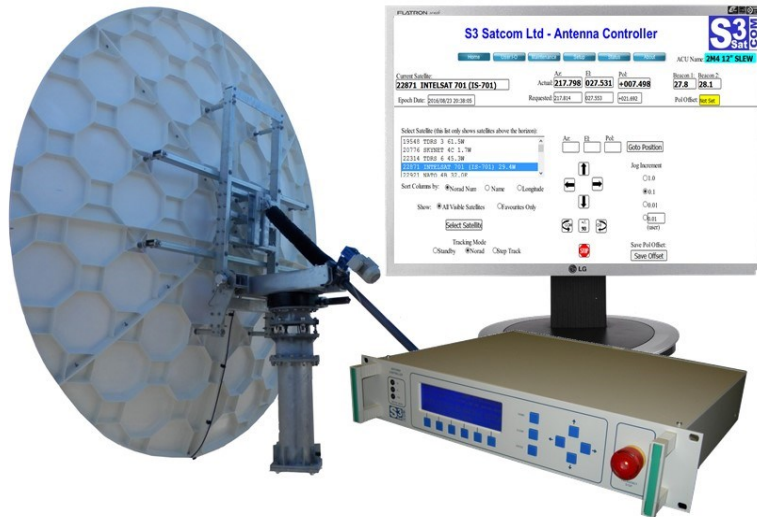















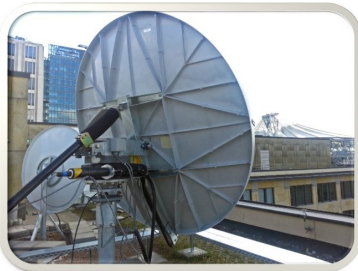
# 1.8m, 2.4m and 3.8m SLEW DRIVE SATSIO



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**Horizon to Horizon 180° azimuth robust 2 or 3-axis motorised antenna mount for 1.8m, 2.4m and 3.8m offset antennas.**
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**3.8m and high wind 2.4m models use 12" mains powered slew drives and mains powered heavy duty 5 tonne jacks driven by variable frequency drives**
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**2.4m and 1.8m standard wind designs use 9" DC powered slew drives and acme DC powered actuators**
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**Excellent azimuth torsional stiffness with low backlash**
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**High quality build rack mounting controller with fibre optic link to outdoor motor box.**
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**Easy access using web client to monitor and control one or many systems.**
- 
**Reliable inclined orbit tracking using NORAD data and advanced algorithms.**
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**Rapid selection and pointing at satellites, with automatically updated database.**
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**Accurate position sensing with 17-bit absolute optical encoders.**
- 
**Flexible systems integration with extensive external device connection facilities.**
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**Fully featured Remote Control and Monitoring Protocol for NMS including SNMP**

## SATSIO TECHNICAL OVERVIEW

The S3 Satcom range of 3.8m, 2.4m and 1.8m slew drive Satsio (Small Antenna Tracking System for Inclined Orbit) has been professionally designed by a team of experts, each with over 30 years experience in the satellite communications solutions business. From the robustness and accuracy of the mechanical mount, to the user-friendly web interface, this system has been designed with the professional operator in mind.



### SATSIO SLEW DRIVE PRECISION MOUNT

The Slew Drive Satsio provides inherently orthogonal azimuth and elevation motion, with a 5° to 90° elevation and 180° azimuth range. Optional  $\pm 90$  polarisation motorisation is currently available for Ka, DBS, Ku-band feeds with C-band available soon.

**Accurate Sensing and Control—** Pointing with a 0.01° accuracy is achieved using 17-bit absolute optical encoders for angle readout. Motorisation is provided by a slew drive fitted with either AC or DC motors on Azimuth and a mains powered high grade jack or DC actuator for Elevation. Mains motors are controlled by programmable 3-phase motor controllers, with the DC motors powered by PWM DC power drives located in the outdoor motor box. A 12v dc motor is used for polarisation driven by a PWM programmable drive. Local Jog controls allow antenna control directly from the outdoor box without an indoor controller fitted.

**Robust Mechanical Build** —Made from heavy gauge steel hot dip galvanized for maximum environmental protection, the 3.8m Satsio mount Interfaces directly to the Prodelin 3.8m offset antenna and either a 10" diameter kingpost or non-pen mount. The 1.8m and 2.4m antennas are compatible with either Prodelin or Skyware TX/RX antennas and interface to a 6.65" OD pipe or non-pen mount. The outdoor motor box is made from stainless steel with an external mains isolator



### SATSIO ROBUST AND RELIABLE CONTROLLER

The Satsio controller provides robust and reliable operation and comprehensive monitoring of key systems. The Satsio indoor controller is a 19" rack mounting unit with a front panel display and operator keys. The IDU is connected to the ODU by a duplex fibre link

**Advanced tracking software—** Antenna pointing uses advanced modelling to calculate the exact position of the satellite at any one time using the NORAD ephemeris data automatically and regularly downloaded by the controller via the Internet. With NORAD tracking enabled, Satsio will automatically move to the precise current position of any inclined orbit satellite and accurately track it by updating the pointing angles every 5 minutes. Step-track using an external beacon receiver is also supported.

**Rapidly point at satellites—**The operator selects which satellite should be tracked from a regularly updated list of available satellites. Alternatively, directly enter the azimuth, elevation and polarisation of the satellite and the system will move to that position.

**Web Interface—** Satsio is supplied with an integral web server as standard, with separate pages for PC and pocket tablet control. Facilities are provided to allow the upgrading the IDU firmware and to remotely configure key system parameters including the ability to back-up and restore the system configuration files.



### SATSIO CONNECTIVITY AND SAFETY

Relay contacts, analogue voltage inputs, status inputs and open collector outputs are all provided to interface easily with external systems and devices. In addition to controlling the Satsio system, the web interface also monitors and controls the any external devices or systems attached to it, removing the need for an expensive separate M&C system.

**Remote Control and Monitoring—** A full serial over Ethernet remote control protocol is supported allowing seamless integration into a station NMS. The Satsio controller can act as an SNMP agent and can be controlled by an SNMP manager for comprehensive remote monitoring and control functionality.

**Built-in Monitoring—**Comprehensive monitoring of the outdoor box parameters is available via the indoor controller including control and monitoring of AC motor VFD, monitoring of DC motor voltage and current, PSU voltages, fibre optical receive power, enclosure temperature and humidity.

**Safety Functions—** safety features of the outdoor box include: mains isolation interlocked with the door release, illuminated Emergency stop button with provision for multiple additional buttons. Motion limits and Emergency stop are hardwired functions and are not dependent on software.