the top of three coil units on the chassis deck.

Condenser C4.—This is a small coupling, formed by two twisted insulated wires, situated close to switch unit 2.

Pillar Bearers.—At six points beneath the chassis ebonite pillars are provided to act as bearers.

Batteries.—LT, Ever Ready 2 V 24 AH glass cased accumulator cell, type GZ; HT, Ever Ready 144 V dry battery, type Winner 144. GB is automatic.

Battery Leads and Voltages.—Black lead, spade tag, LT negative; red lead, spade tag, LT positive 2 V; black lead and plug, HT negative; red lead and plug, HT positive 144 V.

PRESS-BUTTON ADJUSTMENT

The tuning of each of the seven station press-buttons is adjustable within certain limits, by means of the pairs of trimmers which may be reached by removing the small panel from the right-hand side of the receiver. The adjustment range of each button, as shown on the trimmer board, is as follows, numbering the buttons from top to bottom:—1, 200 to 300 m; 2, 200 to 300 m; 3, 290 to 445 m; 4, 350 to 480 m; 5, 470 to 535 m; 6, 850 to 1,460 m; 7, 1,300 to 1,665 m. The eighth button switches the set off.

To receive a certain wavelength on a press-button, apply that signal to the **A** and **E** sockets of the receiver. With the appropriate button pressed, adjust the corresponding oscillator trimmer, which is on the left of the panel, to receive this signal. Then adjust the aerial circuit trimmer (on the right) for maximum output. Check each circuit by going over the trimmers in the same order again.

MODEL 5118 MODIFICATIONS

Model 5118 has a similar chassis, but the press-button feature is omitted, the set being arranged for manual tuning only. There are thus only three positions on the wave-change switch, the "auto" position being eliminated, and with it **S6, S7, S8, S12** and **S16**.

Coils **L18, L19, L20** and **L21** are removed, together with **R25, C40, C41** and **C42**, and their associated wiring.

The press-button switch unit is omitted, but **S17x** and **S18x** become normal QMB battery circuit switches, ganged with the volume control **R14**.

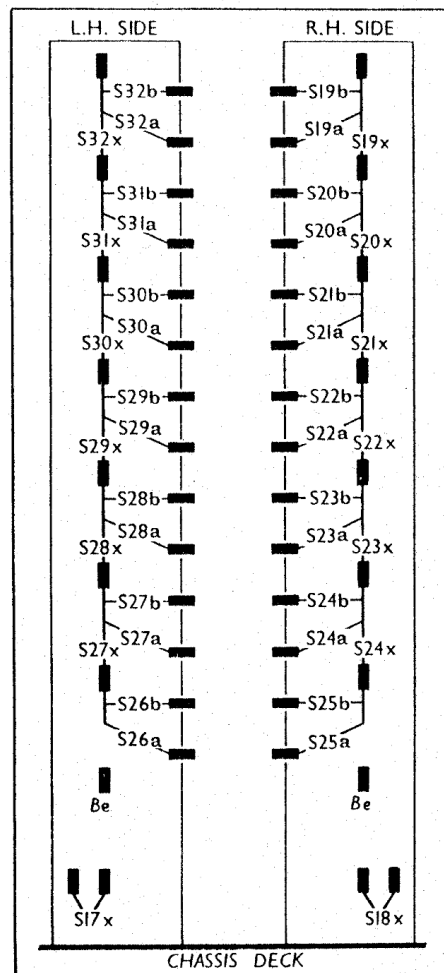
C43 to **C62** are omitted.

CIRCUIT ALIGNMENT

IF Stages.—Switch set to MW, and short circuit **C30**. Connect signal generator to control grid (top cap) of **V1**, via a 0.1 μ F condenser, and chassis. Feed in a 452 KC/S signal, and adjust **C39, C38, C37** and **C36**, in that order, for maximum output. Re-check these settings, then remove the short circuit from **C30**.

RF and Oscillator Stages.—With gang at maximum, pointer should register with the horizontal line across the centre of the scale. Connect signal generator to **A1** and **E** sockets.

LW.—Switch set to LW, and adjust tracker **C35** to be at approximately three-quarters of its full capacity. Tune to 1,200 m on scale, feed in a 1,200 m (250 KC/S) signal, and adjust **C33**, then **C28** and **C24**, for maximum output. Tune to 1,700 m on scale, feed in a 1,700 m (176.5 KC/S) signal, and adjust **C35**



Diagrams of both sides of the press-button switch unit. They are as seen looking from the rear of the chassis, when it is standing normally on a bench. The left-hand side is that nearest the banks of trimmers.

for maximum output. Now repeat the 1,200 m adjustments, and return to 1,700 m. See that the pointer is at the 1,700 m mark when receiving the 1,700 m signal. If not, make a slight re-adjustment to **C35**.

MW.—Switch set to MW, and adjust tracker **C34** to be at approximately three-quarters of its full capacity. Tune to 214 m mark on scale, and feed in a 214 m (1,400 KC/S) signal, and adjust **C32**, then **C27** and **C23**, for maximum output. Tune to 500 m on scale, feed in a 500 m (600 KC/S) signal, and adjust **C34** for maximum output. Now repeat the 214 m adjustments, and return to 500 m. See that the pointer is at the 500 m mark when receiving the 500 m signal. If not, make a slight re-adjustment to **C34**.

SW.—Switch set to SW, and screw up **C31** fully. Tune to 15 MC/S on scale, and feed in a 15 MC/S (20 m) signal. Now unscrew **C31** slowly, and adjust accurately for maximum output on the first peak reached from the fully screwed up position. Next adjust **C26** for maximum output. Feed in a 7.5 MC/S (40 m) signal, and tune it in. Adjust the end turn of **L4** (nearest the end of the coil former beneath the chassis) for maximum output, while rocking the gang for optimum results. Repeat the 15 MC/S adjustments.