BURNDEPT MODEL 210 UNIVERSAL (Cont.)

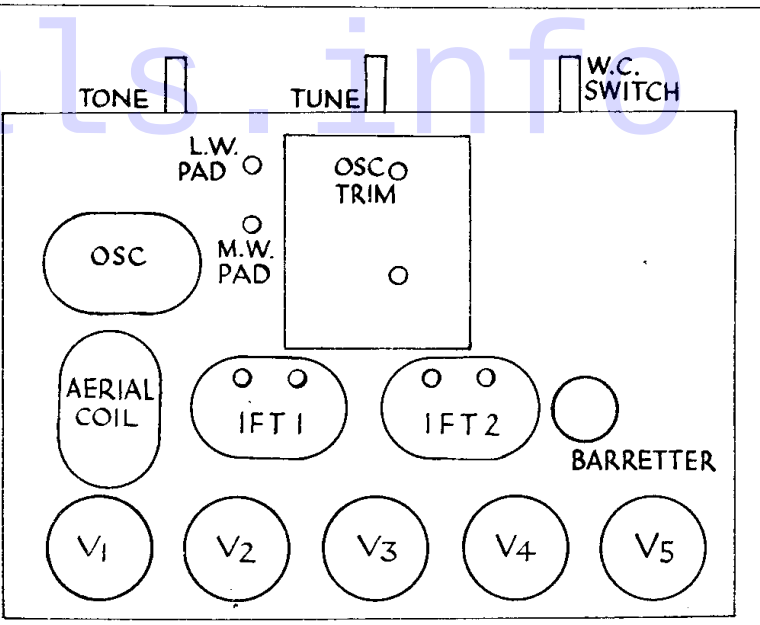
the speaker cable. Remove four holding screws underneath and lift the chassis out.

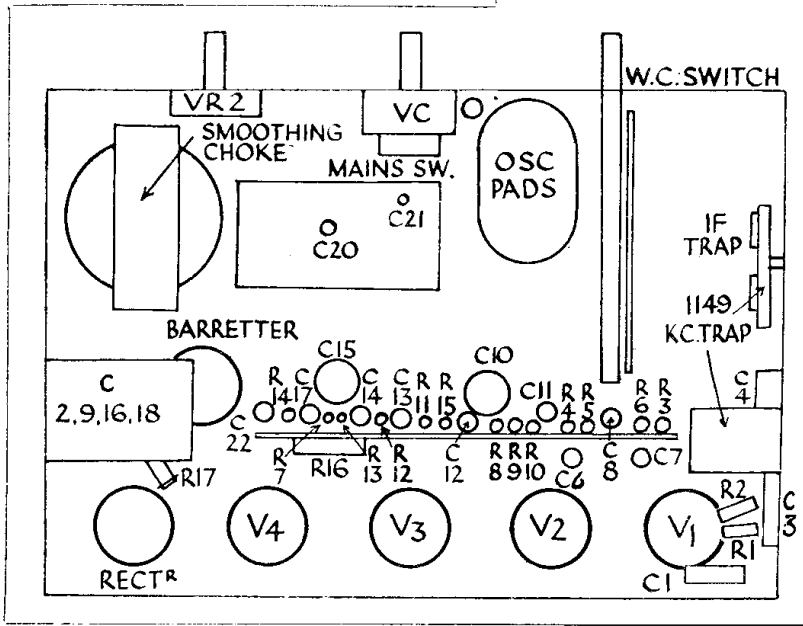
General Notes.—The I.F. frequency is 473 k.c. The correct method of trimming is as follows:—Connect modulated oscillator to top (grid) cap of V1 and gang IFT1 and IFT2. Connect oscillator to aerial socket on same frequency, and after increasing volume to maximum, reduce to minimum by adjusting the I.F. trap (see diagram).

Adjust on M.W. at 200 metres and at 500 metres. Adjust L.W. padding condenser on 2,000 metres.

Before attempting to replace any component on the resistance and condenser panel make sure with which tag the leads should make contact. Several of them appear to be connected to tags with which they are not actually making any contact. If in any doubt the resistance table and the circuit diagram should be consulted.

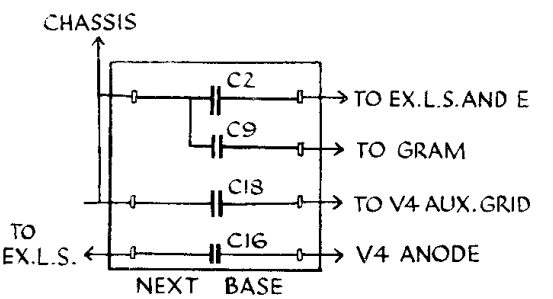
Replacing Chassis.—Lay chassis inside cabinet, replace holding screws, cable cleat and knobs.





Above is shown the arrangement of parts on top of the Burndept chassis including the padding trimmers. How the set should be trimmed is described under "General Notes."

Below on the left is the underneath layout of the chassis of the Burndept 210 A.C.-D.C. receiver. On the right is a detail drawing of the condenser block.



KOLSTER-BRANDES A.C. "NEW PUP"

Circuit.—The detector valve 41MH (V1) operates as a power grid detector, and follows a tuned secondary aerial transformer, alternative aerial tappings being provided by A1, A2 and A3 on the primary, and A4 on the secondary.

Reaction is applied by a differential condenser, of which the rotor vanes are at chassis potential. The anode circuit includes an H.F. filter, and is properly decoupled. Coupling to the next valve is by resistance capacity filter.

The output valve, a seven-pin AC2 Pen (V2), has a grid stabilising resistance, and is biased by a resistance in the cathode lead.

Mains equipment (on a separate chassis) consists of: Transformer with screened primary, full-wave R2 rectifier, and an L.S. field used for smoothing in the negative lead in conjunction with two 8 mfd. electrolytic condensers.

Quick Tests.—Voltages between the terminals on top of the L.S. transformer and chassis (looking from the back and counting from the left):—

(2) 210 volts positive (V2 anode);
(5) 230 volts positive (H.T. smoothed);
(6) 70 volts negative (voltage drop across field coil).

Removing Chassis.—Pull off the knobs, taking care not to drop the leaf springs inside. Remove two screws from flange at back of chassis and one on each side of the plate holding the chassis to the front of the cabinet. Remove three screws from the aerial panel and lift out the lower chassis.

The set can be tested quite conveniently without removing the power pack.

VALVE READINGS

Valve.	Type.	Electrode.	Volts.	M.a.
1	41MH ...	anode ...	100	3.5
2	AC2/Pen. ...	anode ...	210	28
	(7 pin) ...	aux. grid ...	230	6

Removing Power Pack.—Undo the cleat holding the connecting leads; remove the four bolts at the sides, and lift the unit out complete with speaker.

General Notes.—The lettering on the power pack lay-out diagram for the mains tappings is: W, white; Y, yellow; G, green.

The terminals on the small panel are (our lettering):—

(A) Black to C8 and black with red tracer to F.C.;
(B) Black, to mains; blue, to mains trans. primary;
(C) Red, to mains; white, to mains switch;
(D) Blue, to V2 anode and L.S. transformer;
(E) Red H.T. + to rect. heater, C7 and C8, and H.T. +;
(F) Grey, set heaters (black from transformer);

(Continued on next page.)

KOLSTER-BRANDES A.C. "NEW PUP"

(Continued from previous page.)

(G) Black, chassis (one side of heater winding).

The rectifier leads are: Two red flex, anodes; two systoflex-covered, heater.

Note that the container of C7 and C8 has one red lead and two black. The red goes to H.T. +, one black goes to chassis, and the other black to the field coil and H.T. – of power pack (i.e., to terminal A).

The condenser C5 is actually two 1 mfd. condensers in parallel.

Construction and lay-out are straightforward, and all the components are easily accessible.

Replacing Chassis.—Replace power pack first. Lay it so that the front rests in the slots and replace the bolts. See that the glass is in the escutcheon and that the dial is vertical.

Holding the leads clear of the set chassis, slide it into position and replace the two wood screws on the flange at the back.

Replace the two screws in the front, clip the leads, and fix the aerial terminal strip.

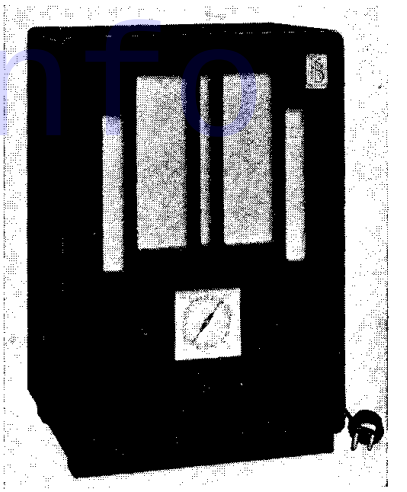
Press the knobs on to the spindles. If the springs have dropped out, replace them with the convex side towards the spindle grove.

RESISTANCES

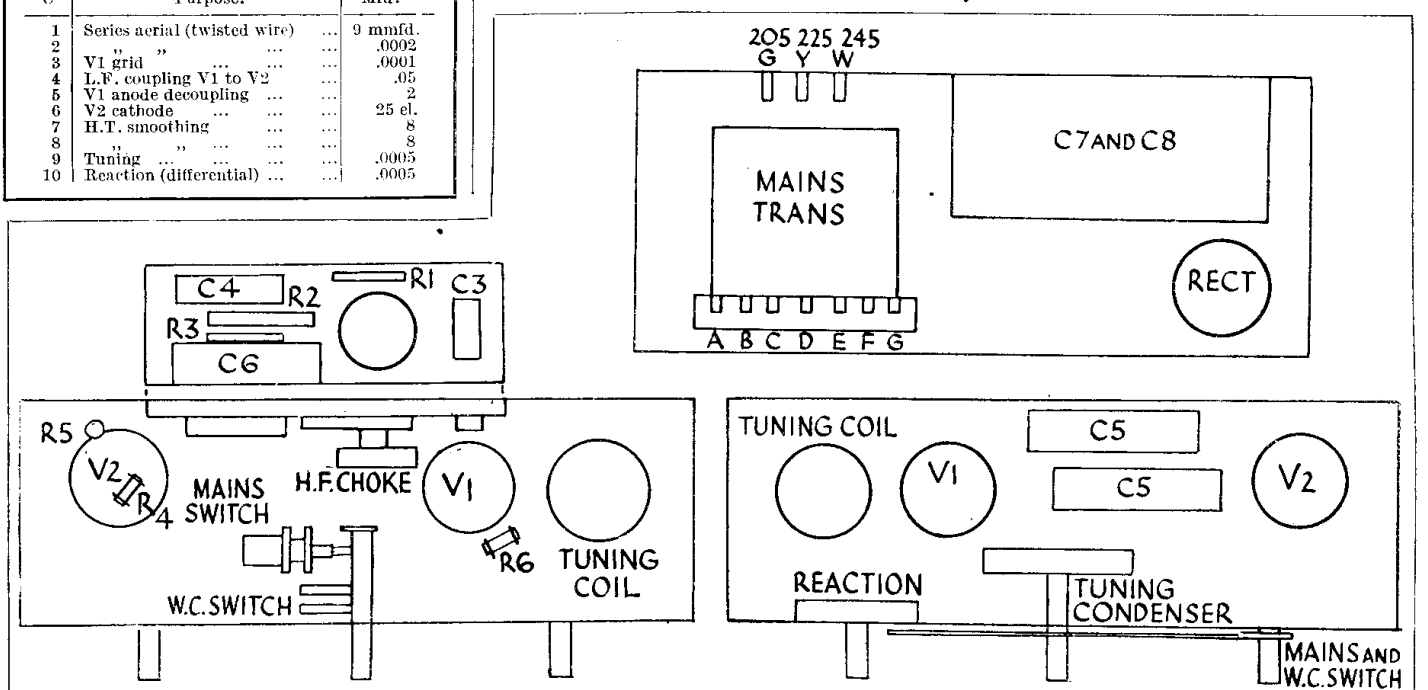
R	Purpose.	Ohms.
1	L.F. coupling V1 to V2	40,000
2	V1 anode decoupling	10,000
3	V2 cathode bias...	125
4	V2 grid stabiliser	250,000
5	V2 grid leak	500,000
6	V1 grid leak	500,000

CONDENSERS

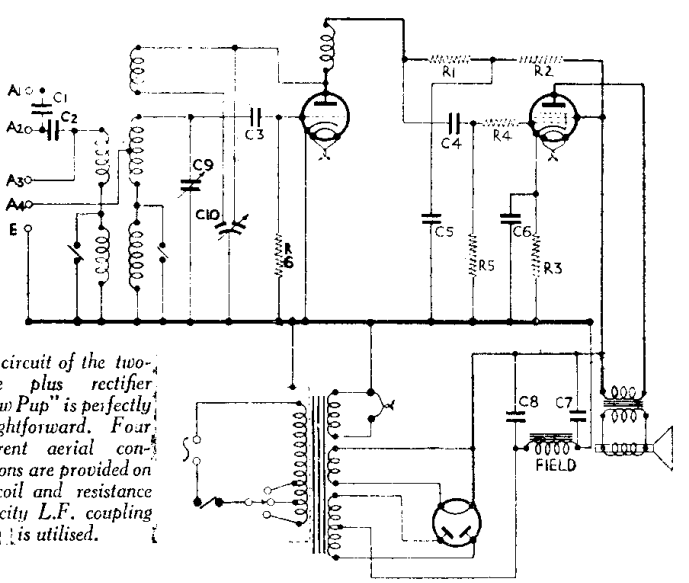
C	Purpose.	Mfd.
1	Series aerial (twisted wire) ...	9 mmfd.
2	" "	.0002
3	V1 grid	.0001
4	L.F. coupling V1 to V2 ...	.05
5	V1 anode decoupling	2
6	V2 cathode	25 el.
7	H.T. smoothing	8
8	" "	8
9	Tuning	.0005
10	Reaction (differential)	.0005



The A.C. model of the "New Pup" introduced by Kolster-Brandes Ltd.



Immediately above are the two chassis diagrams of the K.-B. "New Pup." Above the right-hand (or top "deck" plan) is the layout of the mains chassis.



The circuit of the two-valve plus rectifier "New Pup" is perfectly straightforward. Four different aerial connections are provided on the coil and resistance capacity L.F. coupling is utilised.

OCTOBER "SERVICE ENGINEER"

The October issue of SERVICE ENGINEER will contain reviews of the following receivers :—

Aerodyne—" Swallow."
Alba—Model 21 battery set.
Burgoyne—Five valve superhet.
C.A.C.—Battery " Austin."
Portadyne—P.A.6.
Marconiphone—289 radiogram.
McMichael—Duplex transportable.
Vidor—Battery Three.
Ultra—" 44 " A.C.-D.C. superhet.
Philco—Model 1260.

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