

# NOVA 37

## 3.7M 3-AXIS X-BAND RX S-BAND RX/TX

### Product Overview

The 3.7m Full Motion Tracking Antenna is a high-performance premium solution engineered for reliable satellite communications, supporting both S-Band and X-Band operations for critical applications such as Earth observation, satellite telemetry, and remote sensing. This antenna is built to withstand rugged environments and ensure reliable performance under harsh conditions. It features advanced tracking capabilities, polarization options, and flexible frequency conversion, all while providing full-sky coverage without keyhole limitations.

### Positioner Features

**Reflector Size:** 3.7m diameter

**Feed System:** Concentric prime focus feed design optimized for S/X-band operations

**Polarization Options:** Dual Circular Polarization (LHCP/RHCP) selectable or simultaneous operation

**High-Efficiency HPA:** Integrated 100W HPA for high power transmission in S-Band, for an EIRP of 53 dBW

**3-Axis Design:** Provides full-motion tracking without keyhole limitations, ensuring uninterrupted satellite communication across all elevation angles

**Radome Option:** Available for added protection and enhanced operational longevity in extreme environments



### Performance Data

Parameter	Specification
S-Band Receive Frequency	2.200 – 2.300 GHz
S-Band Transmit Frequency	2.025 – 2.120 GHz
S-Band Polarization	Selectable LHCP and RHCP Tx, with simultaneous operation capability for Rx
S-Band G/T	13 dB/K (typical) at 25°C, high elevation
S-Band EIRP	53 dBW (integrated 100W HPA)
S-Band Receive IF Frequency	Tunable to 70 MHz or no conversion
S-Band Transmit IF frequency	Tunable from 70 MHz or no conversion
X-Band Receive Frequency	8.000 – 8.400 GHz
X-Band Polarization	Selectable LHCP and RHCP, with simultaneous operation capability
X-Band G/T	28.5 dB/K (typical) at 25°C, high elevation
X-Band Receive IF Frequency	Center frequency 720MHz (tunable) or 1250 MHz +/- 200 MHz

### Antenna Control & Tracking System



**Tracking Mode:** Program Track  
Positioner : Tri-Axis, No keyhole



**Azimuth Axis Range:** 360° continuous  
**Wedge Axis Range:** 360° continuous  
**Elevation Axis Range:** -5° to +185°



**Velocity & Acceleration:**  
Software-limited to 20 deg/s angular velocity and 20 deg/s<sup>2</sup> angular acceleration



**Pointing Accuracy:** < 0.05° RMS for highly accurate satellite acquisition and tracking

## Electrical and Environmental

**Operating Temperature:** -40°C to +55°C

**Wind Speed:** Operational < 75 km/h, survival < 200 km/h

**Humidity:** 100% outdoor conditions

**Operating Altitude:** 3000m

**Input Power:** 200 - 240 VAC, 20 A, 50/60 Hz, Single Phase

**Weight:** 1200 kg (Estimated)

## Warranty

**Warranty Period:** 2 years

\* Specifications subject to change.

## Control Systems



### Antenna Control Unit

Full Ethernet-based control with web interface, supporting REST or JSON protocols for easy integration to M&C software. Includes integrated safety interlocks, auto-shutdown features, and multi-satellite tracking capability.



### Security

All external interfaces are encrypted with TLS1.3 or SSH with support for advanced features such as mTLS and JWT.



### Dehydration System

Built-in pressurization technology to protect sensitive components from environmental damage.

## Overview

