

# TCS Space & Component Technology

## Type 2 X/Y Tracking Antenna



TCS Space & Component Technology, based in Torrance, CA, has developed a cost effective X/Y antenna pedestal technology that specializes in precision antenna tracking. Our systems are specifically designed for the Low and Medium earth orbits in support of Remote Sensing and TT&C applications. Applications include: AQUA, TERRA, NPP, MODIS, HRPT, SeaWifs, LANDSAT, SPOT, ENVISAT, ERS, IRS, RADARSAT, DMC, METOP.

We offer a range of X/Y tracking antennas from 1.5-meters to 7.3-meters. When coupled with our installation expertise and worldwide support in such extreme environments as the Arctic, Middle East and Tropics - you can see that TCS Space & Component Technologies can offer the customer a complete satellite tracking solution.

### Available Options

- Dual frequency / polarization
- High performance LNAs
- Full RF chain:
  - Frequency converters
  - Spectrum analyzers
  - RF switching
  - Demodulators/modems
  - Uplink amplifiers
- Anti-icing
- Webcams
- Trailer mountable
- Radomes
- Installation services
- Civil engineering
- Deployable Configurations

### Key Features

- X/Y axis configuration
- No keyhole at zenith
- Ideal for tracking LEO, MEO and GEO spacecraft
- Ethernet (TCP/IP) antenna control and monitoring
- Custom software control
- Low power consumption
- High reliability
- Precision carbon composite antennas

**Contact**

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**See TCS' complete line of products and services at [www.telecomsys.com](http://www.telecomsys.com).**

**Your Established Partner**

TCS brings proven, technology problem-solving expertise to its professional service offerings for the public sector. From continuity of operations and information assurance, to cyber security and integrated logistics support, TCS solves the toughest technical challenges, under conditions that demand the highest level of reliability, availability, and security. As an ISO 9000-certified provider with many consultants holding active security clearances, TCS has an established track record over the past decade as a trusted partner providing mission continuity for the Department of Defense, Special Operations and intelligence communities, the Department of Homeland Security, and the Department of State.

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Specifications (Preliminary — Subject to Change)	
<b>Mechanical</b>	
Antenna Mount	Type 2 X/Y
Aperture Size	3.0m—3.6m (Outdoor System) 3.0m—4.2m (In-Radome System)
Pointing Accuracy	<0.1°
Position Step Resolution	0.00004°
Acceleration	10°/s² max
Velocity	4°/s typical, 10°/s max
Degrees of Freedom	2 (X and Y)
Axis Travel	Full hemispheric coverage
Horizon limits	-2° typical
<b>Control System</b>	
Interface	Ethernet
Power	110/240Vac, 1ph, 13A
<b>RF</b>	
Frequency Range	L, S, X, C, Ku and Ka Band
Polarization	LHCP and/or RHCP
Feed Configuration	Prime Focus
Typical Performance <sup>(1)</sup>	3.6m Outdoor S Band—14.4dB/K
	3.6m Outdoor X Band—24.4dB/K
	4.2m In-Radome S Band—15.5dB/K
	4.2m In-Radome X Band—25.8dB/K
<b>Environmental</b>	
Wind Speed	80km/h wind (Operational) <sup>(2)</sup> 200km/h wind (Survival)
Temperature	-10°C—+50°C (Operational) <sup>(2)</sup> -40°C—+70°C (Survival)
Humidity	100% Relative Humidity
Driving Rain	Up to 10cm/hr

- (1) Performance at 5° elevation, clear sky
- (2) Optional measures (heaters, radomes, HVACs) can be taken to improve operational environmental limits