EKCO PBUI79

Three-valve, plus rectifier and tuning indicator, three-waveband superhet with manual tuning and six push-button circuits. A variable tone control is provided and sockets for a low in-pedance loudspeaker with a switch for silencing the internal speaker. Suitable for operation from DC or AC mains, 200-250 v, 40-100 cycles. Marketed by E. K. Cole, Ltd., Southend-on-Sea, Essex.

A ERIAL input may be fed via one of two sockets for long or short aerials. On MW and LW signals pass to the primary, L3, which is coupled to the first section of the bandpass filter unit.

L6 is the MW winding and L4 and L5 the LW

inductance. These are tuned by VCI section of the ganged condenser. An IF filter circuit comprising L1 and C3 are in series in the aerial and earth circuit.

The secondaries of the bandpass unit L8 (MW) and L7 (LW) are tuned by VC2 section of the ganged condenser and signals pass direct to the

grid of the frequency changer VI.

On SW signals are fed via the coupling coil L10 to the tuning grid coil L9.

V1 is cathode biased by R3, decoupled by C10, and the oscillator section employs tuned grid circuits L15 (SW) L17 (MW) and L19 (LW). Feedback from the oscillator anode is obtained via R6 to the windings L16, L18, L20.

R

On pre	ect to the first ORS Ohms	ation t	he gr	rid of 5, L5,	V1 is L4) of Ohms	3 4 5 6 7 8	::	::	40 mmfd .1 .0002 .0018 .06	24 25 26 27 28 29	 	.1 15 cm 140 mmfd .05 140 mmfd .0001
	.1 to .25 meg 100,000 200 300 11,500 1,500 300 50,000 5 meg 750,000 1 meg 2 meg	14 15 16 17 18 19 20 21 22 23 25 VRI VR2			1 meg 500,000 500,000 120 200 1,000 120 50,000 10,000 5,000 850,000 20,000	10 11 12 13 14 15 16 17 18 19 20 21			2 .1 .04 .25 mmfd 680 mmfd .0075 .01 .280 mmfd 2 140 mmfd 140 mmfd 140 mmfd	30 31 32 33 34 35 36 37 38 39 40 41	 	.004 40 mmfd .01 25 .1 8 .0025 .05 .1 24 8

CONDENSERS

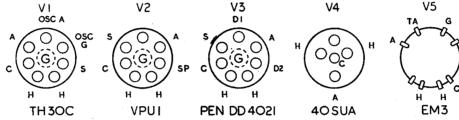
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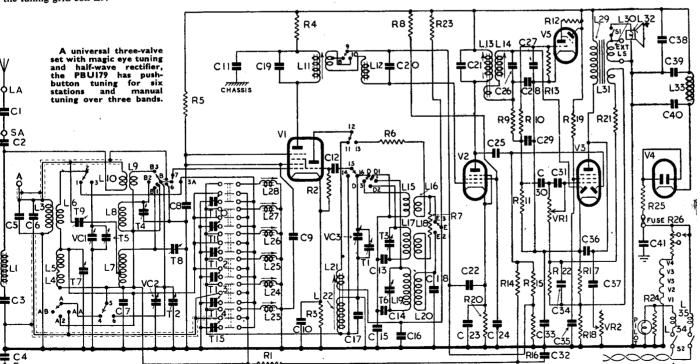
Mfd

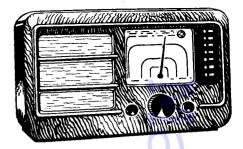
22 23

.001

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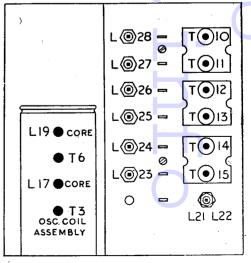


the bandpass unit, VC1 being disconnected. Across the coils special stabilised pre-set condensers are

shunted according to the particular button in use.

The normal oscillator coil assembly is switched out of circuit and the oscillator grid condenser, C12, is connected to two oscillator master coils, L21, L22, which are precision set and locked, and should not be adjusted for any reason whatsoever. Across these master coils may be switched one of six iron dust cored inductances which may be adjusted for the required station in conjunction Continued overleaf.

WINDINGS							
\boldsymbol{L}		Ohms	L	$(\)$		Ohms	
1 3 4 5 6 7 8		13 8 5.3 20 2.5 22 25 very low	19 20 21 22 23 24 25 26	H		3 1.5 1.5 8 5.2 4.2 3.5	
10 11	• •	very low	27 28 29	70	•••	1.7	
12 13 14 15	••	4.2 and 4.4 3.8 4 very low	30 31 32		::	240 .5 25 3	
16 17 18	::	2.5 1	33 34 35		::	410 2.5 2.5	



EKCO PBUI79-Continued

with the trimmer condensers across the aerial circuit.

When switched to press-button tuning the IF acceptance band is broadened by additional coupling turns switched in on the first IF transformer. All the above switching is carried out simultaneously and it is unnecessary to move the wavechange switch to receive either MW or LW selected stations. Depressing the "manual" button disconnects the press-button circuits and tuning may be effected in the normal way.

From the anode of VI signals are transferred by the IF transformer LI1, LI2, to the grid of the amplifier pentode V2 which is cathode biased by R20 decoupled by C23. A second IF transformer, with adjustable dust cores, passes on the signal to the signal diode of the double-diode pentode output valve V3.

The signal load resistance is R11 with IF filtering by R9 and C29; LF signals are coupled by C30 to the volume control VR1 and thence to the grid of the pentode section of V3.

Feedback is applied to the grid circuit of V3 by a tertiary winding on the output transformer which feeds the signal via R21 and R22 in series with VR1. The tertiary winding L31 is regeneratively connected and it is important therefore that the six leads connecting the output transformer are replaced in exactly the original manner should they be disconnected at any time.

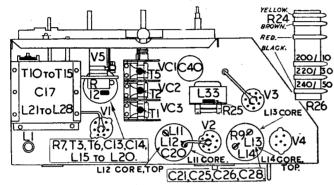
The grid of the tuning indicator V5 is fed with rectified DC from the signal load resistance R11 via a grid stopper R10. The AVC diode of V3 is

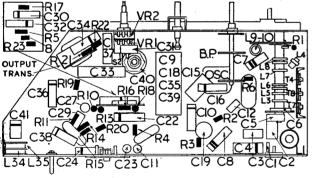
Continued on page viii

VALVE READINGS

ν	Type	Electrode	Volts	Ma.
1	TH30C	Anode	165	2.35
	Mullard	Osc Anode	140	5.8
		Screen	95	6.5
		Cathode	3	_
2	VPUI	Anode	170	9.6
	Ekço	Screen	167	4
		Cathode	1.6	
3	PEN DD4021	Anode	155	53
	Mazda	Screen	160	9
	•	Cathode	20	
4	40SUA Cossor	Cathode	215	94
5	EM3 Mullard	Tuning Indicator	. —	_

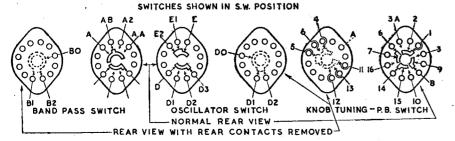
Pilot Lamp 6.2 volt .3 amp. Fuse 500 mA. Voltage readings taken with a 1,000 o.p.v.





To speed the identification of small parts, resistors are represented in these drawings in solid black, while condensers are in outline.

Below, details of the rotary switch banks. Contacts are identified by numbers and letters also found on the circuit diagram.



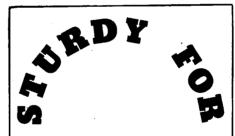
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1 mfd. Tubular Paper Condenser, 500 volt, wire-ends1/9	9
2 mfd. ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,	9
8 mfd. Electrolytic Cardboard Carton, 500 volt 3/	3
8—8 mfd. ,, ,, ,, ,, ,, ,, 4/	9
Iron Connectors with 6 feet of 2-way lead 2/	1
,, ,, ,, ,, 3-way ,, 2/0	6
Electric Irons, Plated Base and Vitreous Enamel, full size 26/	3
Reflector Type Bar Fire, 1,000 watts, 230/250 volt 34/	- -
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colour Bakelite Cabinet. Very well finished 39/	8
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y'know."

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