

ALBA 825 A.C. THREE-BAND FIVE

CIRCUIT.—The aerial is coupled to the grid of V1, a triode-hexode frequency changer, by a set of iron-core band-pass coils on the medium and long wavebands. On short waves the coupling is by an H.F. transformer.

The signal, converted to a frequency of 117.5 kc., then passes through an I.F. transformer of iron-core construction to the amplifier V2, an H.F. pentode. A further I.F. transformer leads to the demodulating diode of V3, a double diode triode.

Coupling arrangements to the grid of the triode section include a switch to cut off the radio and apply the pick-up input. A manual volume control is also incorporated. The second diode of V3 provides a D.C. potential fed back to V1 and V2 for automatic volume control.

V3 is resistance capacity coupled to the grid of V4, an output pentode. A pentode compensator condenser is connected between the anode and chassis, and a variable resistance and condenser in series between the primary of the speaker transformer and chassis provide a tone control.

Mains equipment consists of a mains transformer, a full-wave rectifying valve,

V5, electrolytic smoothing condensers, and a smoothing choke consisting of the speaker field coil.

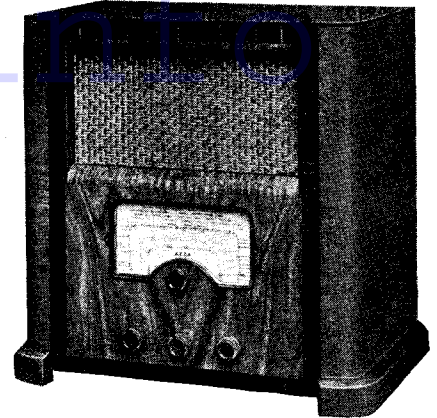
Chassis Removal.—First remove the back of the cabinet (secured by sliding clips) and the four control knobs (grub screws). Turn the cabinet on its side and remove the four fixing bolts and washers from the base.

On the speaker, the black lead goes to the top tag, blue to the one below, and the red to the other two. The white lead is connected to the speaker frame.

The tone control resistance (mounted on the front of the cabinet) can be removed if desired. The tone control is connected on one side to the speaker frame, and the other side, via a condenser, to the black lead on the speaker transformer panel.

Special Notes.—In our particular chassis C20 was found to be .00015, and R13, R21 and R22 were found to be 1,500, 250,000 and 250,000 ohms respectively.

Sockets at the rear of the chassis provide



The Alba model 825, a product of A. J. Balcombe Ltd., is an all-wave four-valve plus rectifier superhet for A.C. mains operation. It covers a short-wave range of 17 to 50 metres and the usual medium and long bands. It sells at 11 guineas.

WINDINGS

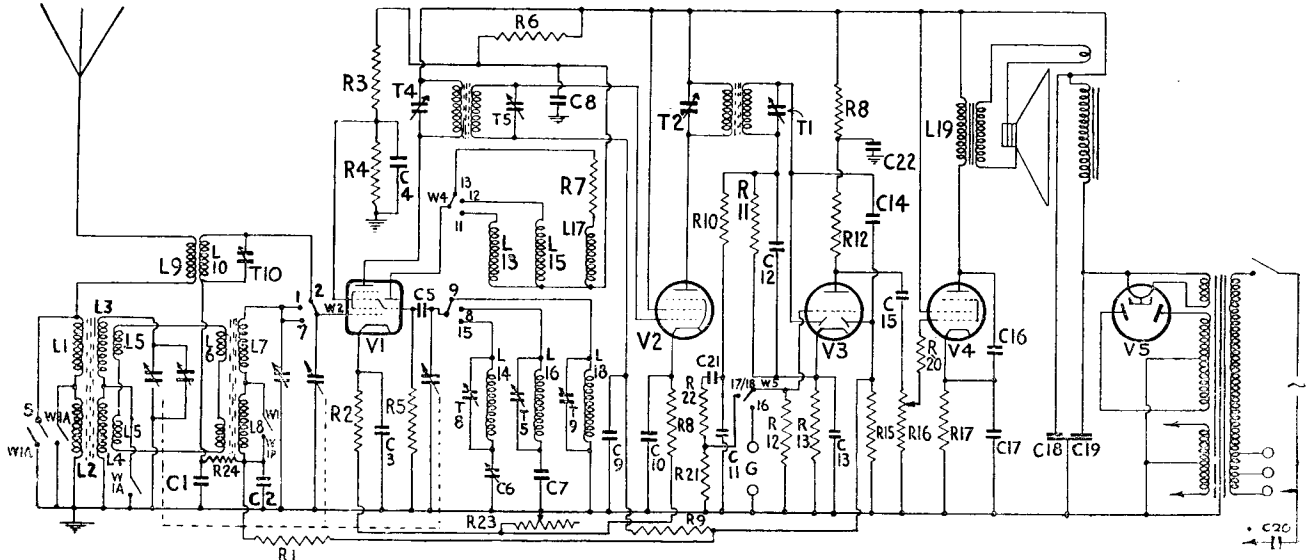
Winding.	Ohms.	Winding.	Ohms.
L1	70	L15	50
L2	6.75	L16	1.6
L3	1.6	L17	35
L4	14	L18	tootool
L5	22	I.F.T.1 (P)	33
L6	20	I.F.T.1 (S)	33
L7	1.6	I.F.T.2 (P)	33
L8	15	I.F.T.2 (S)	33
L9	.1	Field coil	1,000
L10	tootool	Speaker trans.	
L13	2.5	primary	320
L14	10	Mains trans.	
		primary	40.5
		H.T. secondary	360

CONDENSERS

C.	Purpose.	Mfds.
1	V1 S.W. A.V.C., decoupling	.01
2	V1 A.V.C. decoupling	.1
3	V1 cathode shunt	8.
4	V1 screen decoupling	.1
5	Osc. grid	.0001
6	M.W. osc. fixed padder	.002
7	Osc. anode decoupling	.1
8	V2 A.V.C. decoupling	.1
9	V2 cathode shunt	.1
10	H.F. by-pass	.0002
11	H.F. by-pass	.0002
12	V3 cathode shunt	25.
13	A.V.C. diode coupling	.0002
14	L.F. coupling	.01
15	Pentode compensator	.01
16	V4 cathode shunt	25.
17	H.T. smoothing	12.
18	H.T. smoothing	8.
19	Mains aerial	.0001
20	L.F. coupling	.005
21	V3 anode decoupling	2.
22		

RESISTANCES

R.	Purpose.	Ohms.
1	V1 A.V.C. decoupling	500,000
2	V1 cathode bias	200
3	V1 screen potr. (part)	10,000
4	V1 screen potr. (part)	25,000
5	Osc. grid leak	25,000
6	Osc. anode decoupling	13,000
7	S.W. regeneration modifier	100
8	V2 cathode bias	150
9	V2 A.V.C. decoupling	250,000
10	H.F. stopper	50,000
11	Demodulating diode load	500,000
12	V3 grid resistance	500,000
13	V3 cathode bias	1,000
14	V3 anode load	20,000
15	A.V.C. diode load	500,000
16	Volume control	250,000
17	V4 cathode bias	150
18	V3 anode decoupling	10,000
19	V4 grid stopper	50,000
20	V3 grid input potr. (part)	200,000
21	V3 grid input potr. (part)	200,000
22	Sensitivity control	250,000
23		
24	V1 S.W. A.V.C. decoupling	250,000



An orthodox four-valve plus rectifier superhet circuit is employed in the 825. Iron-core coils are used and the grid circuit of the double-diode triode contains a radiogram switch.

For more information remember
www.savoy-hill.co.uk

for connecting a pick-up. Provision is also made for using the mains wiring as an aerial. A wander-plug fits into the aerial socket for this purpose. When not in use the wander-plug fits into an earthing socket, thereby converting the mains aerial condenser into a mains suppressor.

A pair of terminals on the speaker panel enable an extra speaker to be operated. This should have its own pentode matching transformer.

There are two dial lights in screw-in holders clamped to the wavelength dial assembly. They are Osram bulbs rated at 6.2 volts .3 amp.

A preset variable resistance at the rear of the chassis is connected in the cathode returns of V1 and V2, and affords control of the sensitivity of the receiver.

Circuit Alignment Notes

I.F. Circuits.—Connect an output meter across the primary of the speaker transformer. Switch the set to the medium waves and fully interleave the vanes of the gang condenser. Set the volume to maximum and the tone control to the

high position. Connect a modulated oscillator between the top grid cap of V1 and chassis.

Tune the oscillator to 117.5 kc., and adjust T1, T2, T3 and T4 in that order for maximum, reducing the input from the oscillator as the circuits come into line so as to render the A.V.C. inoperative.

Signal Circuits.—Leave the output meter connected as before, but feed the oscillator to the aerial and earth sockets, either *via* a dummy aerial or fixed condenser. Only feed sufficient input from the oscillator to obtain definite peaks in the output meter so as to prevent the A.V.C. working.

Medium Waves.—Tune the set and oscillator to 250 metres (1,200 kc.) and adjust T5, T6 and T7 in that order for maximum response. The medium wave padding is fixed.

Long Waves.—Tune the set and oscillator to 1,200 metres (250 kc.) and adjust T8 for maximum.

Tune the set and oscillator to 1,900 metres (157.9 kc.) and adjust P1 for maximum, simultaneously rocking the gang to ensure optimum results.

Repeat both operations until the calibration is correct.

Short Waves.—Tune the set and oscillator to 20 metres (15 mc.) and adjust T10 for maximum, using the peak obtained with T9 nearest to its minimum capacity setting.

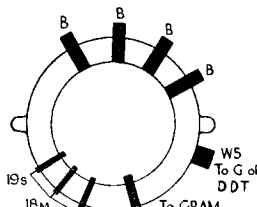
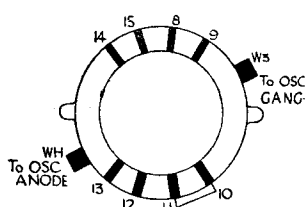
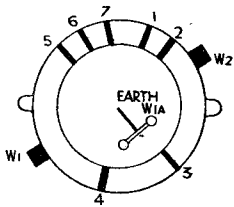
VALVE READINGS

V.	Type.	Electrode.	Volts.	Ma.
1	All Mullard. TH4 met. (7) ..	Anode ..	230	4.2
		Screen ..	54	2.2
		Osc.anode ..	90	7.2
2	VP4B met. (7)	Anode ..	235	11.8
		Screen ..	240	3.5
3	TDD4 met. (7)	Anode ..	125	3.4
4	Pen B4 (7) ..	Anode ..	218	52.
		Screen ..	240	7.9
5	IW4/350 (4) ..	Filament	330	—

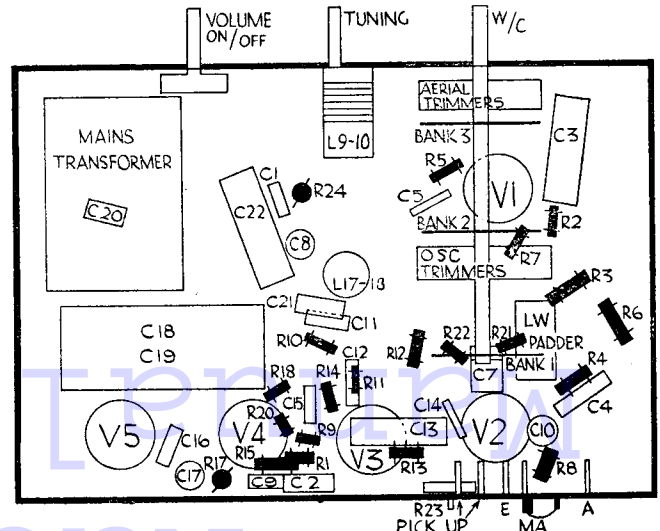
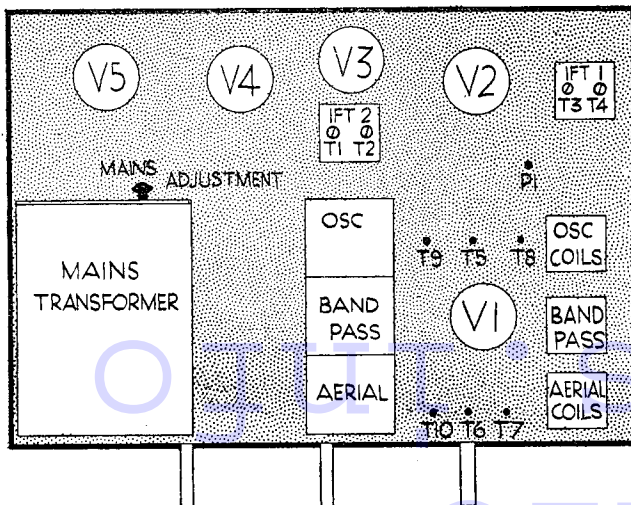
QUICK TESTS

Quick tests are available on this receiver on the leads to the speaker panel. Voltages measured between these and the chassis should be:—

- Blue lead, 330 volts, unsmoothed H.T.
- Red lead, 230 volts, smoothed H.T.
- Black lead, 215 volts, smoothed H.T.



Left to right, the front-of-set, middle and rear switch banks of the 825.



These diagrams show the orderly construction of the Alba chassis (top "deck" left and underside right) and enable the components to be identified.

Alba 825 on Test

MODEL 825.—Standard model for operation on A.C. 200-250 volts, 40-100 cycles mains. Price 11 gns.

DESCRIPTION.—Three band, five valve, including rectifier, table superhet.

FEATURES.—Full-vision scale coloured for wavebands. Concentric tuning control. Combined volume and master switch; wave selection and tone control. Pre-set sensitivity control at rear of chassis. Mains aerial. Sockets for pick-up and external speaker.

LOADING.—79 watts.
Sensitivity and Selectivity.

SHORT WAVES (17-50 metres).—Good gain and selectivity. Easy handling and no drift. Double tuning position at beginning of band.

MEDIUM WAVES (200-550 metres)—Excellent gain and selectivity well maintained over entire band. Local station spread on adjacent channels only. Reasonable background.

LONG WAVES (700-2,000 metres).—All main stations well received. Very good selectivity with only side splash on Deutschlandsender.

Acoustic Output.

Representative output for ordinary mains pentode. Ample volume for large room with well-balanced tone. Noticeable attack and brilliance and very little colouration on speech.

Replacement Condensers

EXACT replacement condensers specially made for the Alba 825 are available to service engineers from A. H. Hunt, Ltd., of Garratt Lane, Wandsworth, London, S.W.18.

The block containing C18 and C19 is listed as number 3,851, price 7s. 6d. retail. C3 is supplied as list 3,477 at 1s. 9d., and C13 is unit 2,918, also at 1s. 9d.