KOLSTER-BRANDES 610

Four-valve table model superhet covering three wavebands, for operation from accumulator and battery. PU sockets are fitted and provision is made for an extra speaker with means of switching off the parent-speaker. Marketed in 1937 by Kolster-Brandes, Ltd., Sidcup.

Circuit.—A switch and resistance R1 in the aerial circuit provide "local-distant" control of the signal which is fed to the receiver via a combined aerial coil and second channel suppression arrangement, L1, L2 and L7. The band-pass coils are L3, L4, L5 and L6 and coupling is capacitive by C2 and not inductive. On short waves a plain input transformer, L8, L9, is employed.

V1 is the frequency-changer. The oscillator circuit is tuned grid and there are separate anode reaction coils on each band. All SW coils are below the chassis deck.

IF coupling is by transformer (L10, L11) to the IF amplifier V2 (variable-mu HF pentode) which in turn is transformer-coupled to the double-diode triode V3. L18 and L19 of the second transformer have a mechanically variable coupling operated by the selectivity control.

When this control is turned clockwise, selectivity is increased and then "top" is cut by C11 being switched into circuit. Near the fully clockwise position, the pilot lamp is switched on. LT economy is thus effected by first tuning with the selectivity control fully turned and then coming back a little until the lamp goes out.

The diodes of V3 are strapped and the signal developed across the load R7 coupled to the volume control via an IF filter R8, C9, and the LF coupling condenser C12.

AVC to V1 and V2 is taken also from R7, but from the HF side of L19 through the AVC decoupling resistances R9 and R2.

V3 is resistance capacity coupled (R11, C13) to the output pentode V4, which feeds a 3 ohm speaker via an output transformer.

An external speaker of between 2 and 4 ohms at 1,000 cycles may be connected across the second and third tags counting from the bottom of the internal LS tag panel. By breaking the link between the two lowest tags and wiring a QMB switch across the tags, the parent speaker may be silenced when desired.

A PU may be plugged into sockets 1 and 3 on the PU panel after removing the wander plug from socket 3 and inserting it into socket 2. This cuts out radio. Any screening of the PU leads must be connected to socket 1.

GANGING

IF Circuits.—Switch to LW and turn selectivity control to maximum selectivity. Set gang to maximum capacity. Short oscillator section of gang (across T5).

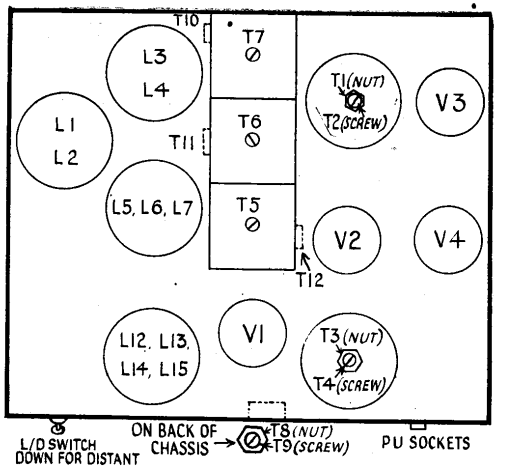
Inject 130 kc via a 0.1 mfd condenser to grid cap on V1.

Adjust T1, T2, T3 and T4 in that order for maximum response on output meter. T1 and T3 are adjusted by the nuts and T2 and T4 by the screws of the dual trimmer condensers.

Remove short on gang.

MW Band.—Inject 1,400 kc to A and E sockets. Switch to MW and tune to small mark on scale at 214m. Adjust T5, T6, T7 in that order for maximum output. T5 must be adjusted to give maximum output on the first "peak" reached when screwing down from fully unscrewed position (minimum capacity).

Valve and trimmer layout. T10, T11 and T12 are on the switch assembly and accessible by removing service hatch in cabinet base.

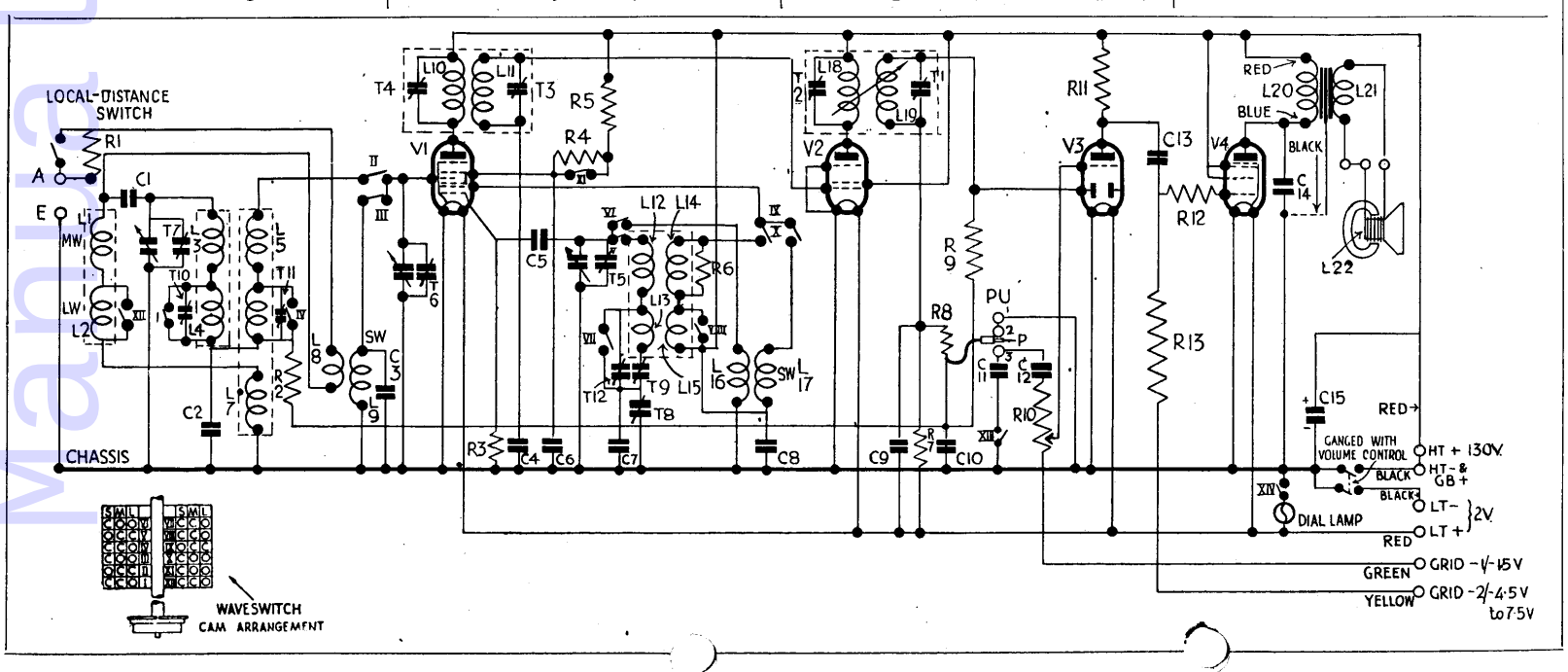


The circuit (below) of this battery set closely copies mains set practice. Three wavebands are provided.

CONDENSERS

C		Mfd	C		Mfd
*1	..	18 mmfds	9	..	.0002
2	..	.02	10	..	.0001
*3	..	6 mmfds	11	..	.002
4	..	.1	12	..	.02
5	..	.0001	13	..	.02
6	..	.1	14	..	.0025
7	..	.0005	15	..	2
8	..	.1			

*These condensers are twisted enamelled wire.



Inject and tune to 600 kc (500m).

Adjust T8 tracking condenser while rocking gang. Keep input low and repeat adjustments for best results.

LW Band.—Inject and tune to 175 kc after switching to LW. Adjust T9 for maximum output while rocking gang.

Inject 250 kc and tune receiver to exactly 1,200m. Then adjust T10, T11, T12 in that order for maximum output, keeping input low.

The more normal procedure is, of course, to trim first with T10, T11 and T12 and then pad T9, but the above adjustments are the manufacturer's recommendation for their bandpass circuits.

SW Band.—No separate adjustments are provided for the SW circuits.

RESISTANCES

R		Ohms	R		Ohms
1	..	100,000	8	..	100,000
2	..	100,000	9	..	500,000
3	..	20,000	10	..	500,000
4	..	50,000	11	..	50,000
5	..	50,000	12	..	500,000
6	..	5,000	13	..	500,000
7	..	500,000			

VALVE READINGS

Taken with A and E sockets shorted. 1,000 ohms per volt meter.

V	Type	Electrode	Volts	Ma
1	FC2A	Anode	130	1.7
		Screen	63 (70 on SW)	1.2
		Osc anode	130	1.5
2	VP2	Anode	130	1.9
		Screen	130	0.6
3	TDD2A	Anode	90	0.7
4	PM22A	Anode	125	5.2
		Screen	130	1.1

Pilot lamp 2.5 v.