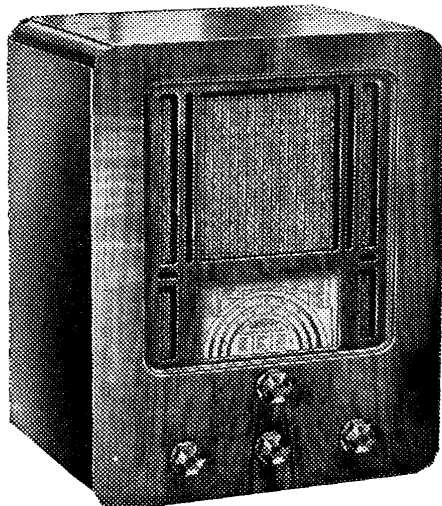


BURNDEPT MODEL 245 A.C.-D.C. ALL-WAVE THREE

CIRCUIT.—A three-valve receiver, operating on A.C. or D.C. mains, and covering three wavebands. The input to V1, an H.F. pentode, on short waves is through a small aerial isolating condenser and direct to the grid; on medium and long waves coupling is through a band-pass filter.

From V1 the signals pass through a tuned H.F. transformer to a pentode detector, reaction being employed in the orthodox manner. A small resistance is incorporated on medium and long waves to assist smoothness of control.

Coupling to the output pentode, V3, is through a resistance and capacity stage and to the loudspeaker through a match-



This Burndept receiver, model 245, is a "straight" three-valve receiver covering a short range as well as the medium and long bands. A rectifier and barretter are incorporated to provide for A.C. and D.C. supplies.

ing transformer. Volume is controlled by varying the bias to V1.

Two choke coils are connected in the mains input leads to damp out any interference which might reach the receiver from that source.

Mains equipment consists of a half-wave

rectifier, barretter, electrolytic condensers, and the speaker field.

Special Notes.—The dial lamps are rated at 6.2 volts .3 amps.; the holders are clipped on to the dial assembly and are easily removed. The electrolytic condenser block, consisting of C17 and C18, is mounted on the speaker baffle.

Exposing Chassis.—To get at the underside of the chassis there is no need to take it out of the cabinet; take off the false bottom of the cabinet by removing the four wood screws securing it.

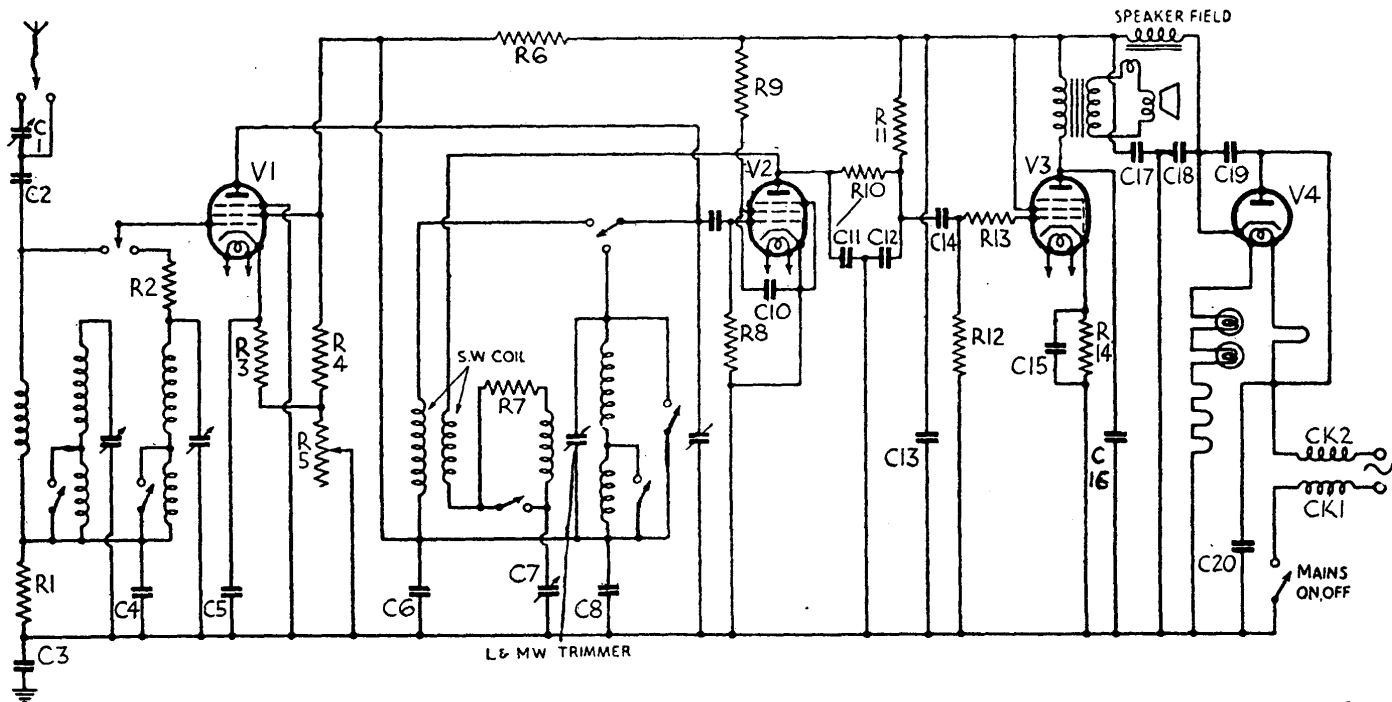
To remove the chassis completely, take off the knobs from the front (grub screws) and undo the four securing bolts from underneath, then unsolder the speaker leads. Reconnection is as follows: Top F, blank; 3, black; 2, green; 1, blue; F, red.

CONDENSERS

C.	Purpose.	Mfd.
1	Aerial trimmer	—
2	Aerial isolating ... ..	.0005
3	Chassis isolating ... ..	.02
4	Band pass coupling ... ..	.02
5	V1 cathode bias shunt ... ..	.1
6	V1 screen and anode decoupling ... ..	.25
7	Reaction	—
8	V1 screen and anode decoupling	8
9	V2 grid ... ..	.0001
10	V2 screen decoupling ... ..	.1
11	H.F. filter ... ..	.0001
12	H.F. filter ... ..	.0002
13	H.T. decoupling ... ..	.5
14	L.F. coupling ... ..	.01
15	V3 cathode bias shunt ... ..	.25
16	Pentode compensating ... ..	.005
17	H.T. smoothing	24
18	H.T. smoothing	16
19	Mains by-pass ... ..	.01

RESISTANCES

R.	Purpose.	Ohms.
1	Band pass condenser shunt	1,000
2	V1 series grid	500
3	V1 cathode bias	150
4	V1 screen decoupling pot. (part of)	50,000
5	Volume control	10,000
6	V1 anode and screen decoupling (part of)	5,000
7	Reaction modifier	200
8	V2 grid leak	1 meg.
9	V2 screen decoupling ... ..	.75 meg.
10	V2 filter	10,000
11	V2 anode load ... ..	.25 meg.
12	V3 grid leak ... ..	.25 meg.
13	V3 stopper ... ..	.1 meg.
14	V3 cathode bias	150



As this circuit shows, the general design of the model 245 is straightforward. On the short waves only the H.F. coupling is tuned, the aerial input being direct to the grid.

BURNDEPT 245 A.C.-D.C. THREE (Continued)

The chassis may then be completely removed, remembering that the speaker field and the electrolytic condensers forming the main part of the smoothing equipment are now disconnected.

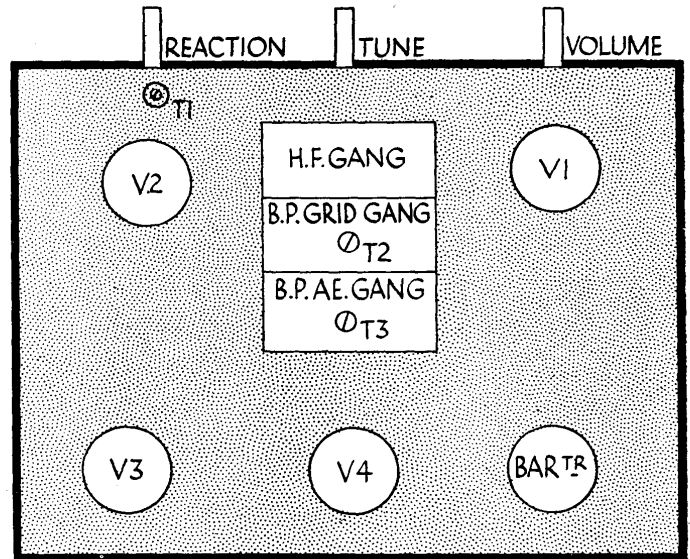
ALIGNMENT NOTES

Calibration.—Turn condenser to zero and check that the pointer coincides with the line on the bottom of the scale; if not, adjust by slackening the grub screws on the condenser shaft.

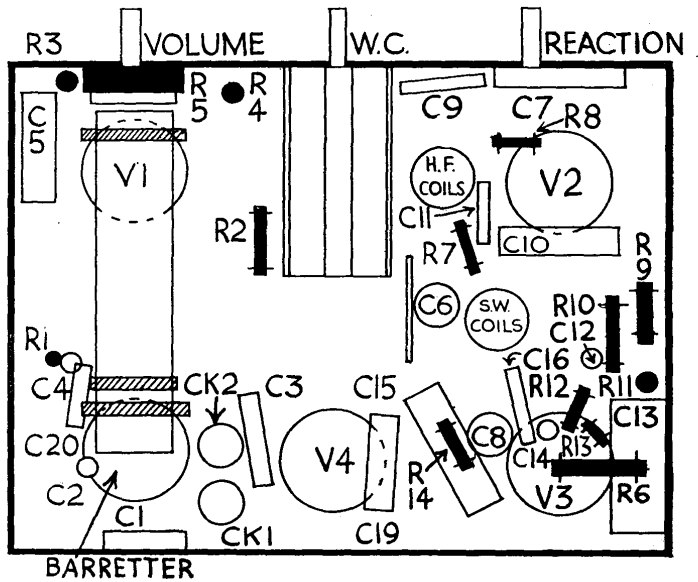
Ganging.—Adjustments are made on medium waves with the reaction control advanced to a position just before oscillation takes place.

Inject a signal of 200 metres from a modulated oscillator to the aerial and earth terminals via a dummy aerial and connect an output meter across the speaker terminals. Adjust T1 for maximum reading on output meter, and, while rocking the tuning condensers slowly, T2 and T3.

The construction of the Burndept 245 receiver is straightforward. There is no mains transformer, and the electrolytic condenser block is mounted near the speaker baffle.



Under the chassis most of the small components are suspended in the wiring. It will be seen that all the coils, including the short-wave, are mounted "below-deck."



QUICK TESTS

Quick tests are available on this receiver on the terminal strip on the back of the speaker. Volts measured between this and the chassis should be:—

- Black lead, 185 smoothed H.T.
- Green lead, 0 chassis link.
- Blue lead, 122 smoothed H.T.
- Red lead, 220, unsmoothed H.T.

VALVE READINGS

No signal. No reaction. Volume maximum. 200 v. A.C. mains.

V	Type.	Electrode.	Volts.	Ma.
1	Mazda VP1321	anode ...	112	5
	Met. (7)	screen ...	112	1.5
2	Mullard SP13C	anode ...	18	.2
	Met. (7)	screen ...	15	.1
3	Mullard Pen.	anode ...	143	38
	36C. (7)	screen ...	172	8.4
4	Brimar ID5 (5)	cathode...	220	—