

ALBA MODEL 501 A.C. RECEIVER (Cont.)

a wavetrap which is connected into circuit by the switch (white spot uppermost) so that Droitwich will not spread over other stations. The tuning adjustment is made from above through an aperture provided in the chassis. **Quick Tests.**—Between the terminals

and tags on the speaker transformer and chassis:—

- Top (1) 325 volts, H.T. unsmoothed.
 - (2) 235 volts, V3 anode.
 - (3) and (4) 246 volts, H.T. smoothed.
- The speaker field is 2,000 ohms.

Removing Chassis.—Remove the knobs (grub screw) and four screws underneath.

General Notes.—This is a particularly simple set to service. All components are either colour coded or stamped, and the connections to the mains transformer are labelled.

Replacing Chassis.—Lay the chassis inside the cabinet, replace holding screws and knobs.

MARCONIPHONE JUBILEE CHASSIS

Circuit.—The combined oscillator first detector, MX40 plain (V1), is preceded by a band-pass aerial coupling with special I.F. suppressor coils.

Bias is partly controlled by A.V.C. and by cathode resistance. Coupling to the following valve is by band-pass I.F. transformer (frequency 125 kc.).

The I.F. valve, VMS4 met. (V2), is biased in the same way as V1, and is followed by another band-pass I.F. transformer.

The second detector and I.F. valve, MHD4 met. (V3), utilises one diode for L.F. purposes and the other for amplified A.V.C. The L.F. feed to the triode grid is through R11 to VR2 the volume control, to VR4 the

tone control and then through the H.F. stopper R34 to the grid. The cathode resistances are R32 and R24. Coupling to the output valve is by resistance capacity filter.

The output valve, MPT4 (V4), is compensated by a choke and condenser across the primary of the output transformer, and is biased by a potentiometer in the common H.T.—lead.

Mains equipment consists of: transformer, full-wave indirectly heated MUI2 rectifier, with the speaker field in the negative H.T. lead for smoothing.

Special Notes.—To reach the pilot lamp undo perforated plate on the bottom of the

cabinet and slacken the holding screw on the lamp bracket.

The noise suppressor circuit is operated by VR1 at the back of the set. By increasing the initial bias on V1 and V2 the virtual delay action of A.V.C. is increased, while the switch (controlled by push-pull action of volume control spindle) is "out" when VR1 is connected into the circuit.

In this position the A.V.C. on V2 changes over to the potential of the signal rectifier.

Quick Tests.—Voltages between the following terminals on speaker panel and chassis (they are all labelled):—

Red, 240 volts; yellow, V4 anode, 215 volts.

Voltage between green (+) and grey (—), 115 volts.

This latter is the voltage drop across the 2,000 ohm speaker field.

Removing Chassis.—Remove the knobs. These have self-threading screws, which are loose when knobs are "off."

Remove four screws from underneath and free the speaker cable from its spring clips.

General Notes.—The resistance panel is

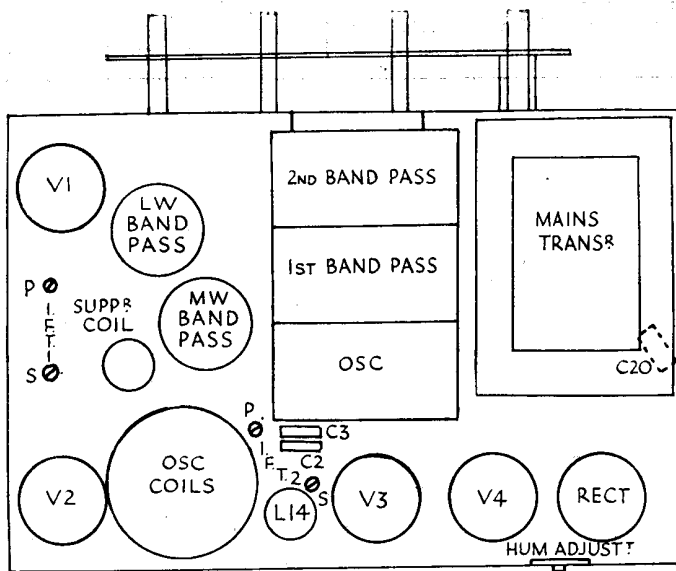
(Continued on opposite page.)

VALVE READINGS

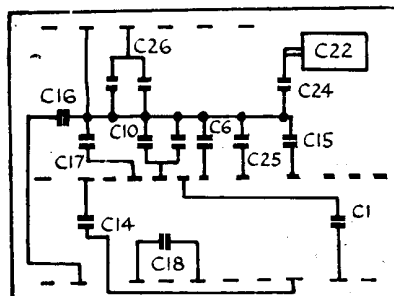
No signal. "Q" knob out (i.e., silent).

Valve.	Type.	Electrode.	Volts.	M.A.
1	MX40 plain(7)	anode ..	220	1.4*
		aux. grid.	80	
		osc. anode	120	1.5 to 2
2	VMS4 met.(5)	anode ..	220	8
		screen ..	75	
3	MHD4 met.(7)	anode ..	95	1.5
4	MPT4 (5)	anode ..	215	25
		aux. grid ..	170	4-7

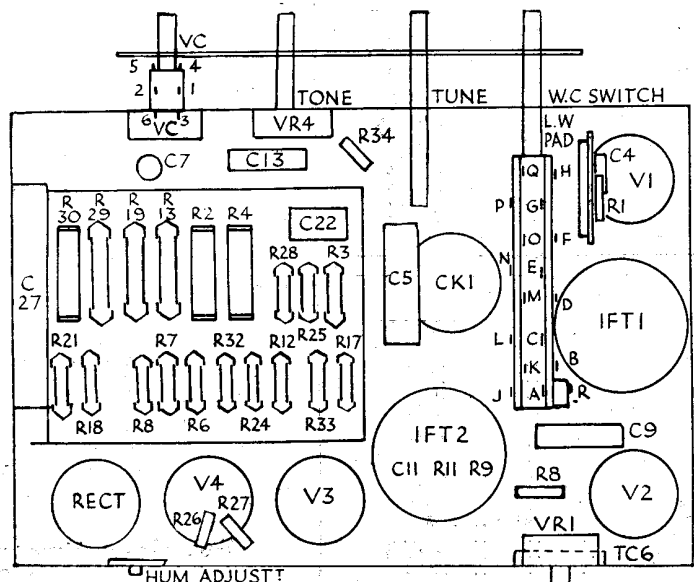
* 3.3 M.A. with increased sensitivity.



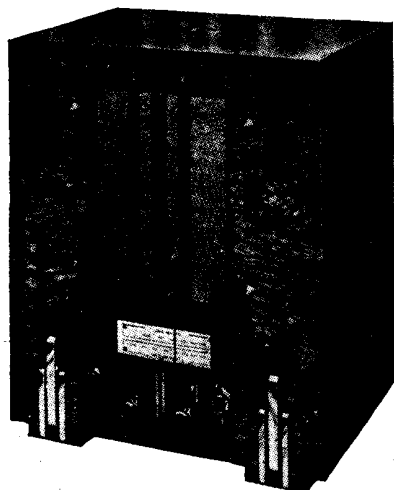
As the above diagram shows, the intermediate-frequency transformer trimmers are accessible from the top of the chassis of the Marconiphone Jubilee models.



Above are the connection details of the condenser block which is actually mounted underneath the resistance panel seen in the under-chassis layout given on the right.



MARCONIPHONE 264 CHASSIS (Cont.)



The table model, type 264, of the Marconiphone Jubilee range of receivers. The same chassis is also used in the model 297 console and the model 287 radio-gramophone.

mounted on the condenser block and the condensers can be traced by counting the terminal tags shown on the diagram. The resistances also help as an indication to which condensers they are attached.

The long wave padding condenser for the oscillator (T.C.S.) is mounted on the panel at the side of V1 and is adjusted from the side.

The wave-change switch is of the same type of construction as that of the model

296, and contacts can be cleaned by using a thin nail file.

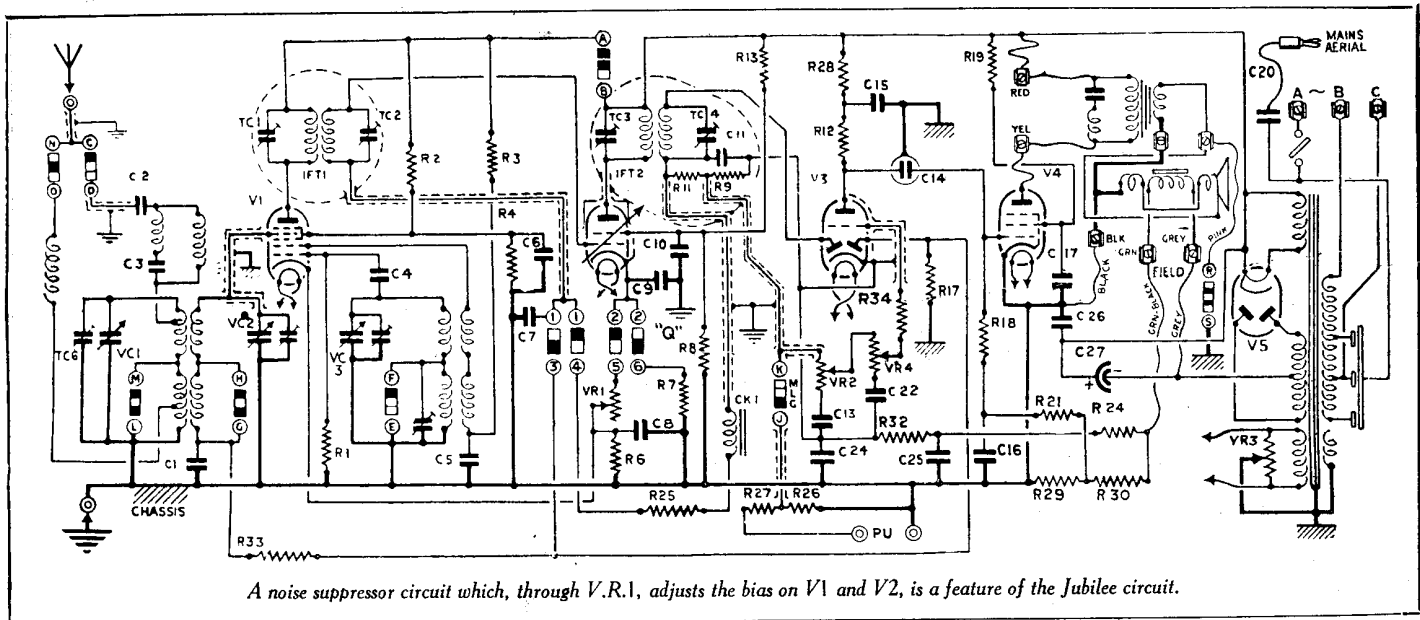
Condensers included in the block are: C1, C6, C8, C10, C14, C15, C17, C24, C25 and C26. In the diagram C22 is included to act as a point of reference.

Replacing Chassis.—Lay the chassis inside the cabinet, replace holding screws and knobs and clip the speaker cable.

CONDENSERS		
C.	Purpose.	Mfd.
1	Decoupling V1 grid *	1
2	Aerial coupling on M.W.	.0005
4	V1 osc. grid	.0001
5	V1 osc. anode-decoupling	.5
6	V1 aux. grid by-pass*	1
7	Decoupling V2 grid from A.V.C.	.035
8	Decoupling V1, V2 bias *	.5
9	V2 cathode by-pass	.25
10	V2 screen by-pass*	3
11	H.F. by-pass from diode	.0001
13	Low potential end of V.C.	.1
14	L.F. coupling V3 to V4*	.1
15	Decoupling V3 anode*	1
16	Decoupling V4 grid*	1
17	V4 aux. grid by-pass*	1
20	Mains aerial	.00035
22	Part of tone control circuit	.0005
24	Decoupling bias for A.V.C.*	1
25	Decoupling bias for A.V.C.*	2
26	H.T. smoothing*	.4
27	H.T. smoothing	8

* In condenser block. Part No. 19544D.

RESISTANCES		
R.	Purpose.	Ohms.
1	V1 osc. grid leak	50,000
2	Top part of V1 aux. grid. ptr.	23,000
3	Decoupling V1 osc. anode	50,000
4	Lower part of aux. grid ptr.	23,000
6	Fixed part of V1 cathode bias	500
7	Fixed part of V2 cathode bias	100
8	Lower part of V2 screen ptr.	23,000
9	Diode load	230,000
11	H.F. stopper from diode	50,000
12	V3 anode L.F. coupling	50,000
13	Top part of V2 screen ptr.	35,000
17	A.V.C. diode load	500,000
18	V4 grid leak	230,000
19	Voltage dropping to V4 aux. grid	10,000
21	Decoupling V4 grid	150,000
24	Part of V3 cathode (A.V.C.) resistance.	23,000
25	Decoupling A.V.C.	50,000
26	Across pick-up	35,000
27	Across pick-up (series with C26)	23,000
28	V3 anode decoupling	23,000
29	Part of bias ptr.	250
30	Part of bias ptr.	750
32	Part of V3 cathode (A.V.C.) resistance.	35,000
33	Decoupling A.V.C. to V1	500,000
34	H.F. stopper V3 grid	230,000



A noise suppressor circuit which, through V.R.1, adjusts the bias on V1 and V2, is a feature of the Jubilee circuit.

BURNDEPT "209" ETHODYNE FIVE

Circuit.—The first detector oscillator valve, FC4 met. (V1), is preceded by a band-pass aerial tuner. Bias on the pentode section is by cathode resistance and A.V.C. and on the oscillator by cathode resistance. Oscillator tuning is in the grid circuit.

Coupling to the next valve is by band-pass I.F. transformer (frequency 473 kc.). The I.F. valve, VP4A met. (V2), is also biased by A.V.C. and cathode resistance, and is followed by a second band-pass I.F. transformer.

Visual tuning is provided by a meter movement connected in the common H.T. lead to V1 and V2.

The second detector, a 2D4A met. (V3), is a straight double diode utilising one anode for L.F. purposes and the other for A.V.C.

Coupling to the output consists of the load

resistance R13, the coupling condenser C15 and the potentiometer grid leak of V4, which forms the volume control.

The output valve, Pen4VB, or 42MP/Pen

(V4), has a grid stabilising resistance and tone control is provided by a condenser in series with a variable resistance between the anode and chassis.

The speakers have their speech coils wired in parallel. One speaker is a permanent magnet type and the field of the other is used for smoothing.

Mains equipment consists of transformer, full-wave R2 rectifier and 6 mfd. electrolytic condensers.

Special Notes.—The pilot lamp is a 6.5 volt .3 amp type.

Quick Tests.—Between the following points on right-hand speaker transformer:—
Lower tag, H.T. smoothed, 240 v.
Upper tag, V5 anode, 230 v.

(Continued on page 35. For diagrams see page 34.)

VALVE READINGS				
No signal.				
Valve.	Type.	Electrode.	Volts.	M.a.
1	FC4 met (7)	anode	235	•
		aux. grid	85	
		osc. anode	83	
2	VP4A met	anode	235	•
		aux. grid	100	
3	2D4A	No voltages		
4	Pen 4VB (7) (or 42 MP Pen.)	anode	230	33
		aux. grid	240	

* Inclusion of leads for current readings may cause instability.