

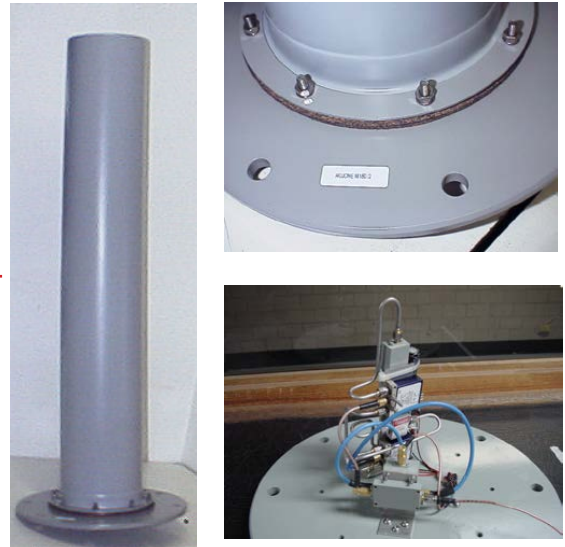


Bicone Antenna, Active Receive 10MHz to 2GHz

(Model: ROJ-130-x)

Features

- ❖ **Broadband 10MHz to 2GHz**
- ❖ **High Gain 19dB or 24dB**
- ❖ **Compact & Robust**
- ❖ **Low Cost – High Performance**
- ❖ **Easy single cable connection**
- ❖ **Universal power installation**



Description

The ROJ-130-X is an Active Bicone Antenna originally designed for the Australian Navy for shipboard application. It is primarily used as an active receive antenna for signals between 10MHz & 1GHz or 10MHz & 2GHz (the frequency is determined by the amplifier selected by the customer).

The system consists of 3 main parts -

1. The Antenna
2. Coaxial Cable
3. Power Supply Module

ANTENNA – this contains an efficient bicone element followed by a limiter, filter, low noise amplifier and fail safe relay. The limiter is a key feature of the antenna as it protects the internal amplifier from accidental high power radiation. The antenna's housed in a robust fiberglass radome with a superior 10mm thick marine grade aluminium mounting plate.

COAXIAL CABLE – One single assembly is used to connect the antenna and power supply. This cable is a good quality low loss coax, supplied as standard with N type male plug at each end.

POWER SUPPLY MODULE – the power supply unit is housed in a standard 1RU rack and will accept any input voltage form 85 to 264VAC and a frequency of between 47 to 440 Hz. Connected using an international IEC standard power lead. This module outputs the received RF signal to an external ship system via a standard N type connection.

OPERATION – the operation of this antenna is quite simple. Once connected & power is applied, the receive signal is limited, filtered and amplified by the antenna & fed down the coaxial cable to the power supply module. When power is switched off to the antenna the filter & LNA are by-passed by internal relays which then connects just the passive antenna & limiter into the circuit.



Specifications

ROJ-130 Series

Antenna	
Frequency	10 – 2000 MHz
Gain	3dBi Typical
Polarisation	Linear Vertical
Pattern	Same as vertical dipole
Return Loss	15dB Typical
Material	Aluminium & Fibreglass radome housing

Limiter (Internal)	
Frequency	2 – 2000 MHz
Insertion Loss	< 1.0dB
Return Loss	15dB Typical
Leakage	+17dBm Max.
Max IP Power	1 Watt average

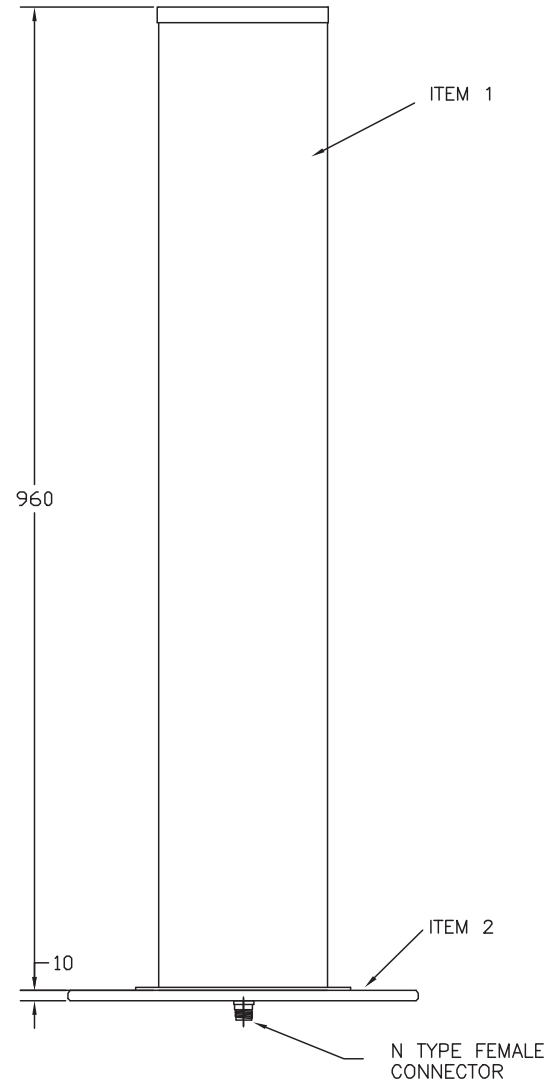
Part Number – ROJ-130-1

Amplifier	
Frequency	10 – 1000 MHz
Gain	24 dB
3rd Intercept Point	34 dBm
Noise Figure	5.5 dB
1dB Comp. Point	20 dBm

Option 1 incorporates an HF High Pass Preselect Filter (30 – 1000 MHz) insertion loss, typically 20 dB.

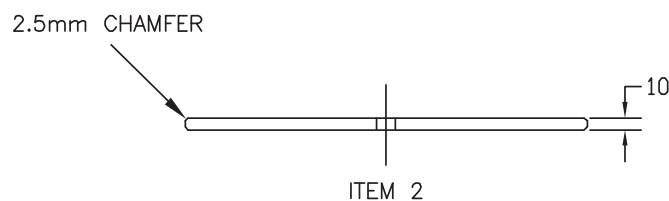
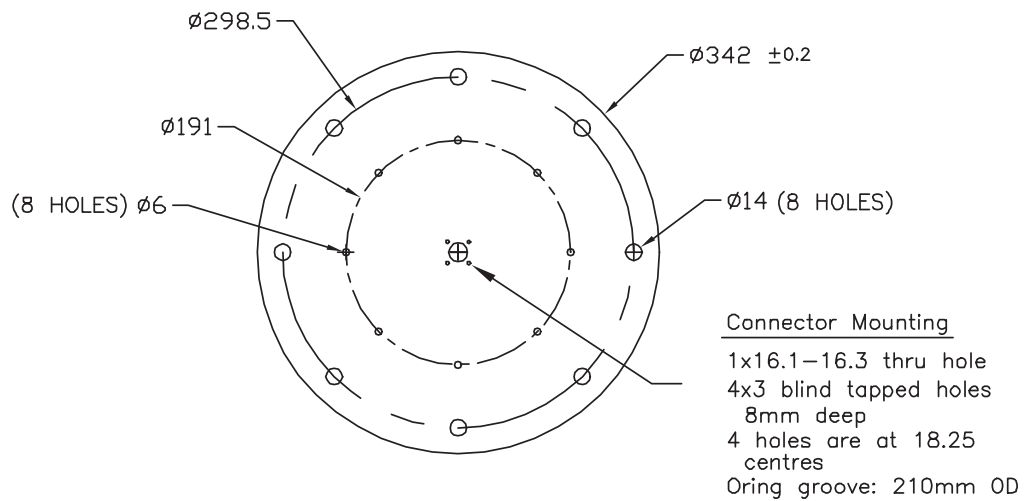
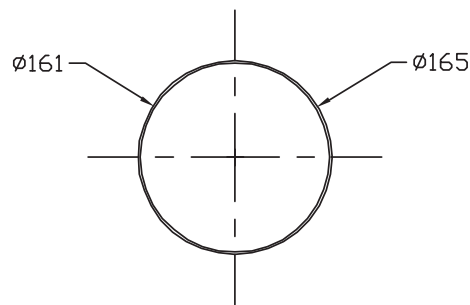
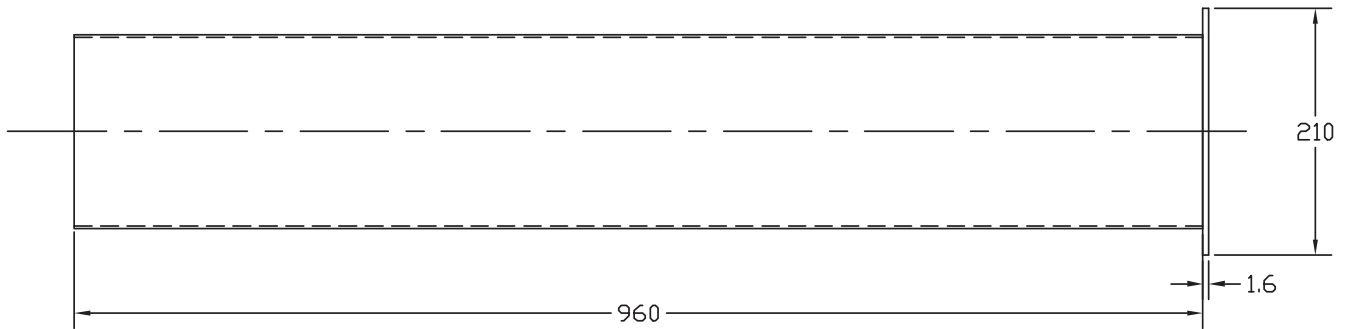
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Amplifier	
Frequency	10 – 2000 MHz
Gain	19 dB
3rd Intercept Point	35 dBm
Noise Figure	5.5 dB
1dB Comp. Point	14 dBm





Mechanical Outline Drawings – Antenna

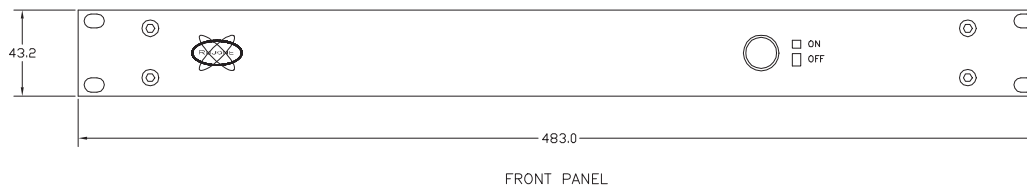
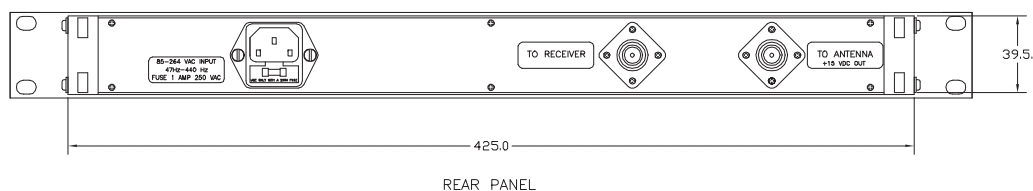
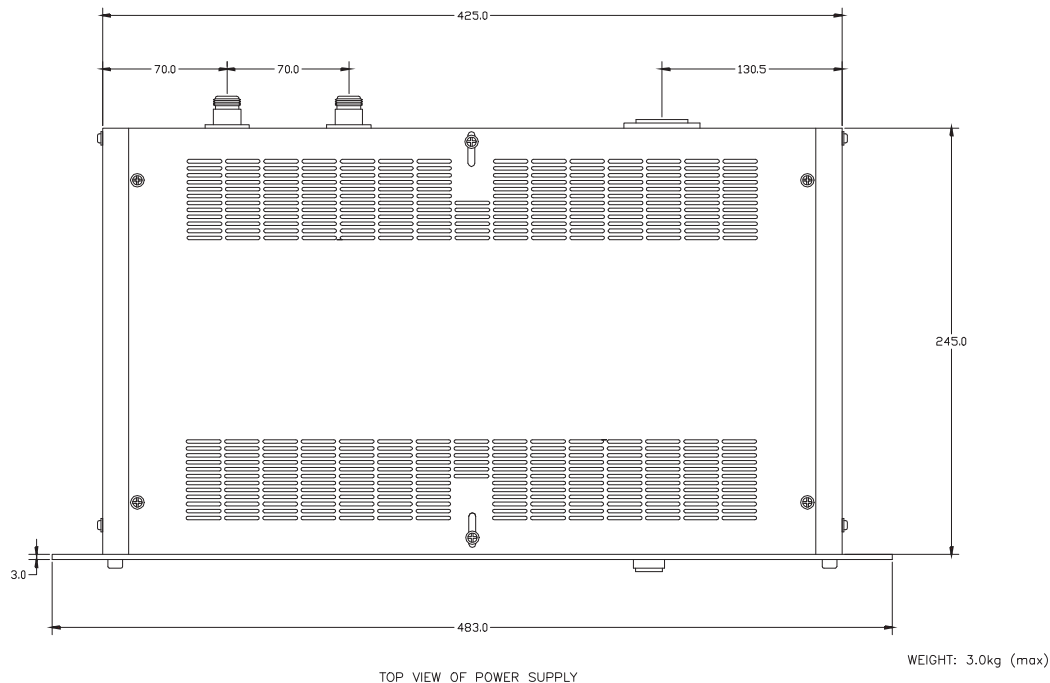


ANTENNA BASE PLATE SPECIFICATIONS

Material: aluminium alloy 6060 (marin)
Thickness: 10mm ±0.25
General Tolerance: ±0.15



Mechanical Outline Drawings – Power Supply Module



- Input Power Range:** 85 to 264 VAC @ 47 to 440 Hz
- Power Connection:** International Standard IEC Power Plug required
- RF Connection:** N type standard Male Plugs will connect to this panel (Note Antenna connection assembly is supplied in the kit)
- Operation:** When the power is switched off to the antenna, the filter & LNA are by-passed by the internal relays which then connects the passive antenna and limiter into circuit for radiation protection.

