

HYPER-FIX

Receiving Antenna Assembly

Type 90538



The Receiving Antenna Assembly 90538 is a broad-band active antenna designed for use with Hyper-Fix.

The antenna assembly offers several electrical and physical advantages over previous receiving antennae. The electrical advantages are mainly the result of incorporating an active matching unit within the assembly. This unit comprises a small RF amplifier employing FET circuitry. The amplifier has a broad-band response of 1500 kHz to 3000 kHz and therefore no pre-tuning to the chain frequency is required. The circuit also matches the unit to the balanced twin-core cable used to input signals to the receiver. The use of balanced feeder cable reduces the effect of 'ship induced' noise.

Lightning protection is afforded by a spark-gap within the unit and the circuit design also offers protection against high level signals.

Power for the antenna assembly is derived from the receiver and is fed via both lines of the balanced feeder cable.

The assembly employs a rod antenna which provides a more rugged installation than the conventional glass-fibre whip. Its design reduces the effect of corona discharge and provides protection against rain induced static.

The overall result of the above features is for more reliable Hyper-Fix operation at extended range and in high noise conditions.

DESCRIPTION

The Receiving Antenna Assembly 90538 comprises a 0.6 metre rigid element which screw-fits into a moulded matching unit. The antenna connection is weather-proofed by an 'O' ring seal and the whole aerial is protected by a screw-fitting cover.

This assembly is supported vertically on a 1.5 metre tube which is secured at the ship's masthead by a 1 inch clamp. Where a pole mount is unsuitable a right-angled Mounting Plate Assembly 90538/1/3/11 is available as a separately supplied item.

A 4 metre long ground cable is supplied as standard, one end of this cable is left free for termination by the user to suit installation requirements.

Receiver cables are supplied in set lengths and these must be user specified. The lengths available are:

- 2 metres — Receiver cable 90518/1/3/30
- 10 metres — Receiver cable 90518/1/3/31
- 15 metres — Receiver cable 90518/1/3/32
- 25 metres — Receiver cable 90518/1/3/33
- 30 metres — Receiver cable 90518/1/3/34
- 50 metres — Receiver cable 90518/1/3/35
- 40 metres — Receiver cable 90518/1/3/36
- 150 metres — Receiver cable 90518/1/3/38
- 100 metres — Receiver cable 90518/1/3/39

Where two receivers are required to operate from a common antenna, a Dual Receiver Aerial Splitter 90504/1/3/1 can be supplied as an additional item.

EQUIPMENT SCHEDULE

The Receiving Antenna Assembly 90538/1/3/1 comprises the following items:

Qty	Description	Part No.
1	Sub. Ass. Matching Unit	90538/1/3/4
1	Sub. Ass. Aerial Element	90538/1/3/14
1	Sub. Ass. Aerial Cover	90538/1/3/21
1	Cable Support Ass.	90039/1/3/900
1	Tube (1.5 m)	B9219/3
1	'O' Ring Seal	Walker - 71.0300
1	1 inch Clamp	
1	Ground Cable (4 m)	90538/1/3/26

TECHNICAL DATA

Height: 638 mm (25.1 in)

Weight: 1.1 kg (2.4 lb)

Power Supply Input (derived from receiver):

Voltage: +12 V d.c.

Consumption: 1 watt

Operating Temperature: -50°C to +120°C
(-58°F to +248°F)

Storage Temperature: -50°C to +120°C
(-58°F to +248°F)

Humidity: 100%

Frequency Response: 1600 kHz to 3400 kHz
3 dB points

Amplifier Gain: +20 dB

Third order
intercept point: +45 dBm

Technical Manual: STM 803

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