TRACKER 6000 EO

A powerful platform for Earth Observation and New Space

Product Sheet

When Connection Matters

Incorporating the same innovative technology as the popular TRACKER 3700 EO, the TRACKER 6000 EO has become the choice for EO operators, ground station service providers, and government agencies that require higher RF performance, to ensure fast and dependable access to a broad range of observation and research satellites.

With class-leading reliability and low installation and lifecycle costs, this versatile, modular tracking antenna can be configured across a range of bands to meet diverse commercial needs and mission requirements. Today TRACKER 6000 EO systems operate as Gateways and in multi-antenna configurations to serve leading New Space service providers and research organisations.

Ultra-Fast Installation – Low Capital Expenditure

Unlike traditional satellite ground stations, which can take months to build, the TRACKER 6000 EO can be installed and operational in days. Its low weight and small footprint permit smaller and simpler foundations and cabling than competitor systems, ensuring fast installation at a significantly lower cost.

Unmatched Efficiency – Low Operational Expenditure

TRACKER 6000 EO represents a fresh approach to small ground stations, with innovative technology that enhances tracking performance while offering significant cost efficiencies and environmental benefits. A proprietary 3-Axis inertial balancing technology is at the core of the TRACKER range stabilising the system for accurate tracking and maximum throughput while consuming far less power compared to traditional EO antenna platforms. As a result, operators realise impressive cost savings, along with a reduced environmental impact and carbon footprint.

Robust Design – High Service Availability

Capable of withstanding hurricane force winds, the TRACKER 3700 EO protective radome ensures uninterrupted, error-free passes in even the most extreme environmental conditions. With no wind load or weather effects on the antenna, pointing accuracy is unaffected, ensuring fast acquisitions and full throughput, pass after pass. The radome protection further ensures high up-time and system reliability, reduces maintenance requirements, and eliminates outages and unforeseen costs due to damage or environmental degradation.

Enhanced Maintainability and 24/7 Global Support

The robust radome protects all electrical and mechanical components, yielding an industry-leading Mean Time Between Failures. When replacements or upgrades are required, components are easily accessed so that most replacement tasks can be completed in less than an hour.

Standard network interfaces and intuitive software tools allow easy commissioning and integration into the user network, enabling users to perform on-site or remote monitoring. The combination of reliability, monitoring tools, and easy access for maintenance further reduce operational costs. The Cobham SATCOM service team is available 24/7 to help keep systems in service, pass after pass and year after year.

STABILIZED ANTENNA PEDESTAL ASSEMBLY	
Type	Three-axis (Level, Cross Level and Azimuth)
Pointing	Torque Mode Servo
Azimuth, Level, Cross Level Motors	Size 34 FOV Controlled Step motors operating in Torque Mode
Inertial reference	3 Axis Solid State Rate Sensors
Gravity reference	3 Axis Solid State Accelerometers
AZ transducer	16 Bit Absolute Encoder
Pointing accuracy (open loop)	0.5 degrees
Pointing accuracy (closed loop)	0.05 degrees (0.02 degrees Typ)

PEDESTAL RANGE OF MOTION	
Elevation Joint Angle	0 to + 180 degrees
Cross Level	+/- 15 degrees
Azimuth	+/- 270 nominal
Elevation Pointing	+5 to +175 degrees
Tracking modes	Dishscan (Autotrack), Program Track (TLE, ECEF)

ANTENNA REFLECTOR	
Type	Prime Focus, Parabola (1 Hub & 8 Petals)
Diameter	6 m (236 in)
Frequency TX	5.091 - 5.24912 GHz
Frequency RX	6.875 - 7.055 GHz
Size	6 m (19.685 ft)
Gain TX	47.3 dB
Gain RX	49.4 dB
Pattern Mask	FCC 25.209
Mask start point	1.5 degrees
XPD	30 dB

G/T ELEVATION	
5 degree	24.9 dB/K at 7.775 GHz
10 degree	25.6 dB/K at 7.775 GHz
20 degree	26.1 dB/K at 7.775 GHz
40 degree	26.5 dB/K at 7.775 GHz

KA-BAND FEED (TX/RX) 4-PORT OMT	
Frequency TX	5.091 - 5.24912 GHz
Frequency RX	6.875 - 7.055 GHz
Polarization	LHCP/RHCP
XPD	30 dB
VSWR	<1.3:1
Interface Antenna	Circular
Optics	Ring focus backfire

RF EQUIPMENT	
	Various BUC's and LNB's available per customer requirements

REDUNDANCY	
	Options for Dual Redundat BUC configurations are available

RADOME ASSEMBLY	
Type	Frequency Tuned
Material	Proprietary composite foam/laminate
Shape	Modified/truncated sphere
Materials	Proprietary a sandwich
Diameter	8m (216 inch)
Height - radome only	745.0 cm (293.3 inch)
Height - radome with hazard light/lightning spike	889.35 cm (350.12 inch)
Side door opening	WxH 86 cm x 126 cm [33.8 x 49.6 inch], with 15 cm/6 inch stepover height
Number of panels	12 Lower, 12 Middle Lower, 12 Middle Upper, 12
RF attenuation	<0.35 dB
Wind:	Withstand relative average winds up to 201 Kmph (125 mph) from any direction
Ingress Protection Rating	IP 56

FOUNDATION	
Mounting	Contract grade cement pad
Mechanical alignment leveling	Not required
Mechanical alignment pointing	Not required

ENVIRONMENTAL CONDITIONS	
Temperature Range (Operating)	-40º to +55º Celsius (-40º to +131º F)
Humidity	100% Condensing
Wind Speed	56 m/sec (125 mph)
Solar Radiation	1,120 Watts per square meter, 55º Celsius
Icing	Survive ice loads of 4.5 pounds per square foot. Degraded RF performance will occur under icing conditions.
Rain	Up to 101.6mm (4 inches) per hour. Degraded
RF surface	performance may occur when the radome is wet.
Ingress Protection Rating	IP 56

REGULATORY COMPLIANCE	
Survival shock and vibration	N/A
Operational shock and vibration	N/A
Safety	IEC 60950
EMI/EMC Compliance	ETSI EN 301 489-1 V1.4.1 (2002-08) ETSI EN 300 339 (1998-03)
Satellite earth stations and system (SES)	N/A
Safety compliance	IEC EN 60950-1:2001 (1st Edition)
Environmental compliance	RoHS Green Passport
Lightning/surge protection	IEC 61643-1, IEC 6143-12 & NFPA-780

For further information please contact:
satcom.tracker@cobham.com