



TrackSat Antennas 5.5m

- 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.
- Ethernet (TCP/IP) Antenna Control and Monitoring. Browser based operation.
- Options include: Radomes, Anti - Ice Kits, Lightning Protection, Extended Temperature Range. Built-in: GPS Network Time Server; Meteorological Sensors; Webcam.
- Site Installation, Civil Engineering, and Maintenance Contracts.





TrackSat Antennas 5.5m S/X-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	5.5m Composite
Type	Prime Focus
Panels	9
Focal Length	2286mm
F/D	0.42

Environmental

Humidity	0 to 100% RH
Rain	Driving, up to 10cm/hr
Temperature	Std Operating: -20° to +55° C Std Survival: -25° to +60° C
Wind	Operating: 80 km/hr Survival: 150 km/hr
Corrosion	Resistant to salt air and spray.



TrackSat Antennas 5.5m S/X-Band Specification

Clinometer

Angular Range	+/-3 degrees
Resolution	0.0001 degrees
Repeatability	0.0003 degrees
Time Constant	0.15 seconds
Natural Frequency	7Hz
Temperature Coefficient	±0.0002/°C
Output	RS232 NEMA
Operating Temperature	-25°C to +70°C

Servo Cabinet

Control Interface	Physical	Ethernet 10/100Base-T Up to 100m using std Cat5e or many Km using fibre optic
	Protocol	TCP/IP
Upper Axis Interface	Motor	PWM Signals & Brake
	Encoder	Hall, Incremental Encoder, Motor Temp, and Limit.
Lower Axis Interface	Motor	PWM Signals & Brake
	Encoder	Hall, Incremental Encoder, Motor Temp, and Limit.
Clinometer Interface		RS232 & +24VDC
Power		220 - 240 Vac, 1ph, 20A



TrackSat Antennas 5.5m S/X-Band Specification

S/X-Band Feed

Frequency Range	X-Band	8.025 - 8.4GHz
	S-Band	2.025 - 2.3GHz
Polarization		LHCP & RHCP
Axial Ratio		2 dB (max)
VSWR		1.7:1 (max)

X-Band LNA

Frequency Range	8.02 - 8.42GHz
Gain	45.0 dB (min)
Noise Figure	50K (max)
Operating Temperature	-40°C to +60°C

X-Band Downconverter

Frequency Range	8.02 - 8.42GHz
Conversion Gain	10 dB
Noise Figure	16 dB
IF Output	720MHz
Operating Temperature	-40°C to +60°C
Control	RS422



TrackSat Antennas 5.5m S/X-Band Specification

S-Band LNA

Frequency Range		2.2 to 2.3 GHz
Gain		68 dB (Max)
Gain Flatness v Freq		±0.5 dB (Max)
Noise Figure @ 23°C		0.4 dB
Output Power (P1dB)		+13dBm
Input VSWR		1.3:1 Max
Output VSWR		1.5:1 Max
DC Power		+15VDC @ 300mA
Temperature	Operating	-30C to +75C
	Storage	-40C to +85C

Options:

GPS Network Time Server (Optional)

General		12 ch digital GPS Receiver
Output		RJ45 10/100 Network
Timing Accuracy	Network	1-10 mS
	GPS	<1uS, relative to UTC
Power		85 - 260VAC
Temperature		0C to +50C
Humidity		85% (Max)



TrackSat Antennas 5.5m S/X-Band Specification

Meteorological Sensors (Optional)

Wind Direction	0° to 360°
Wind Speed	4 to 280 Km/hr
External Temperature	-45C to +60C

Webcam (Optional)

Lens	F1.0 varifocal 3-8mm
Viewing Angle	27° to 67°
Focus Range	0.2m to infinity
Resolution	640 x 480
Frame Rate	Up to 30 Frames per Sec
Connections	RJ45 10/100 Network with Power over Ethernet

Extended Temperature Range (Optional)

Temperature	Operating:	-30° to +55° C
	Survival:	-30° to +60° C