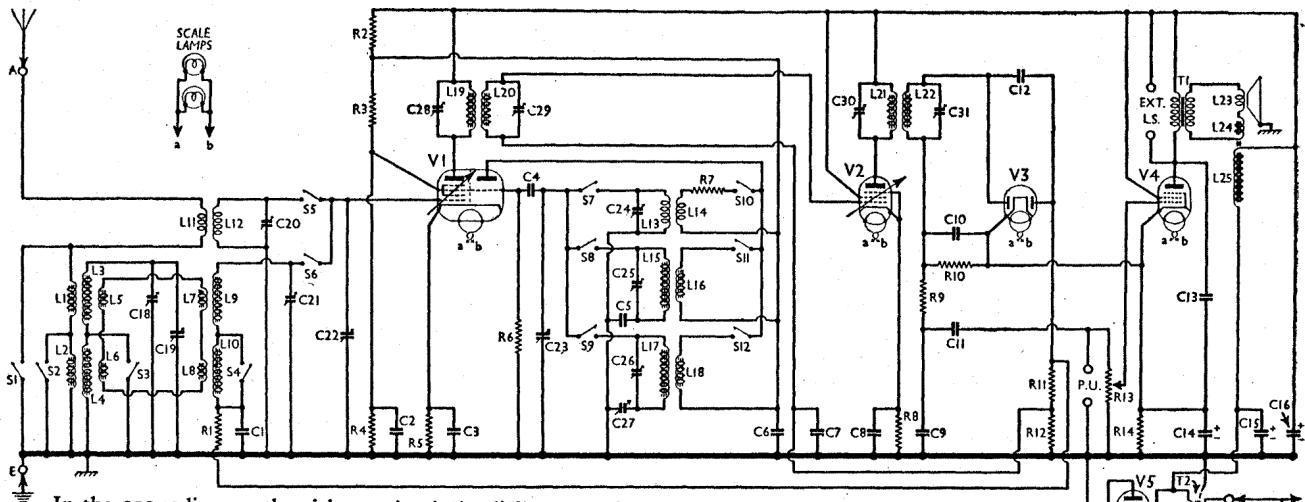


ALBA - 615 & 650 & 815 & 910



In the 910 radiogram the pick-up circuit is different, and extra switching is used (see "General Notes").

COMPONENTS AND VALUES

RESISTANCES	Values (ohms)
R1 V1 hexode C.G. decoupling	1,000,000
R2 V1 S.G. and osc. anode H.T. potential divider	13,000
R3 V1 osc. C.G. resistance	10,000
R4 V1 fixed G.B. resistance	25,000
R5 V1 osc. anode S.W. stabiliser	200
R6 V2 fixed G.B. resistance	25,000
R7 V2 osc. anode S.W. stabiliser	100
R8 V3 signal diode load	150
R9 V3 A.V.C. diode load	50,000
R10 V3 A.V.C. diode load	500,000
R11 V3 A.V.C. diode load	500,000
R12 V3 A.V.C. diode load	500,000
R13 V4 G.B. resistance	500,000
R14 V4 G.B. resistance	150

CONDENSERS	Values (μF)
C1 V1 hexode C.G. decoupling	0.1
C2 V1 hexode S.G. by-pass	0.1
C3 V1 cathode by-pass	0.1
C4 V1 osc. C.G. condenser	0.0001
C5 Osc. circuit M.W. tracker	0.002
C6 V1 osc. anode decoupling	0.1
C7 V2 C.G. decoupling	0.1
C8 V2 cathode by-pass	0.1
C9 I.F. by-passes	0.0002
C10 I.F. by-passes	0.0002
C11 A.F. coupling to V4	0.005
C12 V3 A.V.C. diode feed	0.0002
C13 Fixed tone corrector	0.005
C14 V4 cathode by-pass	25.0
C15 H.T. smoothing	6.0
C16 H.T. smoothing	6.0
C17 Mains aerial coupling	0.00015
C18 Band-pass pri. M.W. trimmer	0.0003
C19 Band-pass pri. tuning	—
C20 Aerial S.W. trimmer	0.0003
C21 Band-pass sec. M.W. trimmer	0.0003
C22 Band-pass sec. and S.W. tuning	—
C23 Oscillator circuit tuning	—
C24 Oscillator S.W. trimmer	0.00001
C25 Oscillator M.W. trimmer	0.0003
C26 Oscillator L.W. trimmer	0.0003
C27 Oscillator L.W. tracker	0.0007
C28 1st I.F. trans. pri. tuning	—
C29 1st I.F. trans. sec. tuning	—
C30 2nd I.F. trans. pri. tuning	—
C31 2nd I.F. trans. sec. tuning	—

* Electrolytic. † Variable. ‡ Pre-set.

OTHER COMPONENTS	Approx. Values (ohms)
L1 Aerial M.W. and L.W. coupling coils	70.0
L2 Band-pass primary coils	6.5
L3 Band-pass primary coils	1.6
L4 Band-pass primary coils	13.5
L5 Band-pass coupling coils	22.0
L6 Band-pass coupling coils	22.0
L7 Band-pass coupling coils	22.0
L8 Band-pass coupling coils	2.0
L9 Band-pass secondary coils	14.0
L10 Aerial S.W. coupling coil	0.3
L11 Aerial S.W. tuning coil	Very low
L12 Oscillator S.W. tuning coil	Very low
L13 Oscillator S.W. reaction coil	35.0
L14 Oscillator M.W. tuning coil	1.6
L15 Oscillator M.W. reaction coil	50.0
L16 Oscillator L.W. tuning coil	9.5
L17 Oscillator L.W. reaction coil	2.5
L18 1st I.F. trans. Pri.	34.0
L19 1st I.F. trans. Sec.	34.0
L20 2nd I.F. trans. Pri.	34.0
L21 2nd I.F. trans. Sec.	34.0
L22 Speaker speech coil	1.9
L23 Hum neutralising coil	0.1
L24 Speaker field coil	1200.0
L25 Speaker input trans. Pri.	450.0
L26 Speaker input trans. Sec.	0.4
L27 Mains trans. Pri., total	53.0
L28 Mains trans. Heater sec.	0.1
L29 Mains trans. Rect. heat. sec.	0.1
L30 Mains trans. H.T. sec., total	430.0
L31 Waveband switches	—
L32 Mains switch, ganged R13	—

VALVE ANALYSIS

Valve voltages and currents given in the table (col. 3) are those measured in our receiver when it was operating on mains of 230 V, using the 220 V tapping on the mains transformer. 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.

If V2 should become unstable when measurements are made of its anode current, as in our case, it can be stabilised by connecting a non-inductive condenser of about 0.1 μF from that electrode to chassis.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 TH4*	257	3.0	58	3.5
V2 VP4B	257	12.0	257	4.6
V3 2D4A	—	—	—	—
V4 PenA4	242	29.0	257	4.7
V5 1W4/350	312†	—	—	—

* Oscillator anode 115 V, 4.8 mA.

† Each anode, A.C.

GENERAL NOTES

Switches.—S1-S12 are the wavechange switches, in two rotary units beneath the chassis. These are indicated in our under-chassis view, and are shown in detail in the diagram on page IV, where they are as seen looking from the front of the underside of the chassis.

The table (p. IV) gives the switch positions for the three control settings, starting from fully anti-clockwise. A dash indicates open, and C closed.

S13 is the Q.M.B. mains switch, ganged with the volume control R13.

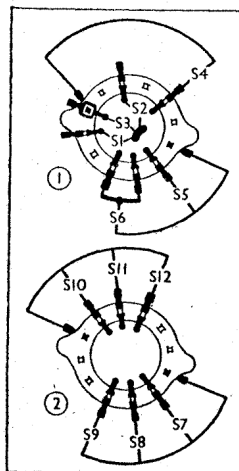
Coils.—L1-L6, L7-L10 and L15-L18 are in three screened units on the chassis deck. L11, L12 and L13, L14 are in two unscreened tubular units beneath the chassis. L12 and L13 respectively are the thick windings of tinned copper wire. The I.F. transformers L19, L20 and L21, L22 are in two other screened units on the chassis deck, with their associated trimmers.

Scale Lamps.—These are two Osram 6.2 V, 0.3 A M.E.S. types.

Switch set to S.W., feed in, a 31 m. signal, tune to 31 m. on the scale, and adjust C24 and C20 for maximum output. If C24 gives two peaks, choose that obtained with C24 nearest its minimum position.

SWITCH TABLE AND DIAGRAMS

Switch	S.W.	M.W.	L.W.
S1	C	—	—
S2	—	C	—
S3	—	C	—
S4	—	C	—
S5	C	—	—
S6	—	C	C
S7	C	—	—
S8	—	C	—
S9	—	—	C
S10	C	—	—
S11	—	C	—
S12	—	—	C



Switch diagrams as seen looking in the direction of the arrows in the under-chassis view.

CIRCUIT ALIGNMENT

I.F. Stages.—Feed in a 117.5 KC/S signal between the top cap of V1 and chassis, with set switched to M.W.

Adjust C31, C30, C28 and C29 for maximum output, in that order, reducing input progressively as the circuits come into alignment.

R.F. and Oscillator Stages.—See that scale pointer is horizontal at maximum position of gang condenser. If not, adjust by means of the pointer clip on drive spindle.

Feed a 250 m. signal into A and E sockets, switch set to M.W., tune to 250 m. on the scale, and adjust C25, then C21 and C18 for maximum output.

Switch set to L.W., feed in a 1,200 m. signal, tune to 1,200 m. on the scale, and adjust C26 for maximum output, rocking the gang slightly for optimum results, since there are no separate L.W. band-pass trimmers. Feed in a 1,900 m. signal, tune it in, and adjust C27 for maximum output, rocking the gang meanwhile.