

# KOLSTER-BRANDES 880

Four valve, plus rectifier, three waveband table model receiver with edge-lit scale and automatic waveband indicator. Suitable for 100-150 and 200-250 volt, 40-100 cycle A.C. mains: Made by Kolster-Brandes, Ltd., Sidcup, Kent.

**Circuit.**—Two aerial input sockets are provided, No. 2 bringing R1 in series. R2 is a static discharge resistance across C1.

An aerial primary L1 is used on short waves. On M. and L.W. input to the grid circuits is by the "bottom capacity coupling" provided by C2, which is also the A.V.C. decoupling condenser. A.V.C. is not applied on S.W.

The oscillator circuits are very similar, in this case a padding capacity, C25,

providing a common element between anode and grid circuits.

V1, the frequency-changer, V2, the I.F. amplifier, and V3, the double-diode triode, are linked by I.F. transformers in which the capacities are fixed and adjustment is by means of iron-dust coil cores.

The A.V.C. diode of V3 is fed from the anode of V2 so that A.V.C. operates over a wider band than the demodulated signal. R11, C22 form an H.F. filter and R12, the signal diode load, feeds R20, the volume control, via C12.

A P.U. connection puts the P.U. across R20 and disconnects the radio input. L.F. is passed to V4 by R14 and C14. The pentode has fixed and variable tone controls in C18 and C19-R21.

H.T. arrangements are conventional with V5, the full-wave rectifier, and the speaker field, and electrolytics C17 and C20.

**Switching.**—On the wavebands the switch contacts are made as follows: S.W., 1 to 2, 3 to 4 and 5, 7 to 8, 9 to 10 and 11. M.W., 1 to 3, 4 to 5, 7 to 9, 10 to 11. L.W., 1 to 4, 7 to 10.

**Coil Colour Code.**—Colour spots identifying the coils are: White, aerial S.W.; red, M.W. V1 grid; green and yellow, L.W. V1 grid; yellow, S.W. oscillator; yellow, M.W. oscillator grid; light blue and red, L.W. oscillator grid; green, output transformer; red, field.

## GANGING

**I.F. Circuits.**—Tune to 580 m. Inject

464 kc. to V1 grid. Adjust I.F. cores for maximum, reducing input as circuits come into line to keep below A.V.C. delay.

**M.W. Band.**—Inject 600 kc. Tune to 500 m. and adjust L7 for maximum.

Tune to 214 m., inject 1,400 kc. and adjust T1 and T2. Return to 500 m., inject 600 kc., and adjust L7 while rocking gang slightly. Readjust T1 and T2 at 214 m.

**L.W. Band.**—Inject 175 kc. Tune to 1,714 m. and adjust L8.

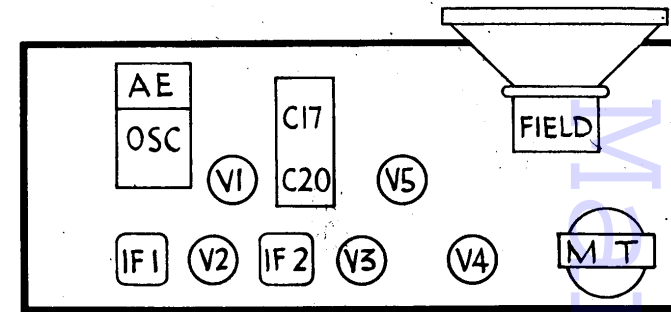
Tune to 957 m., inject 350 kc. and adjust T3 and T4. Readjust L8 at 1,714 m., injecting 175 kc. and rocking gang slightly. Readjust T3 and T4 at 857 m.

**S.W. Band.**—Tune to 20 m., inject 15 mc. and adjust T5 and T6. Padding is fixed.

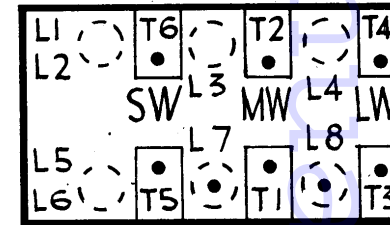
## VALVE READINGS

V	Type	Electrode	Volts
1	20D2	Anode	280
		Screen	69
		Osc. anode	58
2	9D2	Cathode	2.1
		Anode	280
		Screen	69
3	11D5	Cathode	2.5
		Anode	105
		Screen	1.6
4	7D5	Anode	280
		Screen	290
		Cathode	18
5	R2	Anodes	324 A.C.
		Heaters	370 D.C.

Valves are 12.5 v. types.  
Pilot lamp, 12-16 v., 3 amp.



As usual with Kolster-Brandes sets, the trimmers are compactly grouped on a coil sub-assembly. The circuit is straightforward, being specially interesting for the up-to-date and simple coil design.



## RESISTANCES

R	Ohms	R	Ohms
1	10,000	12	500,000
2	2,000	13	50,000
3	20,000	14	150,000
4	500,000	15	7,000
5	25,000	16	500,000
6	50,000	17	500,000
7	150	18	500,000
8	50,000	19	400
9	300	20	500,000
10	300	21	50,000
11	50,000	Field	1,200

## CONDENSERS

C	Mfds.	C	Mfds.
1	.005	15	2
2	.004	16	.25
3	150 mmfds.	17	.16
4	150 mmfds.	18	.001
5	50 mmfds.	19	.03
6	.1	20	.16
7	.1	21	.1
8	.02	22	.0005
9	150 mmfds.	23	.001
10	280 mmfds.	24	230 mmfds.
11	25 mmfds.	25	400 mmfds.
12	.005	26	25 mmfds.
13	.25		

## D.C. Set Modification

AN Ekco RG23 radiogram was brought in—D.C. supply—and although it was an early model, for various reasons it was not desirable to replace it. This model incorporated 4-volt battery valves in a series circuit. These are now almost impossible to replace.

We did, however, find a way out. We had a number of spare Ostar-Ganz valves designed to take full mains voltage across the heaters; two of these were for 110 volts.

These two were placed in series across the appropriate part of the mains circuit and their plate and grid connections made accordingly. A most satisfactory performance was obtained.—A. R. T.

