SERVICE ENGINEER

LISSEN MODEL 8311 BATTERY STRAIGHT THREE

CIRCUIT.—A three-valve battery receiver with manual reaction and working on the usual medium and long wave bands.

Signals from the aerial are fed to V1, an H.F. pentode, through an inductively coupled transformer. Alternative aerial taps are provided, one being through a series condenser and the other putting a choke coil in parallel with the condenser to form a Droitwich filter.

From V1, the signal is directly coupled through a condenser and tuning coil to V2, a triode detector. Reaction is coupled back from the anode in the usual manner.

Coupling to the output valve V3, which is a pentode, is through an L.F. transformer and to the speaker through a matching transformer.

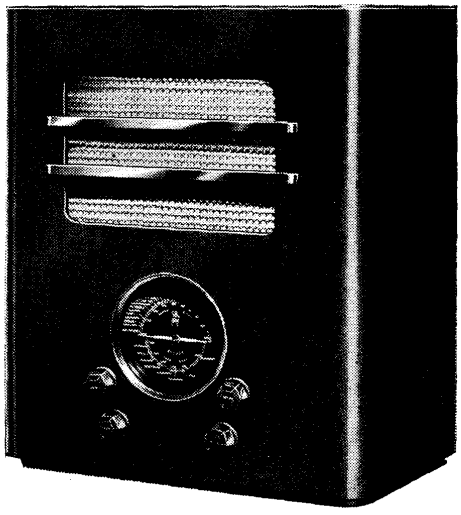
Tone is controlled by means of a shorting link which puts R7 in or out of circuit. Volume is controlled by varying the bias applied to the grid of V1.

H.T. and grid bias are obtained from a Lissen type LN3050 battery and L.T. from a Lissen 2-volt accumulator, type LN2018.

Special Note.—The internal speaker leads are connected through plugs and sockets so that an extension speaker may be used. This should have its own matching transformer with an impedance of 15,000 ohms.

Removing Chassis.—First remove four knobs from the front of the cabinet and unplug the speaker leads. Then remove two bolts from underneath the cabinet and the chassis can then be taken out.

(Alignment Notes on next page.)



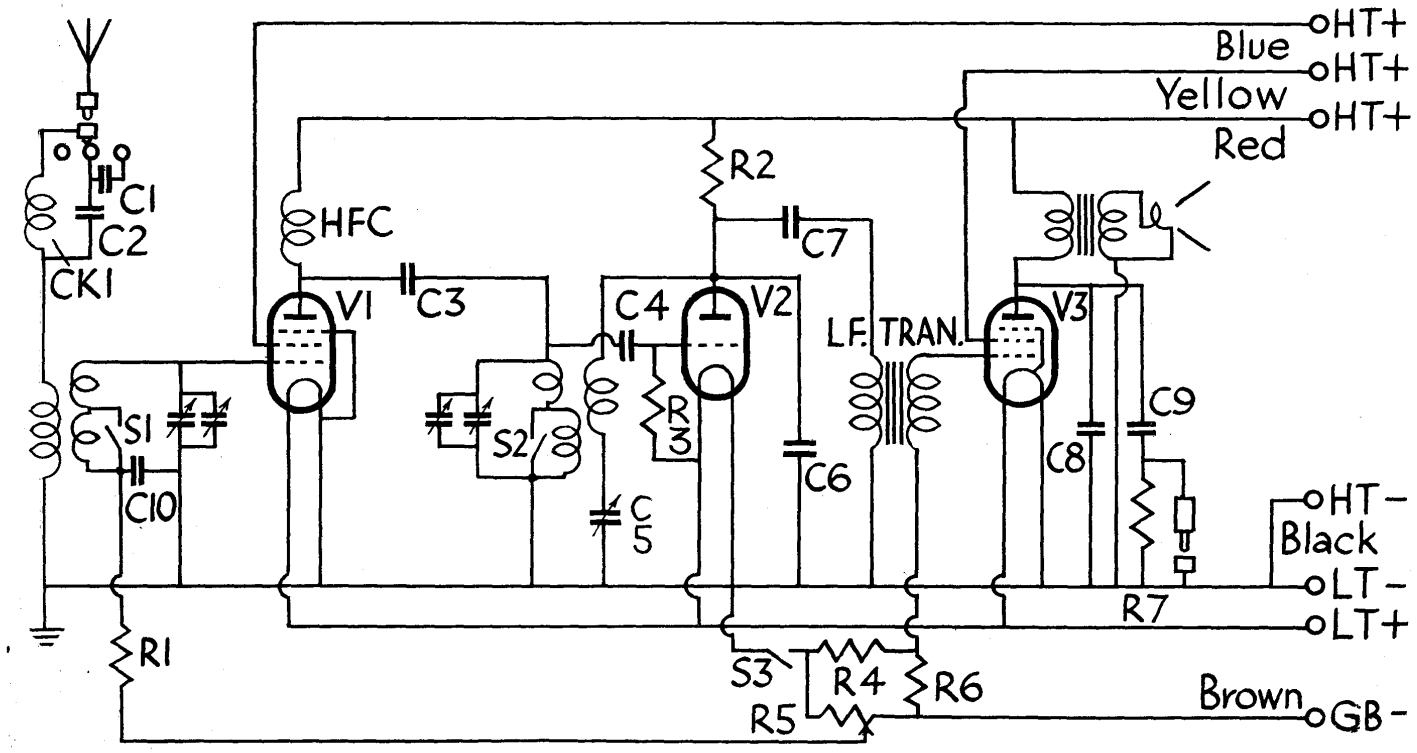
The Lissen Model 8311, a straight battery three working on the medium and long wavebands. A Droitwich filter is provided in one of the alternative aerial tappings.

RESISTANCES

R.	Purpose.	Ohms.
1	V1 grid bias feed	110,000
2	V2 anode load	3,000
3	V2 grid leak	2 meg.
4	V1 and V3 grid bias network	800
5	Volume control	—
6	V1 and V3 grid bias network	1,400
7	Tone control	3,000

CONDENSERS

C.	Purpose.	Mfds.
1	Series aerial	—
2	Series aerial	.0003
3	H.F. coupling	.00005
4	V2 grid	.00005
5	Reaction	—
6	H.F. by-pass	.0002
7	L.F. coupling	.1
8	Pentode compensating	.01
9	Tone control	.01
10	V1 bias decoupling	.1



Theoretical circuit diagram of the Lissen 8311. Note the tone-control arrangements; a shorting link cuts R7 in or out of circuit.

LISSEN 8311 BATTERY THREE

Alignment Notes; Chassis Diagrams

All adjustments on this receiver are made on the medium wave band. Accordingly, a signal of about 250 metres should be injected to the aerial and earth terminals, and T1 and T2, which are on the top of the gang condenser, adjusted to give maximum reading on an output meter connected across the external speaker terminals.

A signal of about .5 volt should be used and the adjustments checked at 500 metres.

VALVE READINGS

No signal. No reaction. New batteries.

V.	Type.	Electrode	Volts.	Ma.
	All Ever-Ready.			
1	K50M met (7) ..	Anode ..	120	.7
		Screen ..	65	.2
2	K30C met. (4) ..	Anode ..	52	.1
3	K70B (5)	Anode ..	114	2.6
		Screen ..	116	.5