## **KOLSTER-BRANDES** 850-0

Seven-valve, plus rectifier and tuning indicator. four-waveband superhet. Provision is made for the connection of a high resistance pickup and low impedance extra loudspeaker. Suitable for AC mains of 110-250v, 40-60 cycles. Manufactured by Kolster-Brandes Ltd., Cray Works, Sideup, Kent.

THE aerial input may be fed either through a small series condenser, C1, or direct to the primary coils of four aerial transformers covering the various wavebands. In the accompanying circuit diagram L1, L2 is the lowest SW band, and L7. L8 the MW band.

From these transformers the signal is fed direct to the grid of the variable-mu HF pentode V1, whose cathode resistance R4 is connected to the cathode resistance R8 of V2, and thence via R6 to chassis. R6 is in circuit only on MW.

An HF coupling choke and condenser C5 transfer the signals from V1 to the tuned grid coils L9-L12, and thence to the grid of the frequency changer V2. The oscillator section of this valve employs tuned grid circuits with feed-back coils fed from the oscillator anode via C13 and R10.

coupled by an iron-dust cored, inductively trimmed back is established by omitting the usual decoupling IF transformer L20, L21, to the grid of the variable- condenser. mu pentode V3 which is the IF amplifier, cathode biased by R13, decoupled by C17.

passes on the signal to the signal diode of the double- couples V7 and V8 to the low impedance energised diode-triode V5, the load resistance being R14. moving-coil loudspeaker in which L26 is the field HF and IF filtering is effected by C21, C22, and winding.

cut switch contacts to the volume control, which C31. feeds the signal direct to the triode portion of V5. This section of the valve is cathode biased by R19 decoupled by C25.

The automatic volume control diode of V5 is fed from the anode of V3 via C19, the AVC load resistance being R21, from whence the AVC voltages are applied to the controlled valves. The cathode-ray tuning indicator V4 is operated from the DC potential across the signal load resistance R14.

V5 is resistance capacity coupled by R16, C26 and R22 to the low frequency amplifier V6, which is resistance capacity coupled by R24 and C27 to the input choke L24 of the push-pull output valves V7, V8. These valves have a common cathode biasing

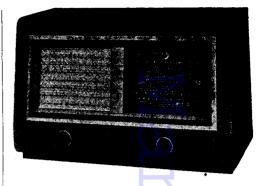
The intermediate frequency signals from V2 are resistance R27, and a certain degree of negative feed-

A high note tone control network comprising a variable resistance and C29 is connected across the A second IF transformer, similar to the first, primary of the push-pull output transformer which

The high tension supply is derived from a full-C23 couples the signal via the radio-gram bass wave rectifier V9 with smoothing by L26, C30 and

### RESISTANCES

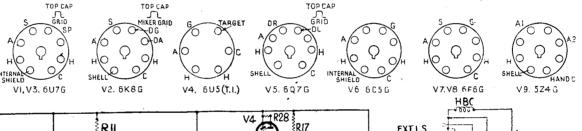
R			Ohms	R			Ohms
1	•••	·	.5 meg	16			2 meg.
2 3			20,000 25,000	17 18			50,000 150,000
3	• •	• •	25,000	19	• •	• •	1,000
4 5			.5 meg	20	• •		.5 meg
6			500	21			.5 meg
7			1,000	22			.25 meg
8			200	23	• •		3,000 50,000
9 10		• •	50,000 200	24 25		• •	50,000
11			30,000	26			50,000
i2			2,000	27			250
13			200	28			l_meg
14			.25 meg	VC		• •	.5 meg 100,000
15	• •	• • •	50,000	TC	• •	• •	100,000



#### GANGING

IF Circuits.—Adjust tone control and bass cut switch for minimum top and minimum bass and tune receiver to 550 metres. Inject a signal of 472 kcs via a .1 mfd condenser to the grid of V2, and adjust the cores of L23, L22, L21, and L20 in that order for maximum output.

MW Band.—Tune the receiver to the spot on the Continued overleaf



four wavebands. CONDENSERS 25 mmfd 25 mmfd 150 mmfd 150 mmfd 360 mmfd 430 mmfd 150 mmfd 25 mmfd 280 mmfd .0005

This set was pro-

duced mainly for

export. Left, the

valve base connec-

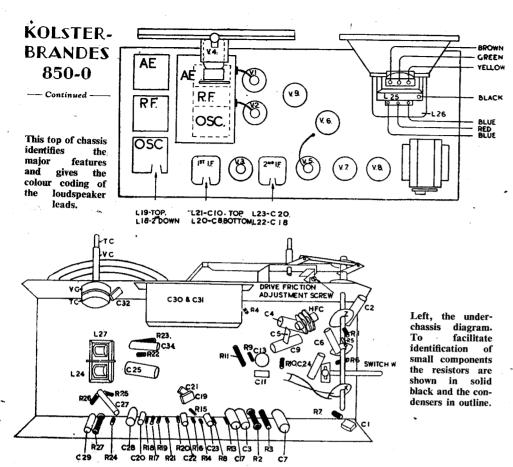
tions as seen with

chassis inverted.

The circuit covers

.0005





dial at 500 m and inject a 600 kc signal via a dummy aerial into A1 socket. Adjust the core of L19 (MW tracker) for maximum output.

Tune receiver to 1400 kc spot and inject a signal of this frequency. Adjust T12, T4 and T8 for maximum output. Repeat above, slightly rocking gang condenser whilst adjusting L19.

SW1 Band.—Switch receiver to 73-200 metre band and inject a signal of 1.75 mc via a 400-ohm resistance. Tune receiver to the spot at 1.75 mc and adjust core of L18 (SW tracker) for maximum output while rocking gang.

Tune receiver to spot at 3.5 mc, inject a signal of this frequency and adjust T11, T3 and T7 for maximum output.

SW2 Band.—Switch receiver to the 30-73 metre waveband, tune to spot at 9.5 mc and inject a signal of this frequency. Adjust T10 (smallest capacity peak) and rock gang while adjusting T2 and T6 for maximum output. Check calibration at 6 mc calibration spot with a 6 mc signal.

SW3 Band.—Switc er to 11-30 metre band. Tune to spot a 24 mc and inject a signal of this frequency.

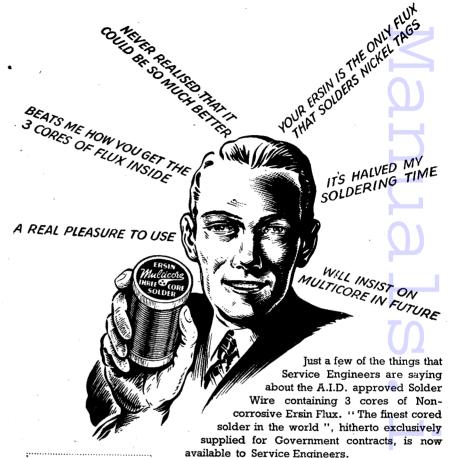
Adjust T9 (smallest capacity peak), T1 and T5 for maximum output. Check calibration at 10 mc spot with a 10 mc signal.

Rock gang while adjusting T1 and T5.

#### **VALVE READINGS**

On 253 v mains, no aerial, vol. control at minimum.

i								
ν	Type	Electrode					Volts	
1	6U7G			Anode			270	
l	Brimar			Screen			95	
				Cathode			6.75	
2	6K8G			Anode			270	
ĺ	Brimar			Osc anode			117	
ĺ				Screen		• • •	95	
				Cathode			6.3	
3	6U7G			Anode	• •		270	
}	Brimar			Screen	• •		95	
1				Cathode	• •	• •	2.25	
4	6U5 Brimar tuning indicator							
5	607G			Anode			95	
	Brimar		• • •	Cathode	• •	• •	1.75	
6	6C5G		• •	Anode	• •	• •	100	
-	Brimar	• •	• •	Cathode			5	
7, 8	6F6G			Anode	• •	• •		
., .	Brimar	• • •		Screen	• •	• •	262	
l	2.111141			Cathode	• •	• •	270	
9	5Z4G			Cathode	• •	• •	19	
1	Brimar	• •	• •	Cathode	• •	• •	357	



Nett Trade Prices Nominal 1 lb. reels 13 S.W.G. - 3/3

16 S.W.G. - 3/6
Obtainable from stock

Obtainable from stock from leading factors

If you are not already enjoying its advantages remember that if you do not find it the best you have ever used we will refund your purchase price in full. Order supplies from your factor to-day and ensure that you get reels labelled Ersin Multicore THREE CORE SOLDER.

# ERSIN MULHICORE

THE SOLDER WIRE WITH 3 CORES OF NON-CORROSIVE ERSIN FLUX

MULTICORE SOLDERS LTD., COMMONWEALTH HOUSE, NEW OXFORD ST., LONDON, W.C.I. Tel: CHAncery 5171/2

vi-RADIO MARKETING SERVICE ENGINEER