

**EDDYSTONE****Model 670**

**General Description :** Seven-valve, four-waveband "marine" super-heterodyne receiver intended principally for the reception of short- and medium-wave broadcast stations. Released 1948.

**Power Supplies :** A.C./D.C. mains, 110 and 200-250 volts.

**Intermediate Frequency :** 450 kc/s. Oscillator frequency is higher than signal frequency on all ranges.

**Valves :** (V<sub>1</sub>) UAF41; (V<sub>2</sub>) UCH41; (V<sub>3</sub>) UAF41; (V<sub>4</sub>) UAF41; (V<sub>5</sub>) UAF41; (V<sub>6</sub>) UL41; (V<sub>7</sub>) UL41. In later models the UAF41 and UCH41 valves were replaced by types UAF42 and UCH42, which are similar except for the suppressor grid connection.

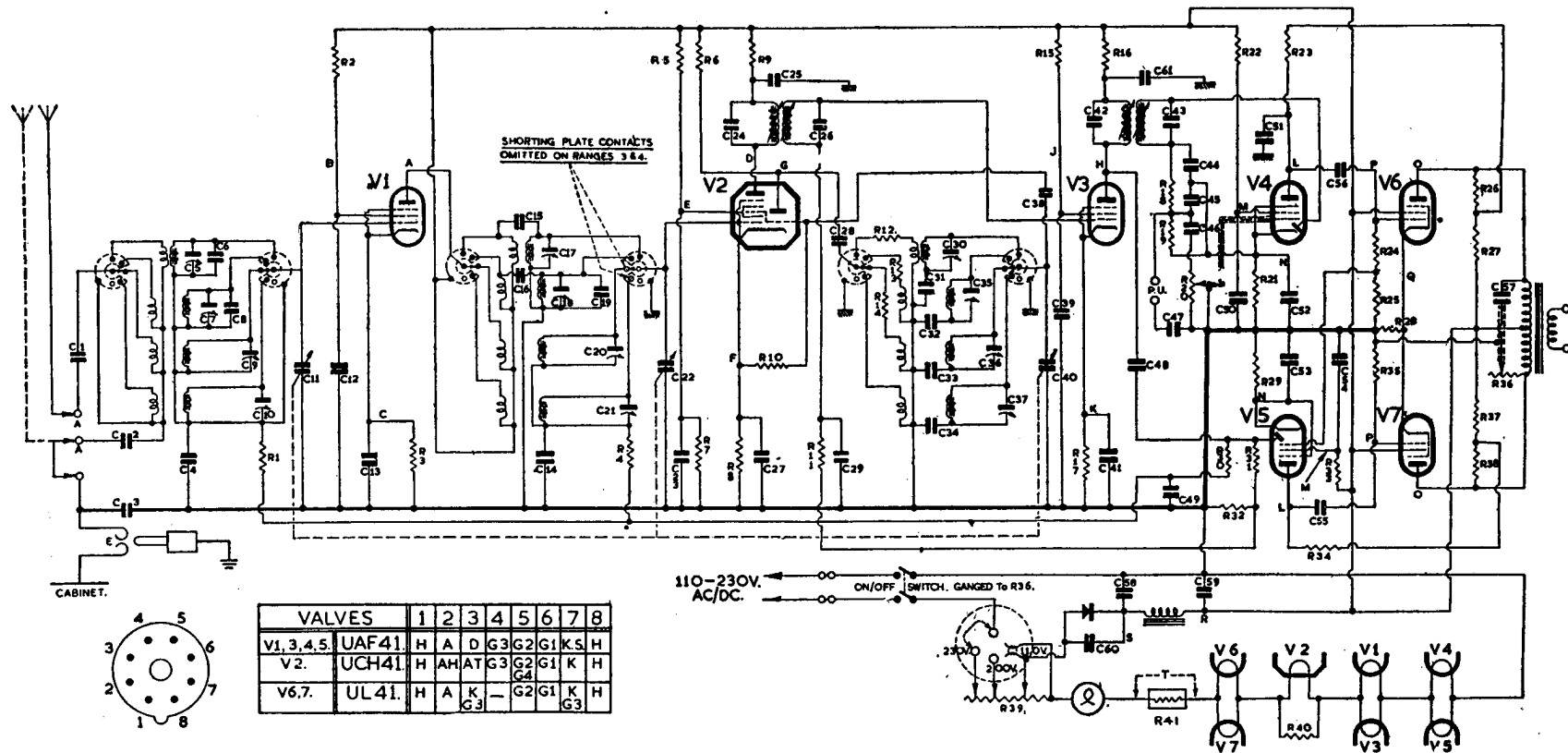
**Notes :** If the mains dropping resistor, R<sub>39</sub>, be replaced connections should be hard-soldered or bolted. If one output valve be found to have suffered a loss in emission, the other output valve should also be replaced to maintain balance. Should there be an excessive hum level when the receiver is operated from A.C. supplies, the lower end of the aerial coils (*i.e.*, right-hand side of C<sub>2</sub>) should be connected to chassis and the value of C<sub>4</sub> increased to 0.1  $\mu$ F. It should be noted that the valve heaters are connected in series-parallel; where one heater fails this may be indicated by excessive heater glow in the second valve of the pair. Fuse rating 500 mA.

**Alignment Procedure :** Trimmer lay-out and alignment frequencies are given on pages 196-7.

**Voltage Values :** Voltages given below are between the points indicated and chassis (except point "T"). Switch to Band 4. Short-circuit aerial and earth terminals. Volume control at maximum, tone control fully clockwise.

Values are given for an A.C. mains input of 110 volts using two different test meters. The voltage indicated depends upon the internal resistance of the particular meter used. A tolerance of plus or minus 5 per cent should be allowed.

<i>Circuit Reference</i>	<i>1000 ohms/volt Testmeter</i>	<i>333 ohms/volt Testmeter</i>	<i>Circuit Reference</i>	<i>1000 ohms/volt Testmeter</i>	<i>333 ohms/volt Testmeter</i>
A	105 v.	106 v.	L	15 v.	8 v.
B	55 v.	30 v.	M	10 v.	5 v.
C	0.6 v.	0.6 v.	N	1.1 v.	0.5 v.
D	104 v.	100 v.	O	104 v.	102 v.
E	48 v.	35 v.	P	108 v.	104 v.
F	0.7 v.	1.0 v.	Q	6 v.	5.8 v.
G	70 v.	57 v.	R	108 v.	107 v.
H	106 v.	98 v.	S	118 v.	117 v.
J	55 v.	30 v.	T	14 v.	12 v.
K	0.7 v.	1.0 v.			



CIRCUIT DIAGRAM—EDDYSTONE MODEL 670

**Capacitors.**

3/20 pF. (air)	C5, C7, C9, C10, C17, C18, C20, C21	2000 pF. 3000 pF.	C32 C31	12 140	R12 R40	10k 13k	R6 R25
6 pF.	C16	0.01 (mica)	C1, C2, C3, C60	47	R13	20k	R5, R10, R18
3.5/20 pF. (ceramic)	C30, C35, C36, C37	0.01 (paper)	C4, C14, C29, C46, C49, C55, C56	120	R28	47k	R2, R7, R15
8 pF.	C19	0.1	C12, C13, C23, C25, C27, C39, C41, C50, C54, C61	200	R8	100k	R19, R38
10 pF.	C6, C8, C48		C47, C57	330	R3, R17	0.22M	R31
20 pF.	C15	0.05	C52, C53	500	R14	0.27M	R23, R34
40 pF.	C51	25 (25 v.)	C59	1k	R9, R16	0.47M	R1, R4, R30, R32
100 pF.	C24, C26, C28, C38, C42, C43, C44, C45	32 (200 v.) 50 (200 v.)	C58	2.7k	R21, R27, R29, R37	1M	R11, R22, R24, R33, R35
280 pF.	C34		C11, C22, C40 Three-gang capacitor 11.5- 210.6 pF.		R41 Thermistor.		R39 Mains dropper 500 ohms, 3 amp.
640 pF.	C33				R40 1 1/2-watt, others 1/2-watt.		R20 0.5 Meg. Pot.
					R36 50k Pot. with D.P. switch.		R24 and R25 5% tolerance.

**Resistors.**

12	R12	10k	R6
140	R40	13k	R25
47	R13	20k	R5, R10, R18
120	R28	47k	R2, R7, R15
200	R8	100k	R19, R38
330	R3, R17	0.22M	R31
500	R14	0.27M	R23, R34
1k	R9, R16	0.47M	R1, R4, R30, R32
2.7k	R21, R27, R29, R37	1M	R11, R22, R24, R33, R35
R41	Thermistor.		
R40	1 1/2-watt, others 1/2-watt.		
R36	50k Pot. with D.P. switch.		

# EDDYSTONE RECEIVERS

## INTRODUCTORY NOTES

**Manufacturers :** Messrs. Stratton and Co. Ltd., Eddystone Works, Alvechurch Road, West Heath, Birmingham 31.

The front panel and the coil-box of all models are stout diecastings, while separate chassis are used for the power unit, I.F. section and output stage.

In each model, the cabinet is easily removable by withdrawing four large screws at the rear. Most parts of the receiver are then readily accessible.

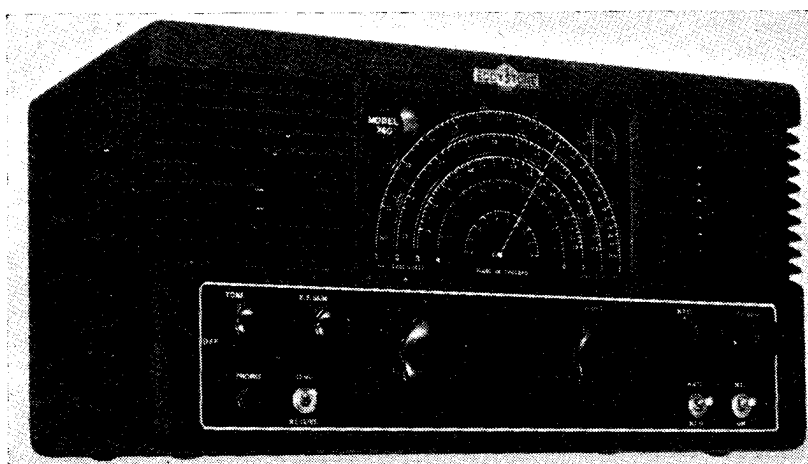
All coils (R.F. and I.F.) are permeability tuned, trimmers also being provided in the R.F. and oscillator sections. Alignment is carried out following the normal procedure, variations being indicated where necessary. When changing a valve, it is usually only necessary to re-adjust the appropriate trimmer capacitors to correct any differences in stray capacitance, and there is then no need to remove the lid of the coil-box. For full alignment, however, this lid must be taken off. Always remember to adjust the trimmers at the high-frequency end of a range and the cores at the low-frequency end. The correct alignment points are given in the table below. Where variable selectivity is fitted (Models 750, 680), alignment should be carried out with the control set at *maximum* selectivity.

Models 640, 740 and 750 are adapted for operation from a 6-volt accumulator and auxiliary H.T. supply. The octal plug which completes the L.T. connections must be inserted in the socket at the rear. This plug and its internal connections should be examined if any failure of or variation in the heater supply occurs.

During manufacture, all receivers are subjected to an ageing process and are then calibrated to an accuracy of plus or minus 0.5 per cent.

The transformers fitted to mains models are for 40-60 c/s. operation and are not suitable for 25 c/s. supplies.

The glass and dial can be cleaned by using a thin artist's brush, long enough



GENERAL APPEARANCE OF POST-WAR EDDYSTONE RECEIVERS  
(MODEL 740)

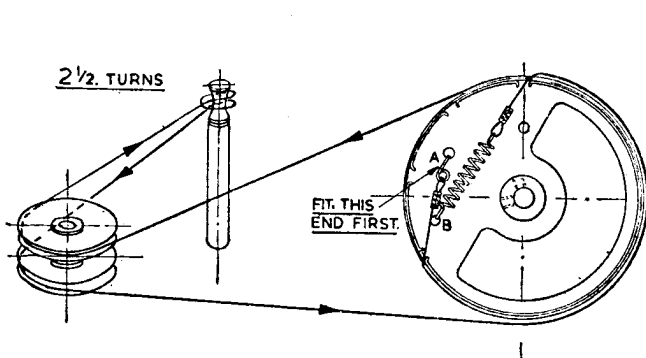
to reach all parts of the glass. The dial lights are standard in all receivers, bulbs with miniature bayonet caps, rated at 6.3 volts, 0.3 amp., being used. To change a lamp, it is only necessary to press the holder, which is sprung into place, and pull out.

A standard wiring code is used as follows :

A.C. mains . . . . .	Grey	Heaters . . . . .	Yellow
H.T. . . . .	Red	Negative to chassis . . . . .	Brown
Anodes . . . . .	Light blue	Chassis potential . . . . .	Black
Grids . . . . .	Green	Other leads . . . . .	White

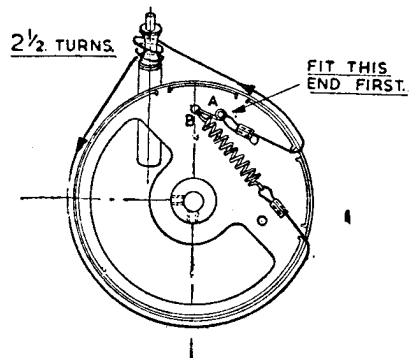
ALIGNMENT FREQUENCIES

Model	Range 1		Range 2		Range 3		Range 4		Range 5	
	High (Mc/s.)	Low (Mc/s.)	High (Mc/s.)	Low (Mc/s.)	High (Mc/s.)	Low (Mc/s.)	High (kc/s.)	Low (kc/s.)	High (kc/s.)	Low (kc/s.)
556, 504	30	14	13	6.5	6.5	3	2800	1400	1300	600
659, 670	28	13	12	6	2.6	1.3	1200	600	—	—
640	30	13	12	5	4	2	—	—	—	—
710, 740	28	12	9	4	3.2	1.5	1200	550	—	—
750	30	13	11	4.7	4.2	2	1350	550	—	—
680	28	14	13	6	5.8	2.5	2500	1200	1100	500



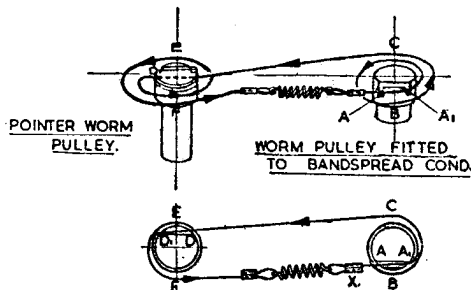
**BANDSET.**

TURN BANDSET CONDENSER TO MAXIMUM CAPACITY; THE DRIVE DRUM FITTED TO THE CONDENSER SPINDLE SHOULD THEN BE ORIENTATED AS SHOWN. USE CORD. D.1069. COMMENCE AT 'A.' & FINISH AT 'B.'



**BANDSPREAD.**

WITH THE BANDSPREAD CONDENSER SET AT MAX. CAPACITY; THE DRIVE DRUM IS FITTED IN THE POSITION SHOWN. USE CORD. D.1070. COMMENCE AT 'A.' & FINISH AT 'B.'



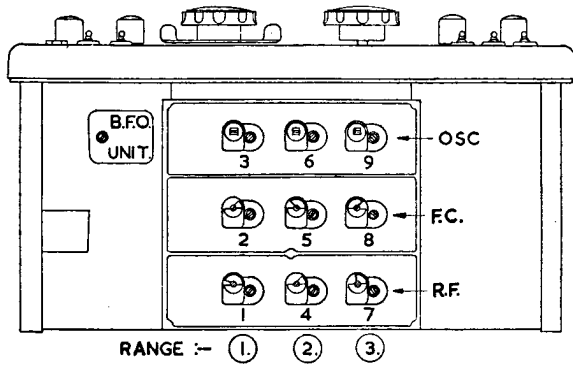
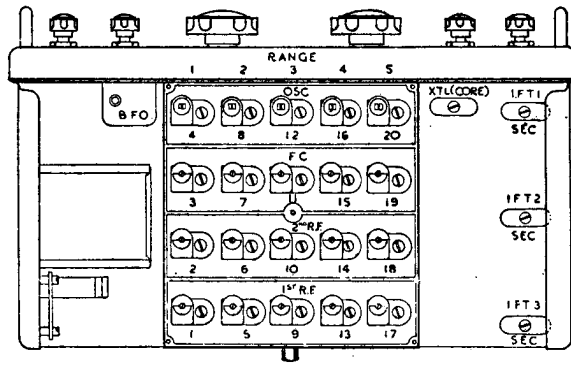
**BANDSPREAD POINTER DRIVE.**

SET BANDSPREAD CONDENSER AT MAX. CAPACITY. WITH WORM PULLEYS IN POSITIONS SHOWN. FIT CORD D.1071. IN SLOT. A.A. SO THAT THE CORD CLIP 'X' JUST CLEARS THE PULLEY. NOW COMPLETE ASSEMBLY BY FOLLOWING. A1.B.C.D.E.F.

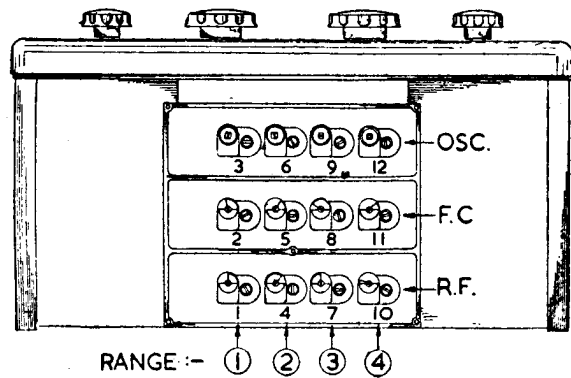
CORD DRIVE REPLACEMENT—EDDYSTONE MODEL 640

Turn receiver panel downwards top towards you ; then with cover removed and looking down on the receiver, the cord drives would appear similar to the inverted rear views shown. To fit cords, remove dial bulbs and reflector plate and proceed as indicated in the diagrams.

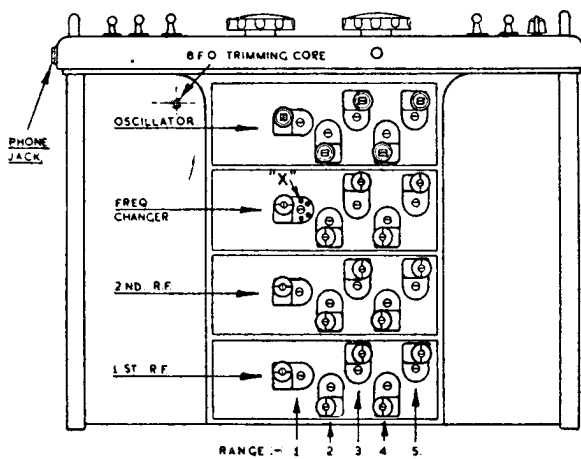
CORE AND TRIMMER LAY-OUT—  
EDDYSTONE MODELS 504, 556



CORE AND TRIMMER LAY-OUT—  
EDDYSTONE MODEL 640



CORE AND TRIMMER LAY-OUT—  
EDDYSTONE MODELS 659, 670, 740, 710



CORE AND TRIMMER LAY-OUT—  
EDDYSTONE MODEL 680