

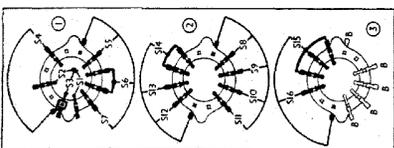
A sensitivity control varying the grid bias of both V1 and V2 is included in the Alba 825 A.C. 3-band superhet. This circuit diagram also covers the 625 armchair console, 920 radiogram and 920 automatic radiogram. R2 gives additional decoupling on short waves.

COMPONENTS AND VALUES

CONDENSERS		Values (μF)
C1	V1 hex. C.G. M.W. and L.W. decoupling	0.1
C2	V1 hex. C.G. S.W. decoupling	0.01
C3	V1 S.G. decoupling	0.1
C4*	V1 cathode by-pass	8.0
C5	V1 osc. C.G. condenser	0.0007
C6	Osc. circuit M.W. tracker	0.002
C7	V1 osc. anode decoupling	0.1
C8	V2 C.G. decoupling	0.1
C9	V2 cathode by-pass	0.1
C10	I.F. by-pass	0.0002
C11	A.F. coupling to V3 triode	0.005
C12	I.F. by-pass	0.0002
C13	Coupling to V3 A.V.C. diode	0.0002
C14*	V3 cathode by-pass	25.0
C15*	V3 triode anode decoupling	2.0
C16	V3 triode to V4 A.F. coupling	0.01
C17	Fixed tone corrector	0.01
C18*	V4 cathode by-pass	25.0
C19	Part of variable tone control	0.05
C20*	H.T. smoothing	12.0
C21	Mains aerial coupling	0.00015
C22†	Band-pass pri. M.W. trimmer	0.00003
C23†	Band-pass pri. tuning	—
C24†	Aerial S.W. trimmer	0.00003
C25†	Band-pass sec. M.W. trimmer	0.00003
C26†	Band-pass sec. and S.W. aerial tuning	—
C27†	Oscillator circuit tuning	—
C28†	Osc. circuit S.W. trimmer	0.00003
C29†	Osc. circuit M.W. trimmer	0.00003
C30†	Osc. circuit L.W. trimmer	0.00003
C31†	Osc. circuit L.W. tracker	0.0007
C32†	1st I.F. trans. pri. tuning	—
C33†	1st I.F. trans. sec. tuning	—
C34†	2nd I.F. trans. pri. tuning	—
C35†	2nd I.F. trans. sec. tuning	—
C36†	—	—

* Electrolytic. † Variable. ‡ Pre-set.

RESISTANCES		Values (ohms)
R1	V1 hex. C.G. M.W. and L.W. decoupling	500,000
R2	V1 hex. C.G. S.W. decoupling	250,000
R3	V1 S.G. H.T. potential divider	10,000
R4	—	25,000
R5	V1 fixed G.B. resistance	200
R6	Sensitivity control	500
R7	V1 osc. C.G. resistance	25,000
R8	Osc. circuit S.W. stabiliser	100
R9	V1 S.G. and anode H.T. feed	13,000
R10	V2 C.G. decoupling	250,000
R11	V2 fixed G.B. resistance	150
R12	I.F. stopper	50,000
R13	V3 signal diode load	500,000
R14	V3 audio signal potential divider	200,000
R15	—	200,000
R16	V3 triode C.G. resistance	500,000
R17	V3 G.B. and A.V.C. delay	1,000
R18	V3 triode anode decoupling	10,000
R19	V3 triode anode load	20,000
R20	V3 A.V.C. diode load	500,000
R21	Manual volume control	250,000
R22	V4 grid stopper	50,000
R23	V4 G.B. resistance	170
R24	Variable tone control	50,000



Diagrams of the three switch units. The first shows the front view of the waveband switches, the second shows the front view of the radio/gramophone switches, and the third shows the back view of the radio/gramophone switches. The diagrams are labeled with component numbers and show the internal connections of the switches.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial coupling coils	70.0
L2	—	6.75
L3	Band-pass primary coils	1.6
L4	—	14.0
L5	Band-pass coupling coils	22.0
L6	—	—
L7	Band-pass coupling coils	22.0
L8	—	—
L9	Band-pass secondary coils	1.6
L10	—	15.0
L11	Aerial S.W. coupling coil	0.1
L12	Aerial S.W. tuning coil	Very low
L13	Osc. circuit S.W. tuning coil	Very low
L14	Oscillator S.W. reaction	35.0
L15	Osc. circuit M.W. tuning coil	1.6
L16	Oscillator M.W. reaction	50.0
L17	Osc. circuit L.W. tuning coil	10.0
L18	Oscillator L.W. reaction	2.5
L19	1st I.F. trans. { Pri., total	33.0
L20	— { Sec.	33.0
L21	2nd I.F. trans. { Pri.	33.0
L22	— { Sec.	33.0
L23	Speaker speech coil	1.9
L24	Hum neutralising coil	0.1
L25	Speaker field coil	1,000.0
T1	Speaker input trans. { Pri.	320.0
—	— { Sec.	0.4
T2	Mains trans. { Pri., total	42.0
—	— { Heater sec.	0.1
—	— { Rect. heat. sec.	0.1
—	— { H.T. sec., total.	360.0
S1-S14	Waveband switches	—
S15-16	Radio-gram. change switches	—
S17	Mains switch, ganged R21	—

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on mains of 223 V, using the 220 V tapping on the mains transformer. The receiver was tuned to the lowest wavelength on the medium band and both the volume and sensitivity controls were at maximum (both fully clockwise), 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 TH4	230	3.0	52	3.4
—	103	4.4	—	—
V2 VP4B	230	10.0	230	3.3
V3 TDD4	121	3.0	—	—
V4 PenB4	210	57.0	230	7.4
V5 IW4/350	320†	—	—	—

† Each anode, A.C.

GENERAL NOTES

Switches.—S1-S14 are the wavechange and S15, S16 are the radio/gramophone switches, ganged in three rotary units beneath the chassis. The front two units are for wavechanging, while the back unit contains the two radio/gramophone switches. There is an additional switch (not shown in the diagram or circuit diagram) which connects the junction of L9, L10 to chassis in the gramophone position. The units are indicated in our under-chassis view, and are shown in detail in the diagrams in col. 3, where the first two are shown as seen when looking from the front of the underside of the chassis, and the third (radio/gramophone) is as seen looking from the back.

The table in col. 2 gives the switch positions for the four control settings, starting from fully anti-clockwise. A dash indicates open, and C closed.

S17 is the Q.M.B. mains switch, ganged with the volume control, R21.

Coils.—L1-L6, L7-L10 and L15-L18 are in three screened units on the chassis deck, while the I.F. transformers (L19, L20 and L21, L22) are in two further screened units on the deck, which also contain the associated trimmers. L11, L12 and L13, L14 are in two unscreened tubular units beneath the chassis, L12 and L13 being the windings of thick tinned copper wire.

Scale Lamp.—The two scale lamps are Osram M.E.S. types, rated at 6.2 V, 0.3 A.

CIRCUIT ALIGNMENT

I.F. Stages.—Feed in a 117.5 KC/S signal between the top cap of V1 and chassis, with the set switched to M.W. Adjust C36, C35, C34 and C33 in that order for maximum output, reducing input progressively as the circuits come into alignment.

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

Feed a 250 m. (1,200 KC/S) signal into the A and E sockets, switch the set to M.W., tune to 250 m. on the scale and adjust C30, then C26 and C28 for maximum output.

Switch the set to L.W., feed in a 1,200 m. (250 KC/S) signal, tune 1,200 m. on the scale and adjust C31 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. (157 KC/S) signal, tune it in, and adjust C32 for maximum output, rocking the gang meanwhile.

Switch the set to S.W., feed in a 31 m. (9.67 MC/S) signal, tune to 31 m. on the scale, and adjust C29 and C25 for maximum output. If C29 gives two peaks, choose that obtained with C29 nearer its minimum position.

Switch	S.W.	M.W.	L.W.	Gram.
S1	C	—	—	—
S2	—	C	—	C
S3	—	—	—	—
S4	—	C	—	—
S5	C	—	—	—
S6	—	C	—	—
S7	—	—	C	C
S8	C	—	—	—
S9	—	C	—	—
S10	—	—	C	—
S11	—	—	—	C
S12	C	—	—	—
S13	—	C	—	—
S14	—	—	C	C
S15	—	C	—	—
S16	C	—	—	C