

CLASSIC COMMUNICATIONS EQUIPMENT

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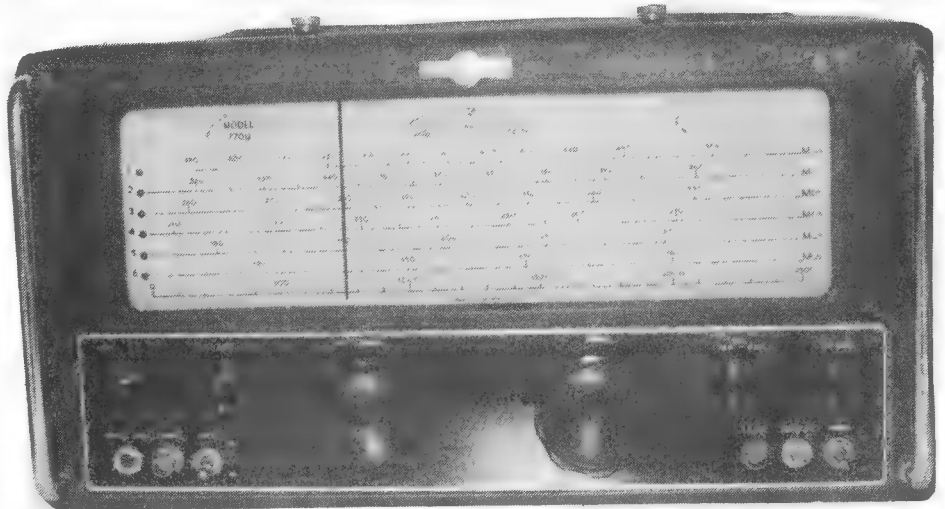
The EDDYSTONE 770U UHF RECEIVER

This month's Classic Communications Equipment looks at the Eddystone 770U UHF receiver, the companion unit to the previously described 770R.

The 770U is a 16 valve, general coverage receiver also designed in 1953-54 and it gives continuous coverage from 150 MHz to 500 MHz in six bands. It receives only AM and narrow band FM. The same large Eddystone horizontal dial is employed with the reduction ratio of approximately 140:1. Like the others of the series, the front panel is a die-casting attached to a solid steel chassis, and the sheet steel case slides on, but has a lift-up lid for minor access.

Internally the power supply is on the right (looking from the front), the RF and band-switching in the centre, and the IF and audio stages on the left side. To minimise variations to the input, the antenna socket is mounted inside the set, directly on the RF turret. Access to plug in an antenna is awkward.

The block diagram shows the antenna input at 72 ohms, unbalanced, switched via a television type tuning turret for the six different bands to tuning coils and then to the RF amplifier, in this instance a 6AJ4. The tuning gang is three sections of only 2-8 pF. The RF amplifier, mixer and oscillator are all mounted right on the turret to minimise lead capacitance, etc. A germanium diode is the mixer and the oscillator is a 6AF4, operating at 50 MHz above the signal on bands three to six, and 50 MHz below on bands one and two. The resultant first IF is at 50 MHz and passes through a cascade amplifier to a 6AK5 IF amp. A

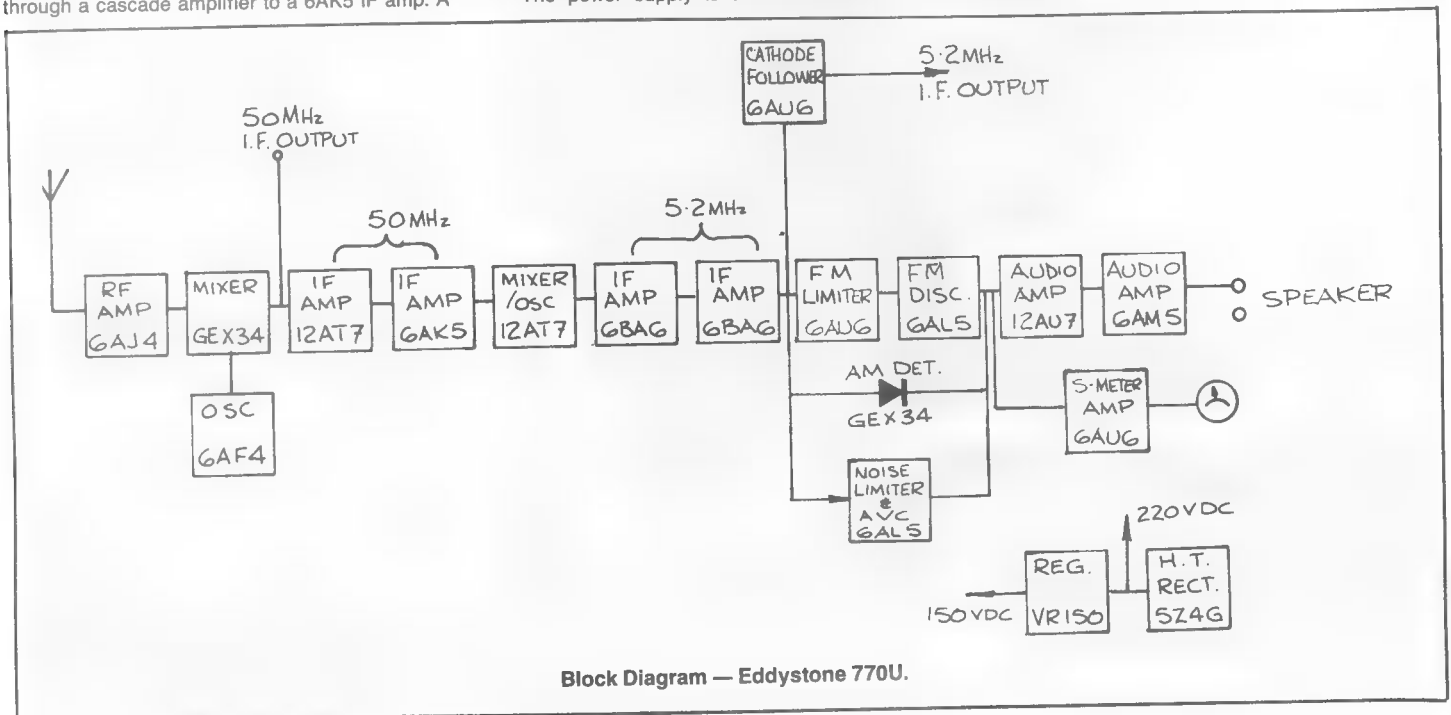


12AT7 acts as a mixer/oscillator to produce a second IF frequency of 5.2 MHz. After two stages of IF amplification, the signal is fed to the detectors. There is a limiter and discriminator for FM, whilst in the AM mode the signal goes to a germanium detector diode. A cathode follower allows the 5.2 MHz IF to be fed to a CRO or analyser, via a coaxial socket on the right-hand side of the front panel. As in the VHF version, additional valves provide noise limiting and AVC, and control the S-meter for signal strength or centre tuning for FM. The audio feeds a 12AU7 push-pull driver and is boosted to 0.5 watts to the 2.5 ohm speaker output by one-only 6AM5.

The power supply is almost identical to the

770R, comprising a tapped transformer allowing inputs between 110 and 250 volts and utilising a 5Z4G rectifier and a VR150/30 regulator.

The control layout on the front panel is very similar to the previously described set. The 0 to 100 vernier disc rotates 25 times from edge to edge of the dial, giving a scale length of 10.36 metres. The meter at the top-right functions as an S-meter on AM, and a centre tune meter on FM. Whereas the band-switch on the 770R was numbered one to six, this one is not — but instead there are small lights down the left edge of the tuning dial, the appropriate one lighting for each band.



Block Diagram — Eddystone 770U.

