

TRACKER® 6000 EO

Frequency-Band Flexibility, Platform Scalability & A Heritage of Reliability
Any Orbit, Any Network, Anywhere

ProductSheet

**COBHAM
SATCOM**
Connecting the future



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.

TRACKER 6000 EO – True 6m Performance Across All Frequencies

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 6000 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	2.025 - 2.120 GHz
Frequency RX	2.200 - 2.300 GHz
Size	6 m (19.685 ft)
Gain TX	37.7 dB
Gain RX	38.5 dB
VSWR	>1.3:1
Optics	Circular
XPD	20 dB

G/T ELEVATION X BAND

5 degree	32.0 dB/K at 8.025 GHz
10 degree	32.3 dB/K at 8.025 GHz
20 degree	32.5 dB/K at 8.025 GHz
40 degree	32.6 dB/K at 8.025 GHz

G/T ELEVATION S BAND

5 degree	16.0 dB/K at 2.2 GHz
10 degree	16.3 dB/K at 2.2 GHz
20 degree	16.4 dB/K at 2.2 GHz
40 degree	16.5 dB/K at 2.2 GHz

RF EQUIPMENT

100 Watt S band SSPA, 75 Watt PLIn

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)	-40° to +55° Celsius (-40° to +131° F)
Humidity	100% Condensing
Wind Speed	56 m/sec (125 mph)
Solar Radiation	1,120 Watts per square meter, 55° 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 performance may occur when the radome surface 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

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