

A VERSATILE RECEIVER

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COVERING VHF/FM : LONG, MEDIUM & SHORT WAVES



THE EDDYSTONE EB 35

Finely Engineered : Robust : Transistorised

Introducing the EDDYSTONE "EB35" Receiver

The Eddystone "EB35" Broadcast Receiver is a fully transistorised model of compact dimensions and operating from an internal battery power unit. It is a versatile receiver giving coverage on the long wave band, the medium wave band, the majority of the short wave bands, and the international VHF/FM range of 88 Mc/s to 108 Mc/s, with a high performance throughout.

Features standard to Eddystone receivers are incorporated. The flywheel-loaded tuning knob controls a finely engineered gear drive with a reduction ratio of 110 to 1, resulting in smooth, precise tuning. The main scales occupy a length of nine inches and are clearly marked directly in frequency. Tuning to a given frequency is a comparatively simple matter and a useful additional feature is the provision of a logging scale to permit settings of preferred stations to be recorded for future reference.

The versatility of the "EB35" extends further than the wide range of frequencies covered. A socket is provided from which the signal can be fed to a high fidelity amplifier and the receiver can thus be used

as a tuner unit in conjunction with a "hi-fi" system, still retaining the advantage of having a large number of stations from which to choose. The same socket serves when it is desired to use a tape recorder. A second socket enables the audio frequency stages of the receiver to be used as an amplifier with a record player.

An internal speaker is fitted and the telephone jack on the panel can be used either with a pair of low impedance telephones (preferably of the high quality type) or with a large external speaker.

Power is normally derived from a battery of U2 type cells housed in a detachable compartment. An alternative unit (Cat. No. 924), operating direct from AC mains and providing the correct voltage and current, is available separately and is readily interchangeable with the battery unit.

The "EB35" receiver is housed in a metal cabinet, and, with robust construction throughout, it will stand up to hard usage over a long period with a high degree of reliability. Chromium-plated handles are fitted and the finish is an attractive combination of dark green and beige. The receiver is suitable for use in all parts of the world.

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GENERAL INFORMATION ON THE "EB35" RECEIVER

Frequency Coverage

Range 1	8.5 Mc/s to	22 Mc/s.
Range 2	3.5 Mc/s to	8.5 Mc/s.
Range 3	1.5 Mc/s to	3.5 Mc/s.
Range 4	550 kc/s to	1500 kc/s.
Range 5	150 kc/s to	350 kc/s.
VHF/FM	88 Mc/s to	108 Mc/s.

Tuning System

The scales are horizontal, occupying a length of approximately nine inches. Frequencies are clearly marked to a calibration accuracy within 1%. The tuning control is flywheel-loaded and operates a gear drive with a reduction ratio of 110 to 1. A logging scale and auxiliary vernier allow dial settings to be recorded.

Controls

Six conveniently placed and clearly marked controls as follows:—

on/off switch, volume, tone, wavechange; tuning, dial lights.

Circuitry

A total of thirteen transistors, five diodes and a Zener stabiliser is used. A radio frequency amplifier is effective on all frequencies, leading to high sensitivity. The discriminator is of the Foster-Seeley type, for minimum distortion of the FM signal.

Power Supply

Power is derived from a battery of six U2 type cells, housed in a separate compartment and readily detachable. Voltage stabilisation, where required, is achieved with a Zener diode, which feature leads to

a consistent performance up to the end of the useful life of the battery.

An AC mains supply unit (Cat. No. 924) is available as an alternative. This unit is identical in size and shape with the battery unit, with which it is readily interchangeable.

Special Features

Two sockets are provided at the rear. One is for taking a signal from the detector stage, at moderate impedance, for feeding into either an external amplifier or into a tape recorder. The second socket accepts a signal from a record player and, with a plug inserted, the earlier stages of the receiver are muted.

Dial lamps are provided for occasional use, the switch being of the self-return type, to avoid unnecessary drain on the battery.

Dimensions and Weight

Height	6 $\frac{3}{4}$ in. (16.2 cm)	Weight (less battery)
Width	12 $\frac{1}{2}$ in. (31.7 cm)	is 12 $\frac{3}{4}$ lb (5.8 kg.) with
Depth	8 in. (20.3 cm)	battery 14 lb (6.3 kg)

TECHNICAL PERFORMANCE FIGURES

The following figures are provided for those wishing to have full technical information on the performance of the "EB35" receiver. In plain language, it can be taken that the receiver has high sensitivity and is designed to give good separation between stations transmitting on adjacent channels. The audio output is ample for the majority of domestic requirements and is of good tonal quality. When desired, a larger cabinet type of speaker (of 10 ohms nominal

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impedance) can be used, the lead being plugged into the socket on the front panel.

To allow the receiver to make the most of the incoming signal, an outdoor aerial (not necessarily long), erected in the clear, is recommended, and this will help also to reduce the level of local electrical interference. On VHF/FM, an aerial designed for reception on these frequencies should be used.

Sensitivity

For 15 dB signal-to-noise ratio, sensitivity is better than 5 microvolts on ranges 1 to 3, and better than 15 microvolts on ranges 4 and 5. On VHF/FM, sensitivity is 20 microvolts at 22.5 kc/s deviation for a 20 dB signal-to-noise ratio.

Selectivity

On ranges 1 to 5, the bandwidth is 5 kc/s at the 6 dB points and 25 kc/s at the 40 dB points. FM bandwidth is 250 kc/s at the 6 dB points.

Spurious Responses

The image rejection is approximately 50 dB at 2 Mc/s and 15 dB at 18 Mc/s. Breakthrough at the I.F. of 465 kc/s is at least 85 dB down on ranges 1 to 3 and greater than 65 dB down on ranges 4 and 5.

On the VHF/FM range, the image ratio is better than 25 dB, and IF breakthrough better than 50 dB.

Audio Output

The maximum output approaches 750 milliwatts. A 5" diameter speaker is built-in and a jack on the panel is for use with low impedance telephones. Frequency response is level within 6 dB over the range 100 to 10,000 cycles.

Aerial Input Impedances

On ranges 1 to 3, the input impedance is nominally 75 ohms, balanced or unbalanced, to allow the use of a dipole or single wire aerial. On ranges 4 and 5 the input impedance is nominally 400 ohms.

A standard unbalanced coaxial socket, with nominal impedance of 75 ohms, is provided for connection of the feeder from a VHF aerial for FM reception.

Instruction Manual and Guarantee

A comprehensive Instruction Manual is supplied. Our 12 months guarantee against faulty workmanship or components (excluding semi-conductors) applies.

In the interests of continued improvement, we reserve the right to amend this specification without notice.



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