

TrackSat Antennas 3.7m

- **Professional X/Y Antennas for Low Earth Orbiting (LEO) Satellites.**
- **Applications - Ideal for Remote Sensing, Communications, and TT & C.**
- **Science Missions - EOS, NASA - ESSP, Disaster Monitoring Constellation.**
- **Fixed and Transportable Systems.**
- **Smooth Tracking to better than 0.1°.**
- **Low Slew Rates.**
- **Complete Hemispherical Coverage - No Cone of Silence or cable wrap.**
- **Antenna Sizes range from 1.8m to 7m.**
- **Antenna Control and Satellite Scheduling Software.**
- **Options include: Radomes, Anti - Ice Kits, Lightning Protection, Extended Temperature Range, and GPS Time Synchronisation.**
- **Custom Design of Antenna Pedestals and Support Structures.**
- **Site Installation, Civil Engineering, and Maintenance Contracts.**



TrackSat Antennas 3.7m S-Band Specification

Positioning System

Degrees of Freedom	Two (X/Y)
Velocity	4°/Sec
Acceleration	10°/Sec/Sec
Lost Motion	0.035°
Position Step Resolution	0.00004°
X/Y Drive Motors	DC Brushless Servo

Reflector

Reflector	3.7m Composite
Type	Prime Focus
Focal Length	1.369m
F/D	0.37

Environmental (No Radome)

Humidity	0 to 100% RH
Rain	Driving, up to 10cm/hr
Temperature	Operating: -10° to +45° C Survival: -20° to +60° C
Wind	Operating: 60 km/hr Survival: 130 km/hr
Corrosion	Resistant to salt air and spray.

TrackSat Antennas 3.7m S-Band Specification

S-Band Feed

Frequency Range	2.2 to 2.3 GHz
Polarisation	LHCP & RHCP
Axial Ratio	1.0 dB (max)
VSWR	1.2:1 (max)

S-Band LNA

Frequency Range	2 to 4 GHz
Gain	40.0 dB (min)
Gain Flatness	+/-1.5 dB (max)
Noise Figure	43K (max)
VSWR In/Out	2:1 (max)
Output Power @ 1dB Comp	+10 dBm (min)
Nominal DC Power @ 15VDC	150mA
Operating Temperature	-40°C to +60°C

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Clinometer

Angular Range	+/-10 degrees
Resolution	0.002 degrees
Repeatability	0.01 degrees
Hysteresis	0.02 degrees
Time Constant	0.15 seconds
Natural Frequency	7Hz
Temperature Coefficient	10 arc seconds/°C
Output	RS232 NEMA
Operating Temperature	-40°C to +85°C

GPS Time Synchronisation

General	12 ch digital GPS Receiver
Output	RS232 NEMA messages
Update Rate	1 second
Synchronisation	1PPS
Datum	WGS - 84
Acquisition Time	15 sec to 350 sec
Operating Temperature	-40°C to +85°C