

Radio Manual Info Wireless Retailer & BROADCASTER SERVICE ENGINEER

ALBA 210 BATTERY THREE

CIRCUIT.—A three-valve battery receiver operating on the usual medium and long-wave bands.

Aerial signals are fed to V1, an H.F. pentode, through an iron-cored H.F. transformer. Three alternative aerial taps are provided, one direct to the top of the primary winding, one to a tap on the primary, and the third through a series condenser to the tapping.

An iron-cored H.F. transformer with reaction, which is fed back from the anode of V2 in the usual manner, couples the signal to V2, a triode.

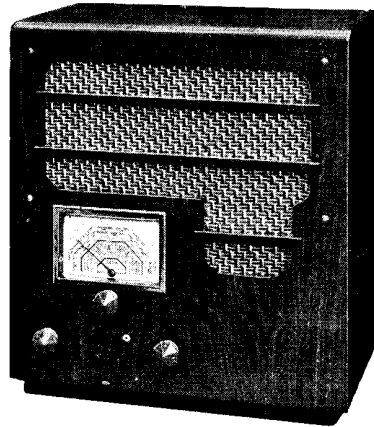
The long-wave sections of both transformers are shorted by switching in the orthodox manner.

Coupling to V3, the output pentode, is through a parallel-fed transformer, the amplified output of V3 being passed to the moving-coil speaker through a matching transformer.

A Drydex type S49 battery supplies both H.T. and grid bias, while low tension is obtained from a two-volt 20 amp. hour accumulator, an "Economic," supplied with the set.

The condenser C7, shown in the circuit in the H.F. coils, consists of twisted wire and is part of the coil assembly.

Removing Chassis.—Remove the three knobs from the front of the cabinet and the four bolts from underneath. After unsoldering the speaker leads, the chassis may be completely removed.



The Alba 210 by A. J. Balcombe is a straight battery three covering medium and long waves.

ALIGNMENT NOTES

All adjustments to this receiver are made on the medium wave band. A signal of about 250 metres should be injected at the aerial and earth terminals, the tuning pointer set at this index mark on the scale, and T1 and T2 adjusted for maximum reading on an output meter.

An alternative method is to tune in a known transmission and adjust T1 until the pointer agrees with the station name on the dial, and then adjust T2 for maximum output.

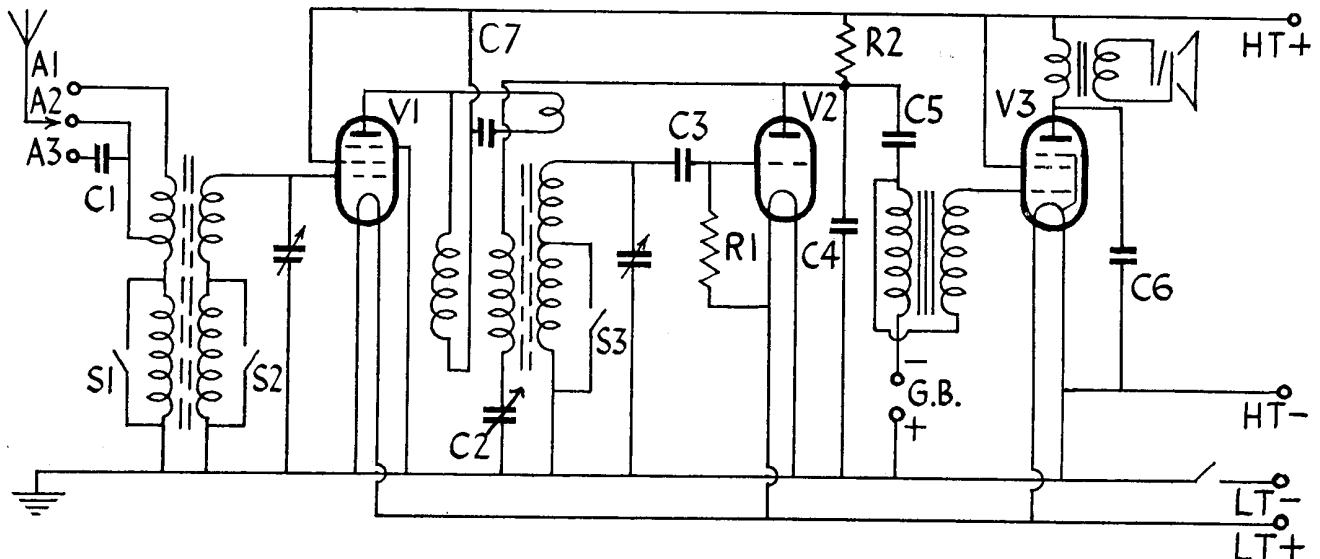
In either case the reaction control should be at minimum.

Diagrams of the chassis lay-out of the 210 are given on the next page; all other data are on this page.

The following table gives both condenser and resistance values.

VALVE READINGS				
No signal. No reaction. New batteries.				
V.	Type.	Electrode.	Volts.	Ma.
(All Mullard)				
1	SP2 met. (7)	Anode ..	107	1.7
		Screen ..	107	.65
2	PM1HL met.(4)	Anode ..	63	1.6
3	PM22A (5)	Anode ..	102	4.25
		Screen ..	107	1.1

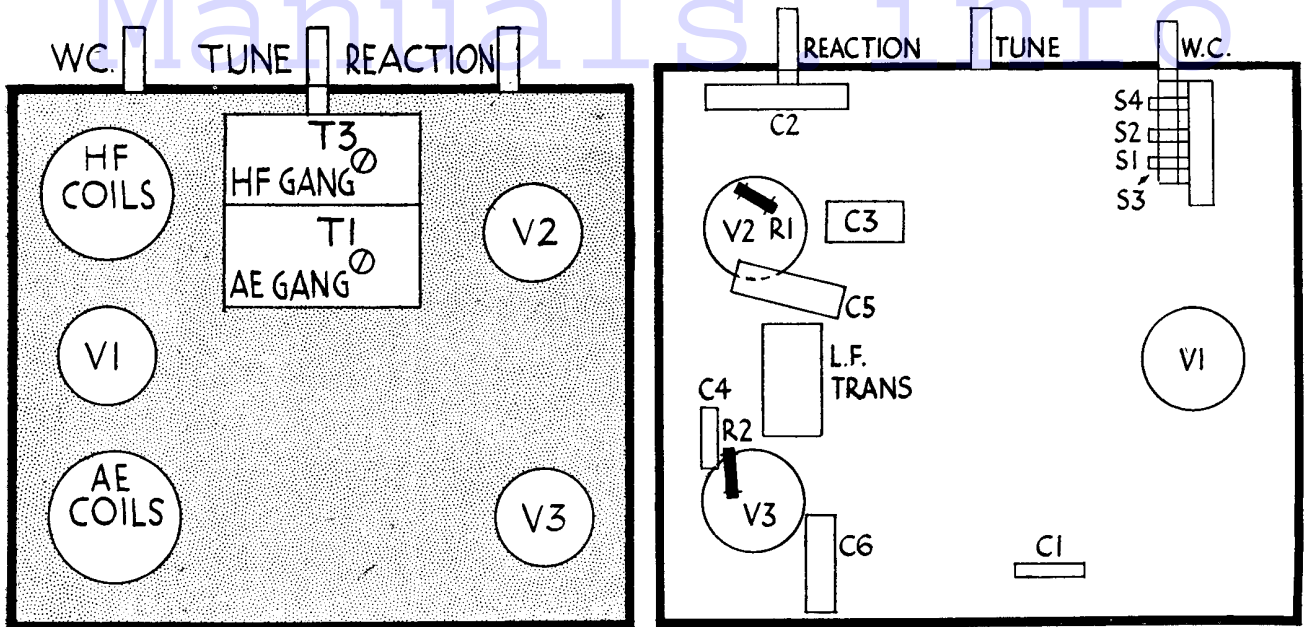
COMPONENTS		
C.	Purpose.	Mfds.
1	Series aerial00015
2	Reaction0003
3	V2 grid00015
4	H.F. filter00015
5	L.F. coupling1
6	Pentode compensating005
7	H.F. coupling	—
R.		Ohms.
1	V2 grid leak	2 meg.
2	V2 anode load	25,000



A straightforward circuit is used for the Alba 210. The condenser C7 consists of twisted wires; it is part of the coil assembly. Both condenser and resistance values are given in the table of components on this page.

For more information remember
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ALBA 210 BATTERY THREE—Chassis Layouts



McMICHAEL MODEL 363 BATTERY SUPERHET

CIRCUIT.—A five-valve battery superhet receiver having a frame aerial and operating on the usual medium and long wave bands.

The input to V1, an H.F. pentode, is through a tuned frame aerial. An external aerial tap is provided through a series condenser to the grid of V1, the frame aerial then acting as an ordinary tuned aerial coil.

Coupling to V2, the frequency changer, is through an inductively coupled H.F. transformer.

An I.F. transformer couples this valve to V3, which is an H.F. pentode, and a second I.F. transformer is used between this valve and V4, a double diode triode. One diode is used for demodulation, and the other to supply A.V.C. bias to the preceding valves in the usual manner. Volume is controlled by varying the input to the grid of V4.

The L.F. output of V4 is passed via a driver transformer to the quiescent push-pull output valve V5, which is tone controlled by R21 and C18.

The amplified output of V5 is fed to the permanent magnet speaker via a matching transformer.

H.T. is obtained from a Drydex type H1132, 120-volt battery, and low tension from an Exide type PLF5 2-volt 26 amp. hour accumulator.

Special Notes.—The dial lamp is rated at 2 volts .5 amp. Its holder is fixed to the frame aerial above the dial assembly by means of a large clip and is easily removed.

The external speaker is connected on the secondary of the output transformer,

and should have a speech coil impedance of about 2 ohms.

Removing Chassis.—Remove the four knobs from the front of the cabinet. Take out the batteries and the board separating the battery compartment from the speaker; this is secured by four wood screws, and the board from underneath the chassis, which simply pulls out.

Four wood screws must be removed from the back edge of the chassis, and then two bolts from underneath the cabinet passing through the frame aerial.

The chassis, frame aerial and speaker will then slide out of the cabinet.

ALIGNMENT NOTES

I.F. Circuits.—Connect a modulated oscillator tuned to 123.5 k.c. to the grid cap of V2, and an output meter across the external speaker terminals, leaving the internal speaker in circuit, and a .1 mfd. condenser across the oscillator section of the gang condenser.

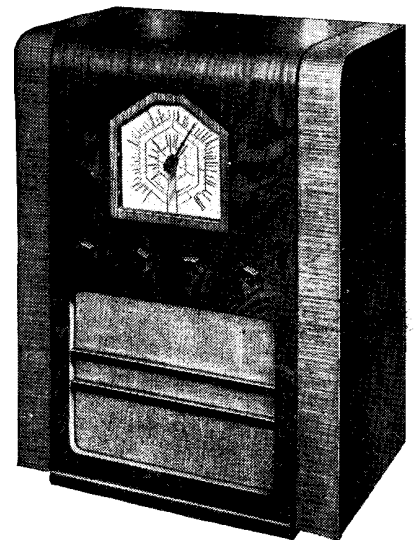
Inject a signal so that a maximum reading of about .5 volt is obtained on the output meter and adjust T1, T2, T3 and T4 for maximum deflection. Remove the swamp condenser

Medium Waves.—Connect the oscillator to the aerial and earth terminals, and inject and tune in a signal of 214 metres, adjusting T5 and T6 for maximum reading using, a signal of about .5 volt as before.

T7 should not be touched. Its correct position is at minimum.

Long Waves.—Tune the oscillator and the receiver to 1,000 metres, and adjust T3 for maximum reading on the output meter.

(Diagrams and tables, next page.)



The McMichael 363, a five-valve battery superhet. Circuit and chassis diagrams and component values are on the next page.

VALVE READINGS

No signal. Volume maximum. New batteries.				
V.	Type.	Electrode.	Volts.	Ma.
1	(All Mazda) VP210 met. (7)	Anode ..	100	.9
		Screen ..	40	.3
2	TP22 met. (9) ..	Anode ..	95	.8
		Screen ..	40	.85
		Osc.anode ..	40	.65
3	VP210 met. (7)	Anode ..	100	.9
		Screen ..	40	.3
4	HL21/DD met. (5)	Anode ..	70	.6
		Screen ..	40	.3
5	QP230 (7) ..	Anode (1)	115	2.7
		Screen ..	102	1.1
		Anode (2)	115	2.1