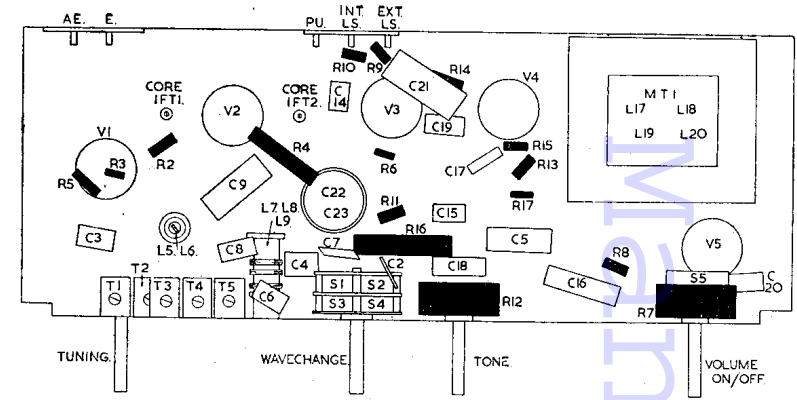
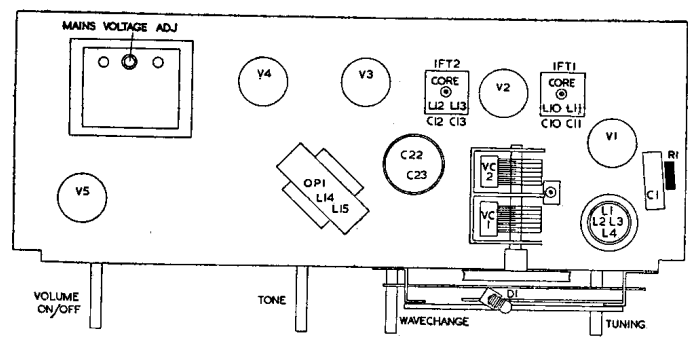
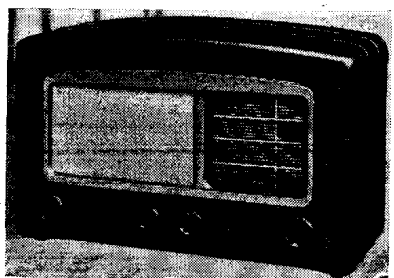
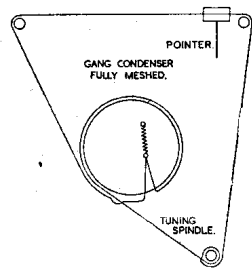


COSSOR MELODY MAKER 494 AC



Five-valve, three waveband superhet, with sockets for aerial and earth, high-impedance magnetic or crystal pickup and low-impedance extension speaker. A plug-in loop aerial is fitted for local station reception. Housed in figured brown and cream moulded cabinet, designed for 200-255V, 40-100 c/s AC mains. Made by A. C. Cossor, Ltd., Highbury Grove, London, N.5.

VI — 7S7	V2 — 7B7	V3 — 7C6	V4 — 7C5	V5 — 7Y4	DIAL LAMP.
Gt G3 G2 G4 A1 88V 19MA G1 90V 4MA Ah 210V 3MA H H K O.V.	G3 S G1 A 90V 19MA H H K O.V.	G D1 D2 A 45V 4MA H H K O.V.	G2 260V 25MA G1 A 270V 36MA H H K 9.5V	A 255V RMS K 280V 62MA H H	 6.5V .3A

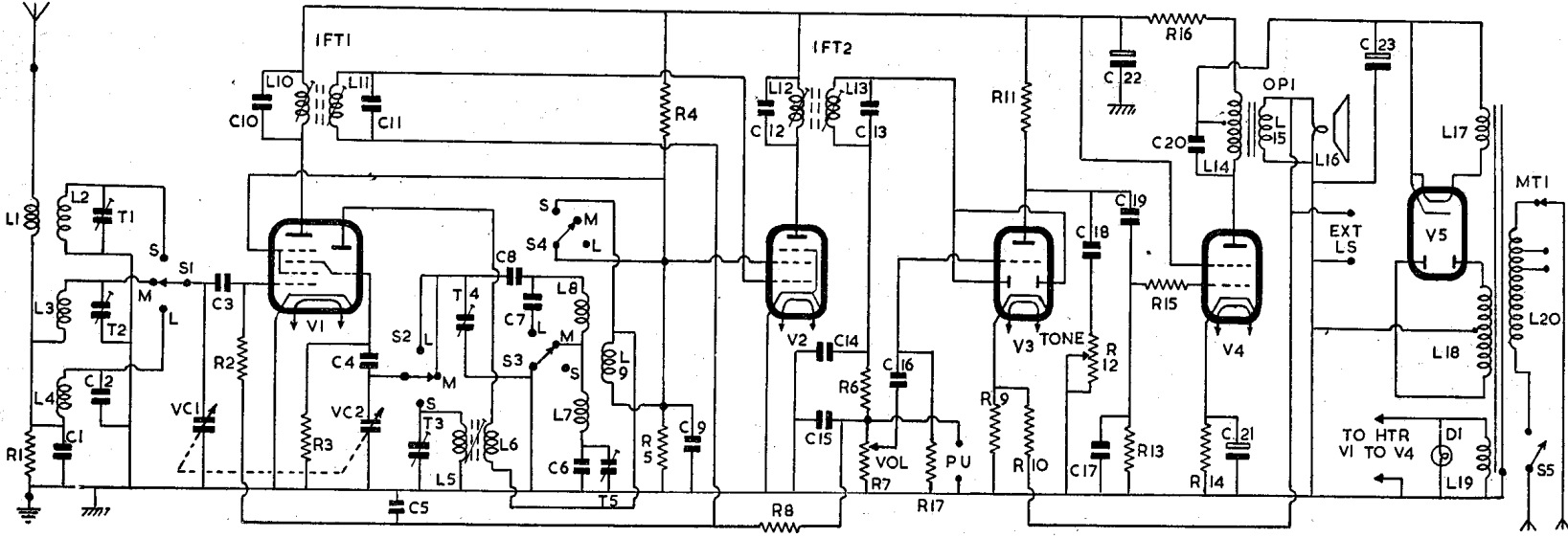


RESISTORS

R	Ohms	Watts
1	1K	...
2	330K	...
3	47K	...
4	12K	...
5	33K	...
6	47K	...
7	500K Pot. with switch	...
8	2.2M	...
9	100	...
10	470	...
11	680K	...
12	500K	...
13	470K	...
14	270	...
15	47K	...
16	2.7K	...
17	4.7M	...

INDUCTORS

L	Ohms
1	...
2	...
3	...
4	...
5	...
6	...
7	...
8	...
9	...
10	...
11	...
12	...
13	...
14	...
15	...
16	...
17	...
18	...
19	...
20	...



CAPACITORS

C	Capacity	Type
1	.005 Tubular 1000V	
2	.75pF Silver Mica	
3	500pF Mica	
4	100pF Silver Mica	
5	.1 Tubular 350V	
6	500pF Silver Mica	
7	133pF Silver Mica	
8	440pF Silver Mica	
9	.1 Tubular 350V	
10	100pF Silver Mica	
11	100pF Silver Mica	
12	100pF Silver Mica	
13	100pF Silver Mica	
14	100pF Mica	
15	100pF Mica	
16	.005 Tubular 1000V	
17	100pF Mica	
18	.02 Tubular 500V	
19	.01 Tubular 500V	
20	.05 Tubular 1000V	
21	.25 Electrolytic 25V	
22	.32 Electrolytic 450V	
23	.16 Electrolytic 450V	

COSSOR 494 AC

AERIAL.—The loop aerial consists of six turns of insulated wire clamped to the inside of back panel and fitted with plugs which can be inserted in aerial and earth sockets of receiver.

Aerial signal is fed to SW coupling coil L1 and thence bottom end coupled by R1, C1 to MW and LW tuned grid coils L3, L4. The grid coils L2 (SW), L3 (MW), L4 (LW), trimmed by T1, T2, C2 respectively, are switched by S1 to aerial tuning capacitor VC1, and coupled by C3 to g1 of triode-hexode frequency changer V1.

Cathode of V1 is connected to chassis. AVC, decoupled by R8, C5 is fed through R2 to g1. Screen voltage is obtained from potential divider R4, R5 and decoupled by C9. Primary L10, C10, of IFT1 is in the hexode anode circuit.

Oscillator is connected in a tuned-grid series-fed circuit. The grid coils L5 (SW), L8 (MW), L7 (LW), trimmed by T3, T4, C7 respectively, and padded by C8, T5, C6, are switched by S2 to tuning capacitor VC2, and coupled by C4 to oscillator grid (gt, g3) of V1.

Automatic bias for oscillator grid is developed on C4 with R3 as leak resistor. S3 shorts out LW tuned circuit when receiver is switched to MW band and connects in circuit LW trimmer C7 when switched to LW band.

Reaction coils L6 (SW), L9 (MW, LW) are in series with the oscillator anode circuit, the HT for which is obtained from potential divider R4, R5. S4 shorts out L9 when in SW position.

IF amplifier operates at 465 kc/s. Secondary L11, C11 of IFT1 feeds signal, and AVC voltages decoupled by R8, C5, to g1 of IF amplifier V2. Cathode and suppressor grid are connected to chassis. Screen voltage is obtained from potential divider R4, R5 and decoupled by C9. Primary L12, C12 of IFT2 is in the anode circuit.

Signal rectifier.—Secondary L13, C13 of IFT2 feeds signal to the strapped diodes of V3. Volume control R7 is the diode load and R6, C14, C15 form an IF filter.

Pickup sockets are fitted across volume control R7 for connection of a high-impedance magnetic or crystal pickup.

AVC.—The DC component of the rectified signal is used for this purpose and is fed through decoupling network R8, C5 to g1 of V1, V2.

AF amplifier.—C16 feeds signal from volume control R7 to grid of triode section of V3. Negative bias for grid is developed on C16 with R17 as leak resistor.

Negative feedback from secondary L15 of output matching transformer OP1 is applied by R10 to cathode load resistor R9. R11 is anode load. C18, R12 provide variable top cut tone control.

Output stage.—C19 feeds signal from anode V3 through grid stopper R15 to beam tetrode output valve V4. R13 is grid resistor and C17 a filter capacitor. Cathode bias is provided by R14 decoupled by C21. Screen voltage is obtained from R16, decoupled by C22.

Primary L14 of OP1 is in the anode circuit. C20 gives fixed degree of tone correction. Secondary

L15 feeds signal to an 8 in. PM speaker L16. Sockets are fitted on L15 for connection of a low-impedance extension speaker.

High tension is provided by full-wave indirectly heated rectifier V5. HT secondary L18 of mains input transformer MT1 supplies its anode voltages and L17 its heater current. Resistance-capacity smoothing is given by R16, C22, C23. HT for V4 is fed to a tap on primary L14 of OP1 to reduce hum.

Heaters of V1 to V4 and dial lights obtain their current from L19. Primary L20 of mains input transformer is tapped for 200-215, 216-234, 235-255V, 40-100 c/s AC.

S5 which is ganged to the volume control spindle is the ON/OFF switch.

Chassis removal.—For most tests it is necessary only to remove the combined rear and base cover panel which is held in position by four screws. To remove chassis from its cabinet take off control knobs and remove rear and base panel. Unscrew the bolt securing dial-light holder to front of cabinet. Unplug LS leads from sockets at rear of chassis and remove chassis retaining bolts (one at each side of rear face of chassis). The chassis can now be withdrawn by sliding it out of the moulded side supporting flanges of the cabinet.

TRIMMING INSTRUCTIONS

Apply signal as stated below	Tune receiver to	Trim in order stated for max. output
(1) 465 kc/s to g1 of V1 via .01mF.	---	Core L13, L12, L11, L10.
(2) 1.55 mc/s to AE socket via dummy aerial.	M calibration on left of dial.	T4, T2.
(3) Check calibration of dial at low frequency end of MW band.	L calibration on right of dial.	T5.
(4) 160 kc/s as in (2).	L calibration on right of dial.	nts over LW band.
(5) Check calibration at one or two points over LW band.	S calibration on left of dial.	T3, T1. Select min. capacity setting of T3.
(6) 18 mc/s as in (2).	S calibration on right of dial.	Core L5. Repeat (6) & (7).
(7) 6 mc/s as above.	S calibration on right of dial.	

Improving TV Input Signal

In theory the length of a twin transmission line feeding a television receiver has little effect—attenuation increases slightly with longer length, and that is all. In practice, however, owing to mismatching and other departures from ideal conditions, resonant effects may occur.

If a hand is slid along the line the picture may be seen to vary in brilliance, indicating a change of input. This shows that results will be improved if the line is cut to bring a point of correct impedance to the receiver connection.

A few inches can be cut at a time from the line until maximum input is secured, or a shunt stub of line can be connected and its length adjusted.

RITEMP MODEL 2009

COOKER—from page 7

right-hand side of cooker (Fig. 7). The phase lead is taken to the fourway fuse box situated under cover plate below hob (Fig. 2). Oven, grill and hotplates are separately fused. Oven pilot light is wired across a low resistance (Fig. 7) in the neutral side of oven element circuit.

Frame of cooker and earthing pins of oven and hotplate sockets are wired on a continuous earth bonding. Earthing terminal is located on outside of rear panel adjacent to mains input bush. Internal wiring of cooker is carried out with heavy gauge flameproof insulated wire. A theoretical circuit diagram of wiring is shown in Fig. 8.

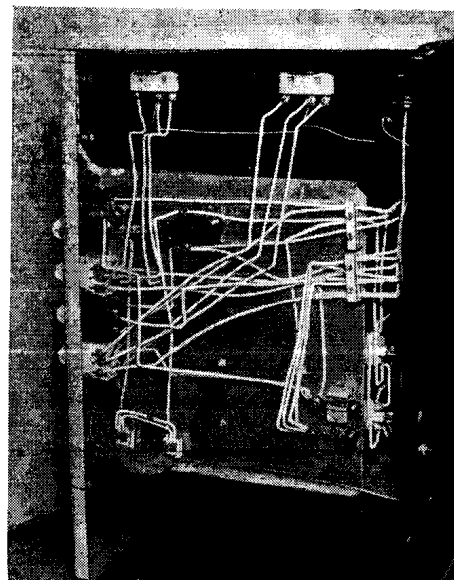


Fig. 7.—Thermostat, switches and most of the wiring are exposed on removal of the side panel

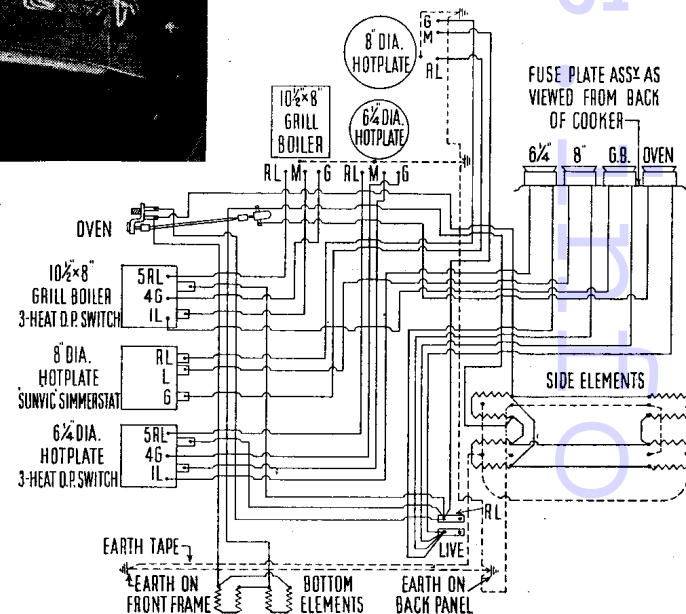


Fig. 8.—Wiring diagram of the Ritemp 2009 cooker

MAINTENANCE

Before any maintenance is attempted make sure wall switch is off.

Removal of plates and grill. Remove splashplate. Open hotcupboard door and undo milled hob fixing screw situated to left of grill runners. Raise hob and place stay in position. Lift hotplates and grill out—keeping them level to avoid strain on plug pins.

Renewal of fuses. Raise hob as described above and remove the two fuse box cover plate screws and lift off cover plate (Fig. 2). Viewed from front, left to right, the fuses are: Oven, grill-boiler, 8 in. hotplate, 6 1/2 in. hotplate.

Removal of side oven elements. Withdraw oven shelves and lift off side plates from support rails (Fig. 4). Grasp each heater element firmly and slide it towards front of oven until slot at front end of heater housing is free of stud. Element can then be withdrawn from its socket (Fig. 5).

Removal of bottom oven element. Remove right-hand side panel of cooker by undoing the two fixing screws located at rear. Heating elements are situated in slots at bottom of oven side panel (Fig. 6). Undo nuts securing wires to heater terminals and remove retaining bracket.

Renewal of pilot lamp. Remove oven thermostat control knob and withdraw ruby lamp cover. Unscrew lamp from housing, renew bulb (3.5V) replace cover and control knob.

Access to wiring. Side panels are each secured by two screws on the rear flange. On removal of these screws, panels can be lifted away. Rear cover panel can be removed by undoing the four fixing screws.

Removal of thermostat (Fig. 7). Remove wires from thermostat terminals. Loosen grub screw securing head of thermostat to circular flange on mounting bracket on side panel of oven. Undo the two screws on coupling between control knob spindle and thermostat. Carefully withdraw thermostat and tube from oven. When replacing, set thermostat indicator and control knob to 300 deg. F before fastening knob in position.