COSSOR 361

Three-valve, plus rectifier, two-waveband tuned radio frequency kit receiver for operation from AC mains of 200–250 volts, 40–100 cycles. Provision is made for the use of a high resistance pickup and high resistance extra loudspeaker and a fine tuning control is incorporated in parallel with the main tuning condenser. Marketed by A. C. Cossor, Ltd., Highbury Grove, London, N.5.

SIGNALS are fed from the aerial via a series condenser C1 to a tuning unit which comprises a coupling coil L1, which transfers the signals to the grid tuning coils L2 (MW) and L3 (LW). On MW additional coupling is effected by C2.

L2 and L3 are tuned by VC1 section of the ganged condenser and signals are fed direct to the grid of the variable-mu HF pentode V1.

Standing bias is derived from the cathode resistance R2 and the volume control R4 in the cathode circuit allows the bias to be varied so as to control the sensitivity of the valve and hence the gain of the HF stage.

Tuned transformer coupling is employed to transfer the signals from V1 to the pentode which operates as a detector on the grid leak principle. R9 and C6 are the grid leak and condenser.

The anode tuning coils are L4 (MW) and L5 (LW) tuned by VC2 and the secondary coils, L6 (MW) and L7 (LW) feed the grid circuit of V2.

Reaction is applied to the transformer from the anode circuit of V2 via R7 and the reaction windings L8, L9. The degree of reaction is controlled by VC3.

Pickup sockets are provided in the grid circuit of V2, these being shorted out on radio. On gram. contacts S7 open up so that V2 is cathode biased as an amplifier by R10, decoupled by C7.

Resistance-capacity coupling by R11, C10 and R12 with HF filtering by C9 pass the audio frequency signals to the grid of the output triode V3. The grid circuit is decoupled by R13 and C12 to guard against parasitic oscillations and cathode bias is derived from R14 decoupled by C13.

A permanent degree of tone correction is effected by C11 and the signals are transferred to the energised loudspeaker via the matching transformer L10, L11.

Extra loudspeaker sockets are provided across the primary L10 of the matching transformer, so that the extra loudspeaker must be of a high impedance or have a suitable matching transformer incorporated.

The high tension supply is derived from the usual arrangement of a full-wave rectifier V4 with smoothing effected by the speaker field L12 and condensers C14, C15.

VALVE READINGS

V	Type	Electrode	Volts	Mas.
1	MVS	Anode	215	2
	PEN	Screen	120	1
		Cathode	3	
2	MS	Anode	55	1.8
	PEN	Screen	35	.4
		Cathode	1.5*	
3	41MP	Anode	230	30
		Cathode	9	
4	442 BU	Cathode	340	

* On gram only.

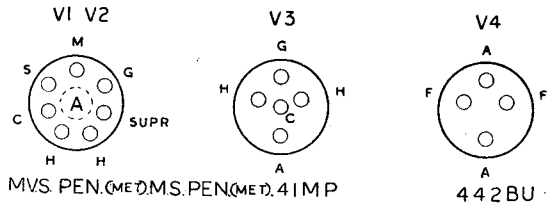
Voltages taken with volume control at maximum on 240v mains, no signal.

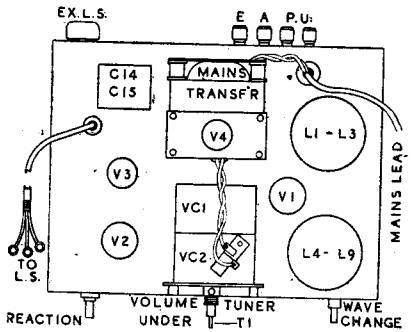
RESISTORS

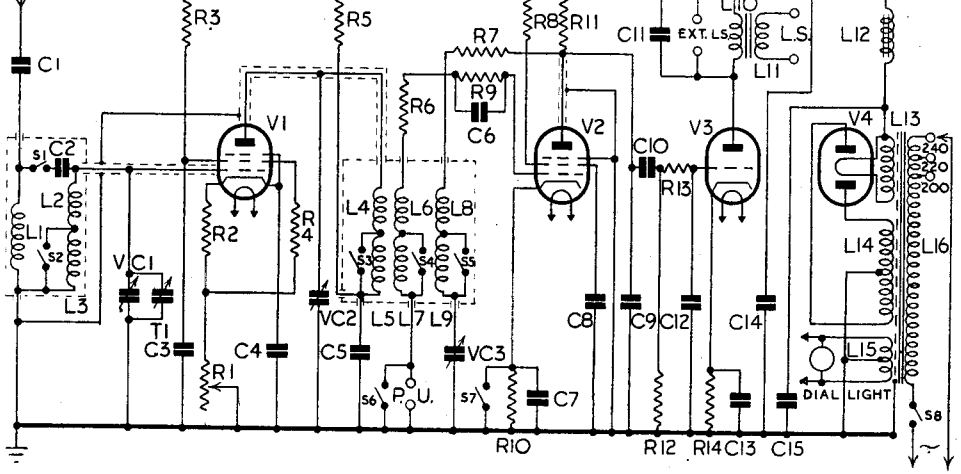
R	Ohms	R	Ohms
1	12,000	8	500,000
2	1,500	9	1 meg.
3	30,000	10	1,000
4	40,000	11	100,000
5	10,000	12	500,000
6	200	13	100,000
7	300	14	300

CONDENSERS

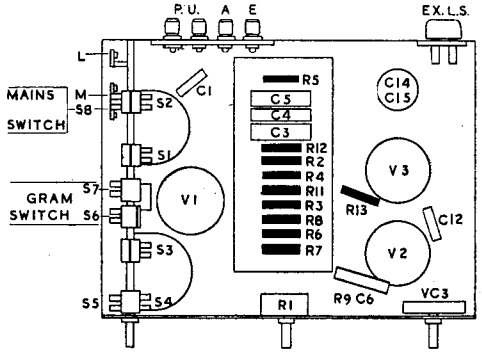
C	Mfd.	C	Mfd.
1	.005	9	.002
2	15 mmfd	10	.01
3	.1	11	.005
4	.1	12	.002
5	.1	13	50
6	.0001	14	4
7	50	15	6
8	.1		

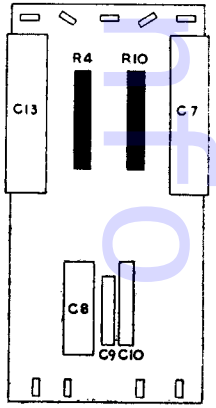




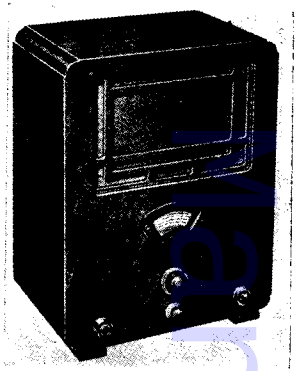


The circuit is typical of the simplest form of three valve "straight" receiver for AC mains operation. Originally a kit set, the 361 is still in wide use.





These drawings show the location of components on and below the main chassis and the small diagram below identifies the parts on the power pack.



An early, but popular, receiver, the Cossor model 361 is a "straight" three for AC operation. A trimmer capacitor across the input tuned circuit is controlled by a knob concentric with the tuning control.

Practical Aid on Installation of Car Radio

A 20-page booklet "Installation of Car Radio Receivers," written by their engineer, S. L. Robinson, AM Brit IRE, is available to dealers, free, from Masteradio, Ltd., 193 Rickmansworth Road, Watford, Herts.

After an explanation of the general principles of installation, five types of aerial mounting are illustrated and described.

Chapter III deals with ignition interference and includes an original type of diagram showing the common and less common sources of interference.

Chapter IV is devoted to static interference, and the final pages give general hints on tackling stubborn cases of noise.

The booklet is the product of experience and its guidance is not limited to the use of Masteradio's own receivers.