

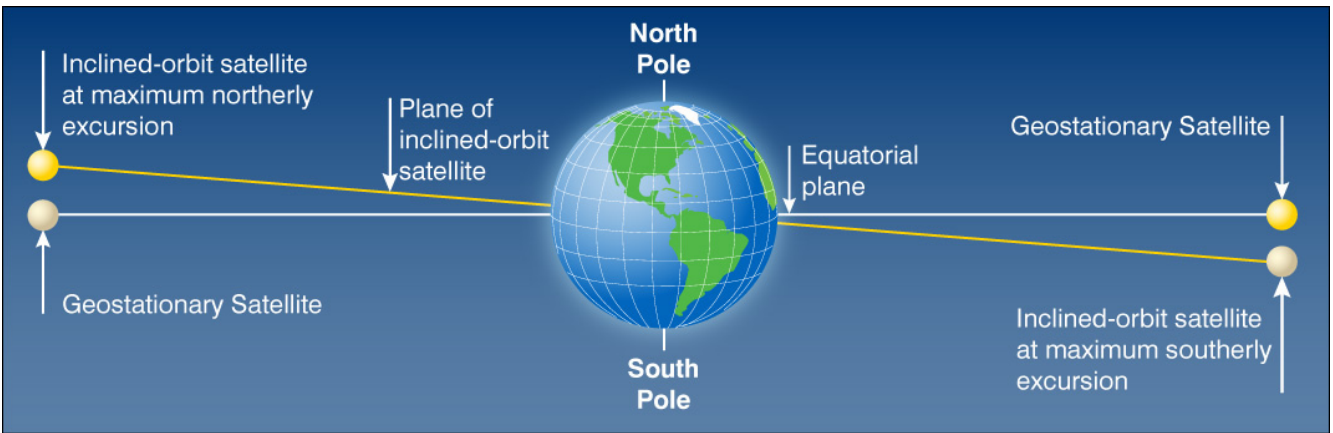
SwiftLink® Inclined Tracking Terminal Solution



The TCS SwiftLink Inclined Tracking Terminal is an upgrade option to the existing TCS SwiftLink SIPR/NIPR Access Point (SNAP) VSAT product family. The first of its kind, the TCS Inclined Tracking Terminal system provides a seamless end-to-end solution meeting the requirements of today's war fighter through integrated hardware, bandwidth and ILS support. The Inclined Tracking Terminal utilizes the latest software and hardware upgrades to existing fielded SNAP VSAT terminals, resulting in the smallest modular and deployable inclined tracking system available today. Perfectly suited for tactical situations, the Inclined Tracking Terminal is ruggedized for use in the harshest environments.

Field tested, the TCS Inclined Tracking Terminal solutions provide secure IP connectivity to SIPR/NIPR or other classified networks through HAIPE encryption, using satellites in inclined orbits up to 15 degrees. Utilization of inclined orbit satellites enables the lowest cost SATCOM solution available today, extending satellite coverage into other geographic areas and providing additional bandwidth where existing requirements are not being fulfilled.

Inclined Orbit Diagram



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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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What is an Inclined Orbit Satellite?

All geosynchronous orbit satellites inevitably drift - onboard propellant and satellite thrusters are therefore used to regularly adjust the orbit in an attempt to keep the satellite in its orbital slot. The satellite's available propellant is typically consumed within 10 to 15 years, with a reserve maintained exclusively for ultimate de-orbit of the spacecraft.

When the satellite reaches this near end-of-life condition it is often allowed to slide into an *inclined orbit*. This condition is characterized by an east-west and north-south drift element - from the ground the deviation of the satellite is envisaged as a "figure eight" rather than remaining at a single point as a normal orbit would.

The east-west element is more tightly controlled to prevent collision with adjacent orbital slots. The north-south drift is not as tightly controlled, and the spacecraft can be allowed to drift as much as fifteen degrees north and south of the equator.

Once inclined, satellites move away from the boresight of standard antennas, necessitating the use of a terminal that is capable of tracking the drift. The commercial end-result is usable bandwidth that is often offered at significantly lower prices – bandwidth that becomes accessible with the TCS Inclined Tracking Terminal solution in place.

Capabilities	
Tracking Range	2° - 30° East/West; 1° - 15° North/South
Multiband Capable	Ku, C, X, Ka
SNAP Upgrade Kit	Field upgradeable software and hardware
Auto-acquire	Green/red button for geostationary and inclined operation; Custom GUI for initial acquisition
Operational Temperature	-25° C to +50° C
Wind	30mph (45 mph gusts)
Bandwidth Coverage Areas	
Europe/Middle East	260+ transponders; Ku, C, X
Asia	120+ transponders; Ku/FSS/DBS, C
Latin America	80+ transponders; Ku, C
North America	80+ transponders; Ku, C