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COSSOR 374

Four valve, plus rectifier, two waveband superhet receiver suitable for 200-250 volt, 50-100 cycles AC mains. Marketed by A. C. Cossor, Ltd., Highbury Grove, London, N5.

SIGNALS from the aerial are fed through the series condenser C1 to the aerial coupling coil L1, inductively and capacity coupled to L2 (MW), and L3 (LW) of a bandpass unit. The grid coils L4 (MW), L5 (LW), transfer the signal direct to the grid of the frequency changer V1. L6 is the image suppressor coil, and the unit is tuned by VC1 and VC2 sections of the ganged condenser.

The grid circuit is returned to the AVC line for biasing. C3, C11, R1 and R8 are the AVC decoupling components.

The oscillator section of V1 uses a tuned grid circuit with R2 and C6 as the grid condenser and leak, while L7 (MW) and L8 (LW) are the oscillator

grid coils, tuned by VC3 section of the gang. C7 is the LW fixed padder, and C8 the MW padder.

The oscillator anode reaction coils L9 (MW) and L10 (LW) are fed from the high-tension line through R4, and the screen through R3, decoupled by C5. An HF filter circuit consisting of the HF choke L15, and C4, connected across R3 to earth, is incorporated in this feed.

The intermediate frequency signal is passed via the IF transformer L11, L12, to the grid of the IF pentode amplifier V2, which receives its bias from the AVC line through R8 and R9. The screen derives its potential through R6 and is decoupled by C10. R7 widens the frequency response of this first IF transformer.

A second IF transformer L13, L14 feeds the signal diode of the double diode second detector and AVC rectifier V3. The secondary circuit of the trans-

RESISTORS

R	Ohms	R	Ohms
1	.5	10	.1 meg
2	50,000.0	11	40,000.0
3	50,000.0	12	50,000.0
4	50,000.0	13	25,000.0
5	10,000.0	14	25,000.0
6	.1 meg	15	130.0
7	.5 meg	16	25.0
8	2.0 meg	17	15,000.0
9	2.0 meg	VR1	.25±.25 meg

VALVE READINGS

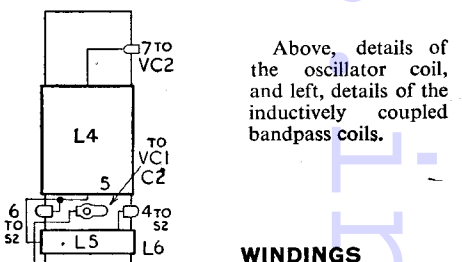
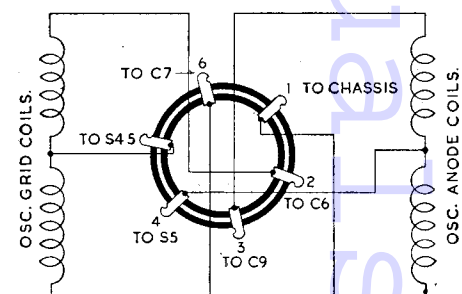
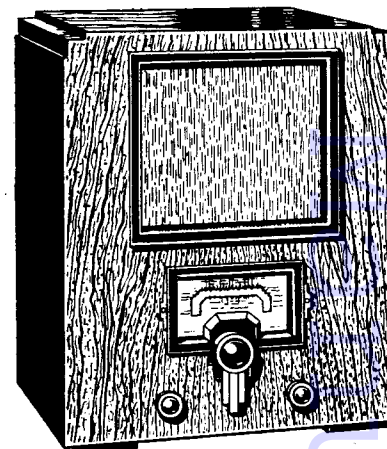
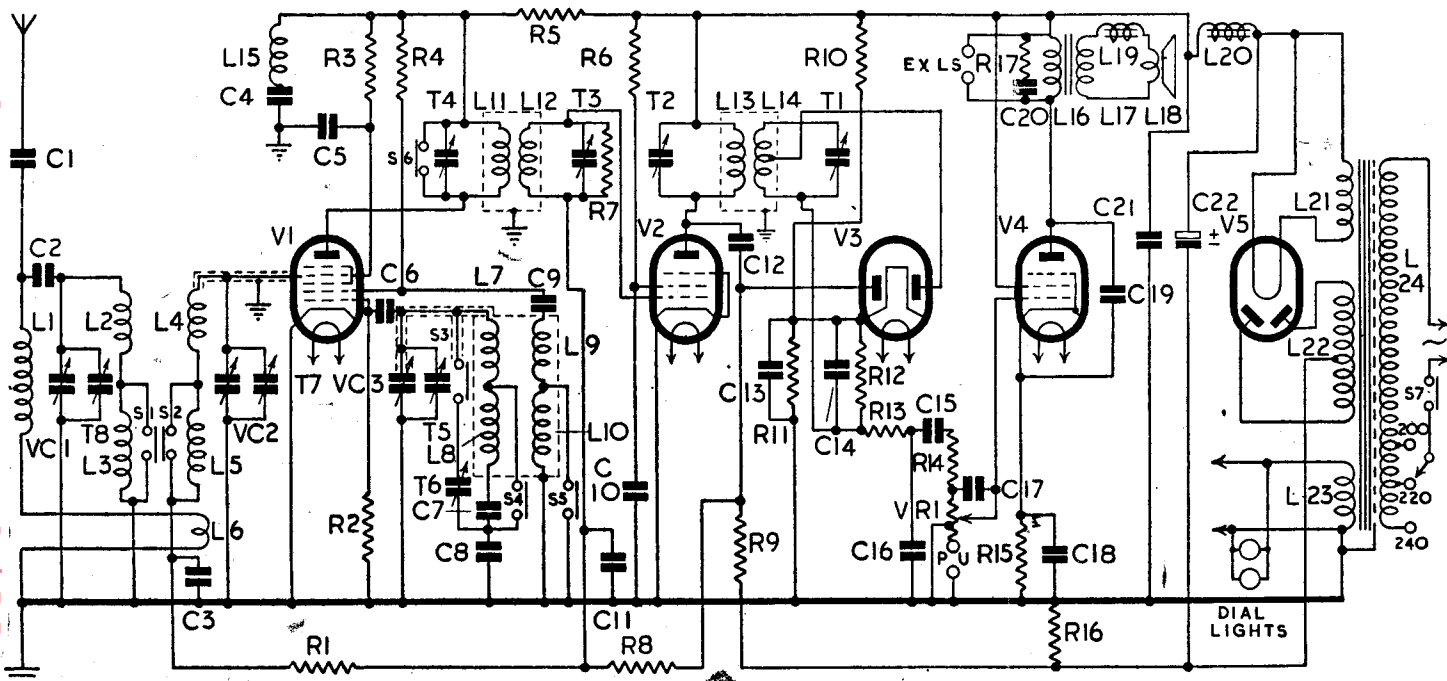
V	Type	Electrode	Volts	Mas
1	Cossor 41 MPG	Anode	190	1
		Screen	75	2.2
		Osc anode	90	1.9
2	Cossor MVS PEN	Anode	245	5.6
		Screen	90	1.4
3	Cossor DD4	Cathode to chassis	70	—
4	Cossor 42 MP PEN	Anode	220	30
		Screen	245	7
5	Cossor 442 BU	Anodes, each	350	—

Maximum unsmoothed HT, 360 v. Max. smoothed HT, 245 v.
Pilot lamp, Cossor 6.5 v, .3 amp. MES.

CONDENSERS

C	Mfds	C	Mfds
1	.0003	12	.0001
2	25 mmfd	13	.005
3	.1	14	.0002
4	.1	15	.01
5	.1	16	.0001
6	.00025	17	.0005
7*	1,020 mmfd	18	50.0
8*	2,080 mmfd	19	.002
9	.002	20	.01
10	.1	21	8.0
11	.1	22	8.0

* Consists of two condensers in parallel.



Above, details of the oscillator coil, and left, details of the inductively coupled bandpass coils.

WINDINGS

L	Ohms
16	750.0
17	2
20	2,000.0
21	.11
22	406.0
23	.06
24	20.0

Windings are the same as model 383.

SWITCH CONTACTS

Position	Closed contact
MW	S1, S2, S4, S5 and S7
LW	S3 and S7
GRAM	S6 and S7

The 374 is a four-valve plus rectifier AC mains superhet distinguished by using a heptode type frequency-changer and a double-diode feeding a high slope output pentode.

RADIO MARKETING SERVICE ENGINEER-III

COSSOR 374

Continued

former is returned to chassis through R13 and C16. The AF signals are developed across R12 and C14, then proceed via a filter network to VR1, and are coupled through the slider and C17 to the grid of the output pentode V4.

The AVC diode of V3 is fed from the anode of V2 through C12. A potential of 70 volts is applied to the cathode of V3 through R10, R11, and the delay voltage is, therefore, higher.

V4 is coupled to the energised moving-coil loud-speaker by an output transformer L16, L17, the speech coil being L18 and the hum-bucking coil L19. R18 and C20 across the primary prevent shrillness. An extra speaker fitted with an output transformer with an impedance of 8,000 to 10,000 ohms may be connected to the sockets provided across L16. Permanent tone correction is provided by C19 connected between the anode and cathode of V4. Bias is applied through R16 and C18.

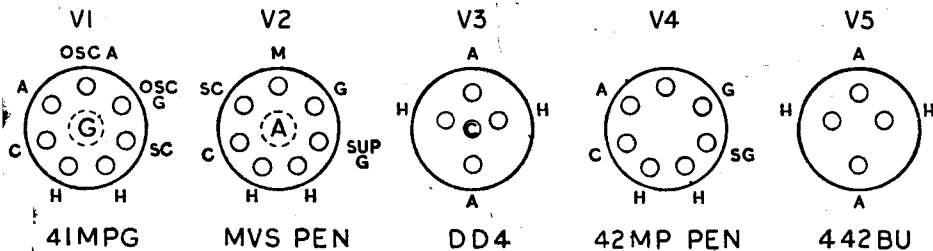
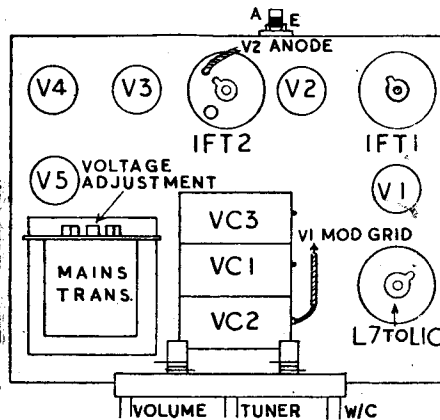
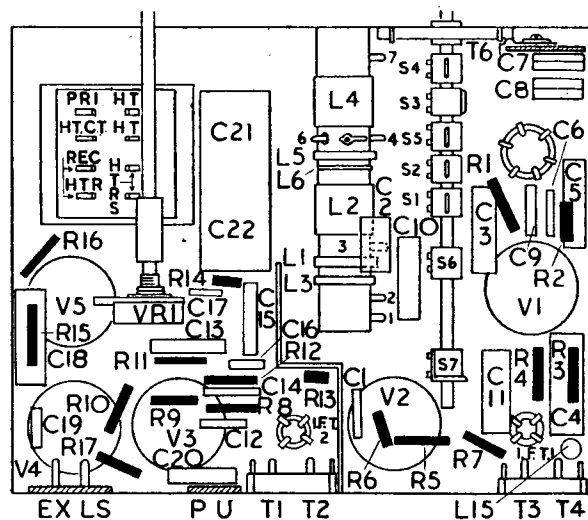
The HT supply is derived from a full-wave rectifier V4, the smoothing components being L20 (speaker field), C21, C22.

GANGING

Disconnect aerial, short tag 3 (connected to C9) of the oscillator anode coil L9 to chassis to stop V1 oscillating. Unsolder the wire from the AVC diode pin of V3 valveholder, and connect an output meter to the extension speaker sockets. Turn volume control full on.

IF Circuits.—Connect an oscillator to V1 modulator grid through a .1 mfd condenser, and inject a signal of 128 kcs. Adjust T1, T2, T3 and T4 for maximum deflection.

MW Band.—Switch receiver to MW. Connect oscillator to A and E sockets through a .0002 mfd



These three drawings identify all parts on the chassis and also the valve pins. Bases are drawn as seen with chassis inverted.

condenser, and remove the shorting wire from tag 3.

Check that the scale pointer registers at 200 m when tuning knob is turned fully anti-clockwise.

Tune receiver to 214 m and, using a small input, inject a signal of 1,400 kcs (214.3 m). Adjust T5 for maximum output, next T7, and T8 for resonance.

LW Band.—Switch to LW. Set scale pointer to 1,000 m and inject a signal of this frequency. Adjust T6 for maximum output.

This trimmer is accessible through a hole in front right-hand side of chassis.

Resolder wire to V3 holder and seal trimmers.

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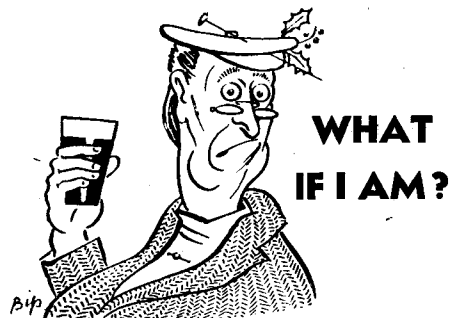
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