

# Eddystone

## TRANSISTORISED COMMUNICATION RECEIVER

### MODEL EC10 Mk II

#### SUPPLEMENT TO EC10 INSTRUCTION MANUAL

The EC10 Mk. II is the current production replacement for the well established EC10 Communication Receiver. It incorporates several additional features and has modified styling. Scale calibration is marked in kHz and MHz in line with the general changeover to standardised nomenclature. This supplement contains details of all modifications and should be used in conjunction with the basic EC10 Instruction Manual supplied with the receiver.

#### **Fine Tuning Control**

A voltage variable capacitance diode (D6 : BA111) is wired across the oscillator section of the three-gang tuning capacitor to permit fine tuning independently of the main tuning control. Control is effected by means of a potentiometer (RV3) which varies the DC voltage applied to the diode. Fine tuning coverage varies from range to range, but in each case is compatible with the tuning rate provided by the main tuning control. Typical frequency swings provided by the Fine Tuning control are 150kHz and 35kHz at the high frequency ends of Ranges 1 and 3 respectively.

In normal operation, the Fine Tuning control should be maintained at its mid-travel position (index against mark on finger plate), so that adjustment up or down in frequency is available at any setting of the Main Tuning control.

#### **Carrier Level Meter**

The built-in carrier level meter will be found very useful as a tuning indicator and can also be used for comparison of relative carrier level, for which purpose the scale is calibrated in arbitrary divisions 0-10.

The meter is controlled by the AGC voltage but is arranged to operate normally irrespective of the setting of the AGC SWITCH. A signal is correctly tuned when the meter deflection is greatest.

#### **Standby Switch**

This control is arranged to desensitise the receiver when set to the "STANDBY" position, and is primarily intended for use when the receiver is used in conjunction with an associated transmitter. It must be set to the 'non-standby' position for normal reception.

Two spare contacts are available on the switch for connection to the transmitter control circuit when single-switch changeover facilities are required. Connection should be made directly at the switch and the hole

provided near the 'A2' socket can be used to bring the twin lead out from the receiver to the appropriate termination on the transmitter. The switch circuit will be closed when the switch is set to 'STANDBY'.

As an alternative, the desensitising facility can be controlled from a spare switch section on the transmitter changeover switch (or relay), in which case the receiver STANDBY SWITCH is left permanently in the 'non-standby' position. With this form of control, the two leads from the transmitter switch should be wired in parallel with the existing connections to S7a. The transmitter switch must close this circuit to duplicate the normal operation of S7 in the transmit condition.

**NB** It is important that an efficient aerial changeover relay is used in any installation where an EC10 Mk. II receiver is used with an associated transmitter.

#### **Low-level Audio Output**

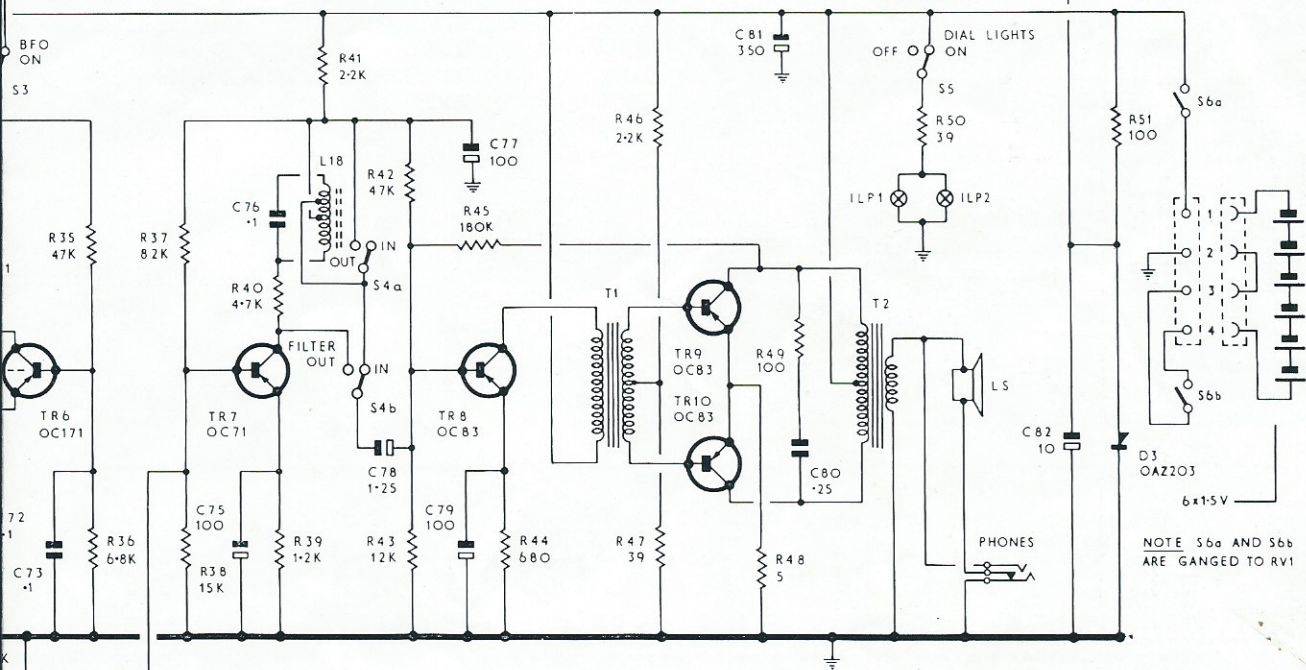
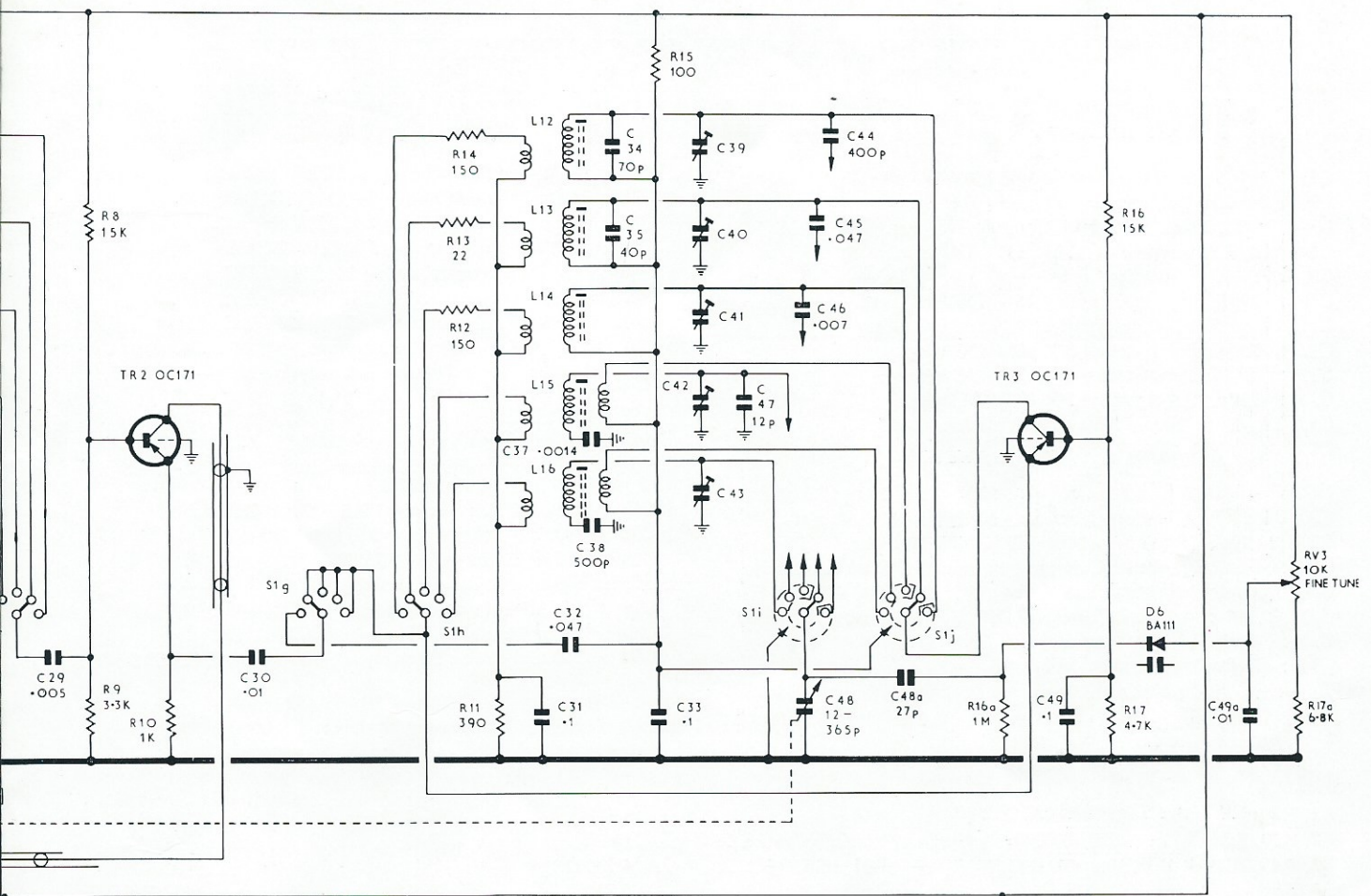
This facility was included on late versions of the basic EC10 receiver and has been fitted also to the Mk. II variant. The output socket is located at the rear of the set (adjacent to the PHONES socket which was previously on the panel). It can be used to feed a tape recorder, or an external audio amplifier providing greater volume than that available from the receiver loudspeaker. A suitable plug is supplied and should be used to terminate a screened cable for connection to the external unit. The braid of the cable should be soldered to the neck of the plug shell and the inner wire to the pin.

The external unit can remain permanently connected and will not affect normal operation of the receiver. Control of volume when using an external amplifier, or recording level when taping a received signal, must be by means of the appropriate control fitted on the external unit. The receiver AF GAIN will not affect the level of signal at this output and would normally be set to minimum when using an external high power amplifier.

#### **Telescopic Aerial Kit LP3126**

A specially designed telescopic aerial is available for use with the EC10 Mk. II receiver and can be obtained from your local dealer. Pre-drilled holes are provided at the rear of the receiver for simple attachment. The LP3126 aerial is primarily intended for use when a normal short-wave aerial is not available, e.g. in occasional portable operation. A properly designed aerial system is strongly recommended when the receiver is installed at a permanent location.





## MODEL EC10 MK II.

# MODEL EC10 Mk. II — LIST OF COMPONENT VALUES

## CAPACITORS

C1 : 3pF Tubular Ceramic $\pm 0.5pF$ 750V DC wkg.	C37 : 0.0014uF Polystyrene $\pm 5\%$ 125V DC wkg.
C2 : 0.002uF Polystyrene $\pm 5\%$ 125V DC wkg.	C38 : 500pF Silvered Mica $\pm 2\%$ 350V DC wkg.
C3-7, 21-25, 39-43 : 6-25pF Ceramic Trimmer.	C44 : 400pF Silvered Mica $\pm 2\%$ 350V DC wkg.
C8 : 80pF Silvered Mica $\pm 10\%$ 350V DC wkg.	C46 : 0.007uF Polystyrene $\pm 5\%$ 125V DC wkg.
C9, 26 : 50pF Tubular Ceramic $\pm 10\%$ 750V DC wkg.	C47 : 12pF Tubular Ceramic $\pm 10\%$ 750V DC wkg.
C10 : 20pF Tubular Ceramic $\pm 10\%$ 750V DC wkg.	C48a : 27pF Polystyrene $\pm 5\%$ 125V DC wkg.
C11, 19 : 390pF Polystyrene $\pm 5\%$ 125V DC wkg.	C49a : 0.01uF Polycarbonate $\pm 20\%$ 100V DC wkg.
C12 : 330pF Polystyrene $\pm 5\%$ 125V DC wkg.	C51, 52, 57, 58 : 300pF Polystyrene $\pm 5\%$ 60V DC wkg.
C13 : 200pF Polystyrene $\pm 5\%$ 125V DC wkg.	C55, 63, 82 : 10uF Tubular Electrolytic $+50\%$ - $10\%$ 16V DC wkg.
C14 : 790pF Polystyrene $\pm 5\%$ 125V DC wkg.	C60 : 250pF Polystyrene $\pm 5\%$ 60V DC wkg.
C15, 27, 48 : 3-gang Air-spaced Variable 12-365pF.	C65 : 0.01uF Metallised Paper $\pm 20\%$ 150V DC wkg.
C16, 18, 28, 31, 33, 49, 50, 53, 54, 56, 59, 61, 62, 71, 72, 73, 76 : 0.1uF Polyester $\pm 20\%$ 250V DC wkg.	C66, 75, 77, 79 : 100uF Tubular Electrolytic $+100\%$ - $20\%$ 15V DC wkg.
C17 : 0.0015uF Tubular Ceramic $+50\%$ - $25\%$ 750V DC wkg.	C67 : 1pF Tubular Ceramic $\pm 0.5pF$ 750V DC wkg.
C20, 34 : 70pF Tubular Ceramic $\pm 10\%$ 750V DC wkg.	C68 : 0.001uF Polystyrene $\pm 5\%$ 125V DC wkg.
C23a : 10pF Tubular Ceramic $\pm 10\%$ 750V DC wkg.	C69 : 470pF Polystyrene $\pm 5\%$ 125V DC wkg.
C29 : 0.005uF Tubular Ceramic $\pm 10\%$ 750V DC wkg.	C70 : 5-60pF Air-Spaced variable.
C30, 74 : 0.01uF Metallised Paper $\pm 20\%$ 200V DC wkg.	C78 : 1.25uF Tubular Electrolytic $+100\%$ - $10\%$ 16V DC wkg.
C32, 45, 64 : 0.047uF Polyester $\pm 20\%$ 250V DC wkg.	C80 : 0.25uF Metallised Paper $\pm 20\%$ 150V DC wkg.
C35 : 40pF Tubular Ceramic $\pm 10\%$ 750V DC wkg.	C81 : 350uF Tubular Electrolytic $+100\%$ - $20\%$ 12V DC wkg.
C36 : Reference not allocated.	

## RESISTORS

(All 10%  $\frac{1}{2}$  watt unless otherwise indicated)

R1, R20: .. .. 68,000 $\Omega$	R11: .. .. 390 $\Omega$	R37: .. .. 82,000 $\Omega$
R2, R10, R32, R33: .. 1,000 $\Omega$	R12, R13: .. .. 22 $\Omega$	R39: .. .. 1,200 $\Omega$
R3, R19, R23, R27, R31: 470 $\Omega$	R14: .. .. 150 $\Omega$	R41, R46: .. .. 2,200 $\Omega$
R4, R7: .. .. 68 $\Omega$	R16a: .. .. 1M $\Omega$	R43: .. .. 12,000 $\Omega$
R5, R15, R18,	R17, R26, R40: .. .. 4,700 $\Omega$	R44: .. .. 680 $\Omega$
R29, R30, R49, R51 .. 100 $\Omega$	R17a, R36: .. .. 6,800 $\Omega$	R45: .. .. 0.18M $\Omega$
R6 .. .. 220 $\Omega$	R22: .. .. 10,000 $\Omega$	R47, R50 .. .. 39 $\Omega$ 5%
R8, R16, R28a, R38: .. 15,000 $\Omega$	R24: .. .. 1,500 $\Omega$	R48: .. 5 $\Omega$ 5% wirewound 3W.
R9, R21, R49a: .. .. 3,300 $\Omega$	R25, R35, R42: .. .. 47,000 $\Omega$	R48a: .. 18,000 $\Omega$
	R28: .. .. 8,200 $\Omega$	RV1: RV3 10,000 $\Omega$ Potentiometer.
	R34: .. .. 22,000 $\Omega$	RV2: .. 5,000 $\Omega$ Potentiometer.

## SPARES

Dial glass (calibrated) .. .. .	D3188B
Fine Tuning Control (RV3) 10,000 $\Omega$ 1in. law. ..	7762P
Carrier Level Meter (100uA FSD) .. .. .	SKM69
Audio Plug .. .. .	6943P
Desensitising Switch (S7) .. .. .	7352P

Manufacturers :

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