

# KOLSTER BRANDES MODEL 580 BATTERY SUPERHET

**CIRCUIT.**—A four-valve superhet operating on medium and long wave bands, deriving H.T. and L.T. from batteries.

Aerial input to V1, a frequency changer, is through a tuned aerial coil and an inductively coupled band pass filter.

Signals from V1 are passed through an I.F. transformer tuned to 130 kcs. to V2, an H.F. pentode, and then through a second I.F. transformer, having variable coupling between the windings, to V3, a double diode triode.

Only one diode of V3 is used, and this acts as a demodulator and supplies A.V.C. bias to the preceding valves.

The L.F. output of V3 is fed to the grid of V4, via the usual coupling condenser, and then, after amplification, to the moving coil loudspeaker via a matching transformer.

Current is obtained from a single combined battery, 130 + 4.5 volts G.B., and L.T. from a two-volt accumulator.

**Special Notes.**—The dial lamp is rated at 2.5 volts, and comes into operation only when the tone control (ganged with the selectivity control) is turned fully clockwise. Its holder is fixed to the dial assembly by means of a rubber bush.

it be more convenient to do so, reconnection is as follows: Blue, top tag; red, next tag; black lead to the frame.



The Kolster Brandes 580 is a four-valve battery receiver incorporating a superhet circuit featuring all modern refinements.

## ALIGNMENT NOTES

**I.F. Circuits.**—Connect a modulated oscillator to the grid of V1 through a small condenser and a resistance of about .5 meg to the chassis, and an output meter across the speaker terminals.

The selectivity control should be adjusted so that the dial lamp is alight.

Adjust the oscillator to 130 kcs. and trim T1, T2, T3 and T4 for maximum reading on the output meter.

**Medium Waves.**—Transfer the oscillator to the aerial and earth and inject and tune in a signal of 1,400 kcs. This is roughly 214 metres and a datum line will be found on the dial at this point that the pointer should coincide with.

Fully screw in T5 and T6 and fully unscrew T7. Then trim T7 for maximum reading on output meter; the first peak obtained from minimum capacity is the correct one.

Then adjust T5 and T6 for maximum output.

Tune the oscillator and receiver to 500

## RESISTANCES

R.	Purpose.	Ohms.
1	Series aerial ...	100,000
2	V1 A.V.C. decoupling ...	100,000
3	V1 screen decoupling ...	50,000
4	V1 osc. grid leak ...	50,000
5	Regeneration modifying ...	20,000
6	A.V.C. decoupling ...	500,000
7	Diode load ...	500,000
8	H.F. filter ...	100,000
9	Volume control ...	500,000
10	V1 anode load ...	50,000
11	V4 grid leak ...	500,000
12	V4 grid stopper ...	100,000

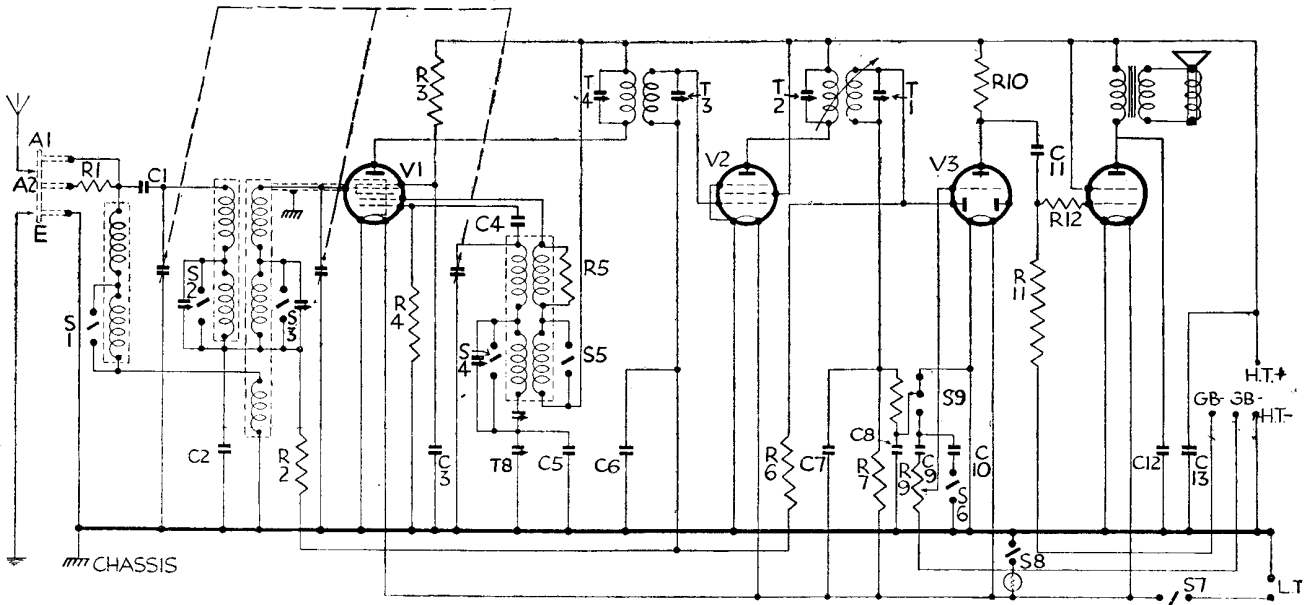
## CONDENSERS

C.	Purpose.	Mfd.
1	Aerial coupling ...	.00018
2	V1 A.V.C. decoupling ...	.01
3	V1 screen decoupling ...	.1
4	V1 osc. grid ...	.0001
5	Osc. padding ...	.001
6	V2 A.V.C. decoupling ...	.1
7	H.F. by-pass ...	.0002
8	H.F. by-pass ...	.0001
9	L.F. coupling ...	.02
10	Tone control ...	.001
11	L.F. coupling ...	.02
12	Pentode compensating ...	.0005
13	H.T. shunt ...	2

External speaker connections are the bottom two soldering tags on the speaker transformer. As these are on the secondary, the additional speaker should have a speech coil resistance of 2 ohms.

**Exposing Chassis.**—To get at the underside of the chassis, turn the cabinet on its side and remove the false bottom, which is secured by four screws.

To remove the chassis from the cabinet, first take off the knobs (grub screws) and six bolts from underneath the cabinet. Release the speaker and battery leads from the cleats. The chassis can then be removed far enough without disconnecting the speaker leads, though should



Band-pass input and variable coupling of the second I.F. transformer are used in the 580.

For more information remember  
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## KOLSTER BRANDES MODEL 580

metres and adjust T8 for maximum reading.

Return to 300 metres and check the adjustment of T5, T6 and T7.

**Long Waves.**—Tune the receiver and oscillator to 1,200 metres, and trim T9, T10 and T11 for maximum reading on the output meter.

Tune the oscillator and receiver to 1,620 metres, and adjust the padding condenser T12, for maximum reading.

Check the above adjustments at 1,200 metres and again at 1,620 metres.

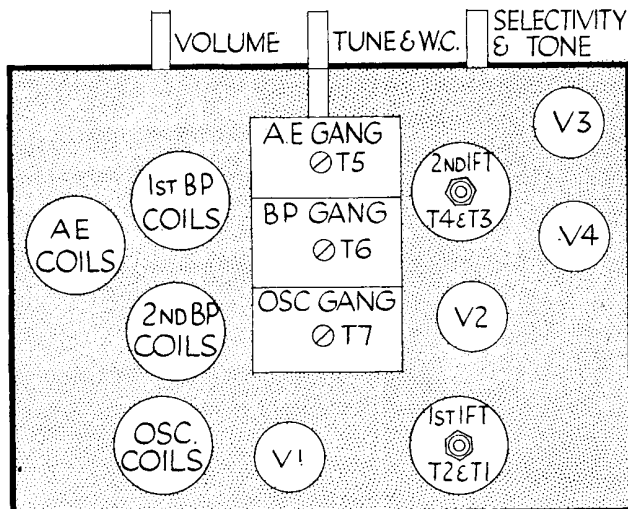
VALVE READINGS				
No signal. Selectivity maximum. New batteries.				
V.	Type.	Electrode.	Volts	M./a.
1	(All Mullard) FC2 Met. (7) ...	anode ...	130	.85
		screen ...	60	1
		osc. anode ...	130	.7
3	TDD2A Met. (5) ...	anode ...	80	.4
		anode ...	125	5.5
4	PM22A (5) ...	anode ...	130	.8
		screen ...	130	.8

(Continued from page 11.)

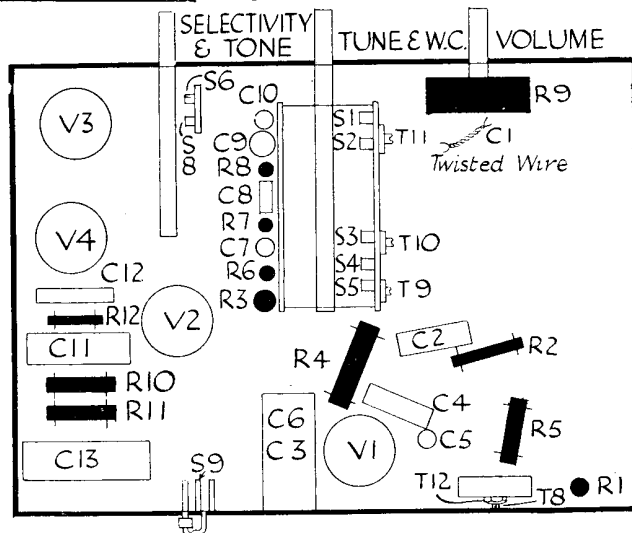
**Short Waves.**—(2) Tune the set to 34 metres and adjust T11, T6 and T2 for maximum output. Close the gang condenser and adjust pad T12. Then return to 34 metres and readjust T11, T6, T2 and T12 for maximum output.

(1) Tune the receiver to 15.5 metres and trim T9, T5 and T1. Fully mesh the gang condenser and adjust the padder T10. Then return to 15.5 metres and readjust T9, T5, T1 and T10 for maximum output.

Two peaks may be found when adjusting T9. Tune to lower capacity.



Chassis layout diagrams of the Kolster Brandes 580.



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