

BURNDEPT 246 BATTERY SET

CIRCUIT.—This receiver is a three-valve, three-waveband model, the H.T. and L.T. supplies being derived from batteries.

On short waves the aerial is directly coupled to the grid of V1, an H.F. pentode. On medium and long waves coupling is through a band-pass filter.

A small pre-set condenser is incorporated in the aerial lead, a second aerial terminal being provided to by-pass it.

The output of V1 is passed, *via* a tuned H.F. transformer to the detector valve, V2, which is a triode. Reaction is applied in the orthodox manner.

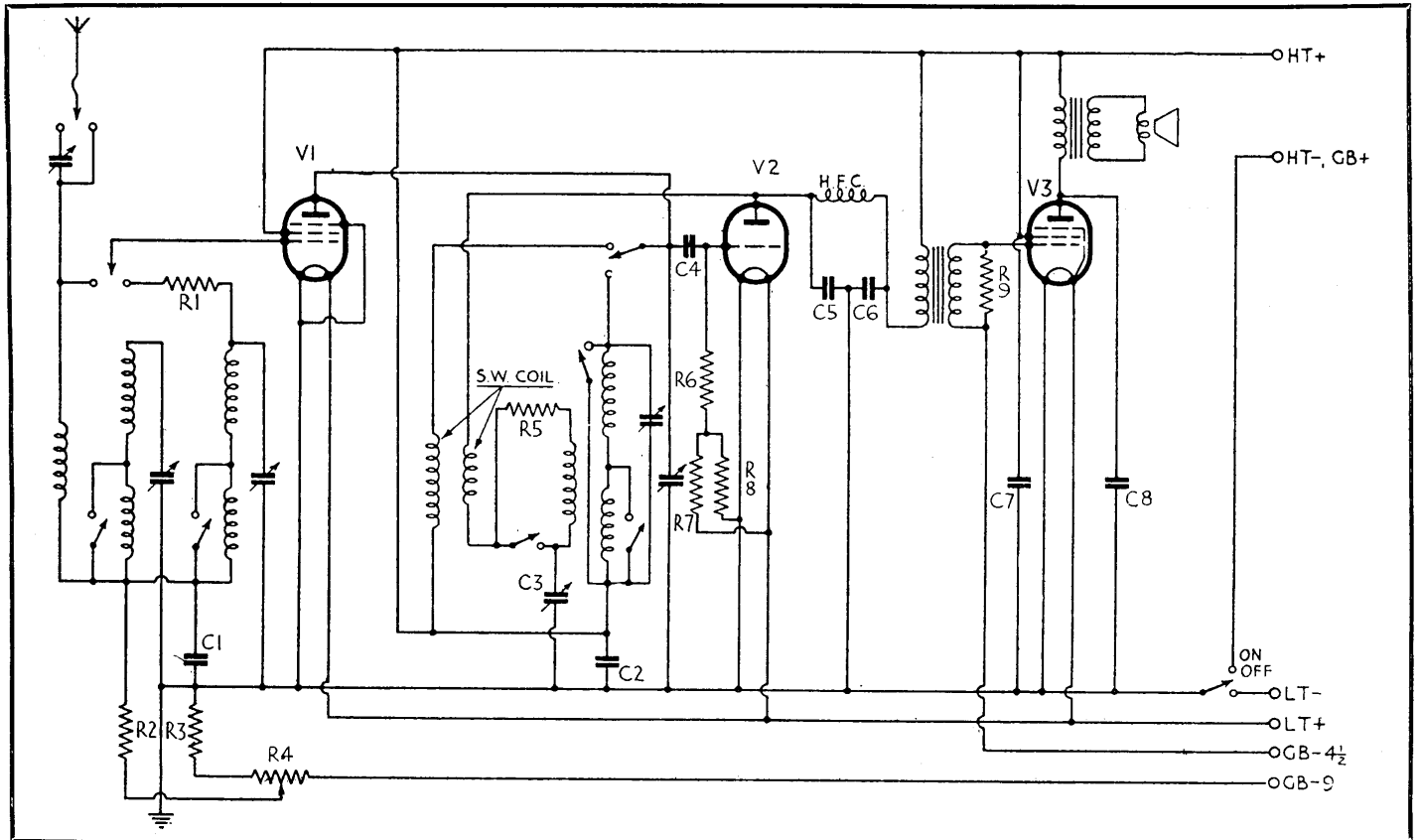
The L.F. output of V2 is fed through an L.F. transformer to the output pentode V3, and then to the speaker. Volume control is effected by varying the amount of bias applied to the grid of V1.

High tension and grid bias are obtained

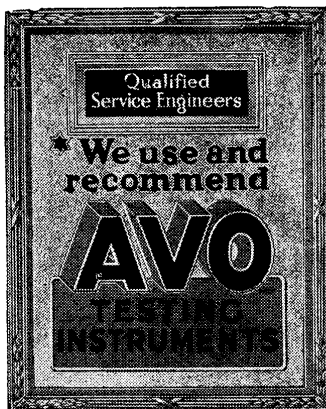
from a combined battery and L.T. from a 2-volt accumulator.

Exposing Chassis.—Practically all the work necessary on this receiver may be done without removing the chassis from the cabinet by taking off the false bottom, which is held by four wood screws.

To remove the chassis, take off the four knobs from the front of the cabinet (grub screws), remove the four chassis fixing bolts from underneath, free the battery,



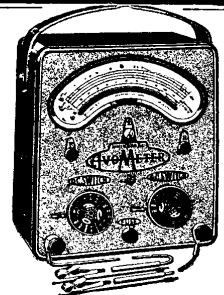
An H.F. pentode, a triode detector and an output pentode form the basis of the "straight" circuit used in the Burndept 246 battery set. On short waves only the inter-valve H.F. circuit is tuned.



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 Deferred Terms if desired.

BURNDEPT ALL-WAVE BATTERY THREE (Continued)

and speaker leads from the securing cleats and unsolder the speaker leads.

The transformer connections are: Red lead to terminal 1 (top); black lead to terminal 3.

Special Notes.—The aerial trimmer should be adjusted with the set tuned to a B.B.C. transmission and the small black knob turned until the best output is obtained; the aerial lead will, of course, be in the "Night aerial" socket.

ALIGNMENT NOTES

Calibration.—Turn the condenser vanes either fully in or fully out and check that the pointer is parallel with the line on the

bottom of the scale; if this is not so, adjust it by slackening the grub screws on the condenser shaft.

Ganging.—All adjustments are made on medium waves, and the reaction control should be advanced to a position just before oscillation takes place.

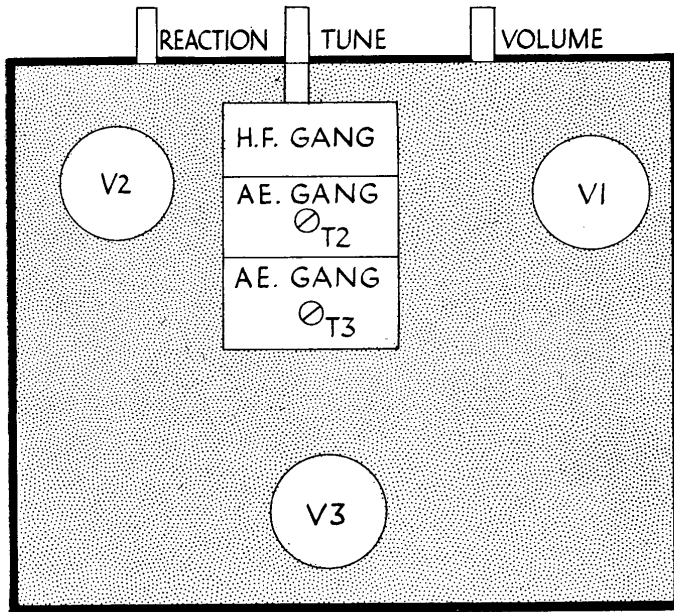
Inject a signal of 200 metres from a modulated oscillator to the aerial and earth terminals through a dummy aerial, connect an output meter to the speaker terminals, and then adjust the H.F. gang trimmer for maximum on the output meter.

Next trim T2 and T3 for maximum output, rocking the gang condenser while doing so.

RESISTANCES		
R.	Purpose.	Ohms.
1	V1 series grid ...	500
2	Band-pass coupling ...	1,000
3	V1 bias potentiometer ...	500
4	Volume control ...	1,500
5	Reaction stabiliser ...	200
6	V2 grid leak ...	1 meg.
7	V2 grid leak potentiometer ...	200
8	V2 grid leak potentiometer ...	200
9	L.F. transformer shunt25 meg.

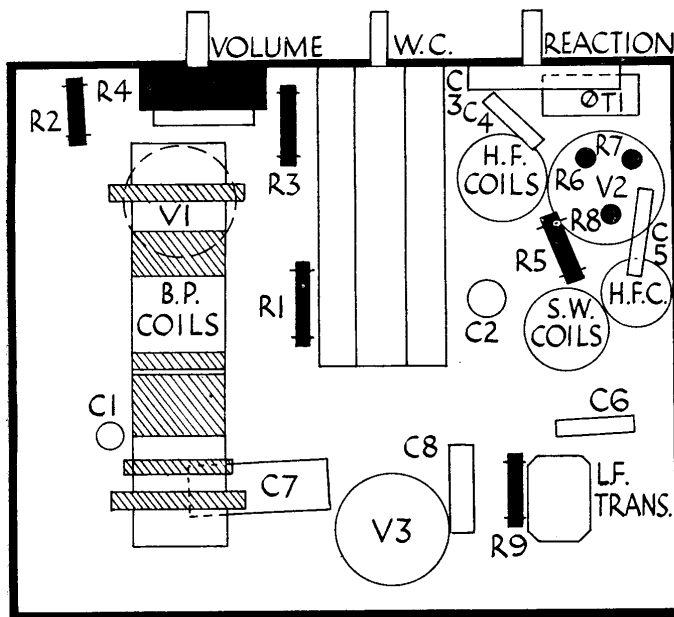
CONDENSERS		
C.	Purpose.	Mfd.
1	Band pass coupling02
2	H.T. shunt ...	25
3	Reaction condenser ...	
4	V2 grid0001
5	H.F. filter0001
6	H.F. filter0002
7	V3 screen decoupling8
8	Pentode compensating005

VALVE READINGS				
No signal. No reaction. Volume at maximum. New batteries.				
V.	Type.	Electrode.	Volts.	M.a.
1	All Mullard			
	VP2 Met. (7)	anode ...	112	1.9
		screen ...	112	.8
2	HL2 Met. (4)	anode ...	105	3.4
3	PT2 (5)	anode ...	107	2.6
		screen ...	110	1.



In appearance the 246 battery set is similar to the 245 A.C. - D.C. three reviewed in the "Broadcaster" service notes last week. An illustration of the cabinet used for both sets will be found on page 30.

This diagram shows the design of the "top deck" of the Burndept receiver. The drawing is "tinted" to distinguish the plan view from the under-chassis layout.



As this under-chassis diagram shows, the design of the receiver is simple. All the coils are "below deck."

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