TRACKER 3700 EO

Frequency Flexibility. Platform Scalability. A Heritage of Reliability.
Any Orbit. Any Network. Anywhere.

Product Sheet

The TRACKER Range – Enabling innovation and growth for constellations and New Space

A new approach to gateways and user terminals – scalable, easily implemented and supported, and cost-effective. TRACKER Gateways and User Terminals have been selected by LEO/MEO constellation operators, government agencies, and EO and New Space service providers based on proven performance and reliability, robust design suitable for all environments, low total cost of ownership, and Cobham SATCOM's ability to meet demanding implementation schedules.

Tracker 3700 EO – Leader in Earth Observation and emerging IOT/M2M services

Cobham SATCOM has helped lead development of EO and New Space through its proven TRACKER 3700 EO and 6000 EO series of cost-effective, easily configured, and highly
reliable satellite tracking systems.
TRACKER EO systems are in wide-scale operation and have become a leading choice for:

- Mission-critical satellite search and rescue organizations
- Marine traffic and monitoring services
- Earth Observation and imagery companies
- Emerging satellite IoT and M2M providers

The TRACKER 3700 EO is modular and easily configurable, whether for receive only or transmit/receive, in the widely used S/X band or other single or dual-band combinations. Three-axis tracking with protective radome allows operation in the harshest environments and ensures accurate tracking at all times, with optimum signal quality, uninterrupted passes, low power consumption, and high reliability.

A Modular Platform Designed for Scalability – invest at your own pace

Single, Dual, or Triband: invest in what you need today without sacrificing what you will want tomorrow. The TRACKER 3700 EO can be configured for C Band, Ku Band and Ka Band, in any combination. Customers can start with a single or dual band system and upgrade to dual or triband if or when required.

Capable of operating in any GEO and NSGO orbit, TRACKER 3700 EO is the most versatile solution in the industry. Service providers can build 100% orbit and network agnostic on-demand service offerings to meet evolving customer needs.

Unmatched Efficiency & Throughput – True 3.7m Performance Across All Frequencies

Built upon a legacy of over 30 years of research, development and customer collaboration, Cobham SATCOM has optimized the TRACKER series to achieve industry-leading performance. The RF architecture offers the most efficient design in the industry, permitting up to almost double the RF power with the same size antenna and enabling higher throughput and margins.

The optimized RF performance includes superior cross-pol isolation; full transmit waveguide to keep the Tx and Rx units close to the feed (OMT), minimizing loss while increasing RF performance; and full illumination of the reflector to maximize gain efficiency. Additionally, this RF design allows the user to configure and reconfigure with of a much broader range of leading commercial RF units than competing systems.

Robust Design & Ease of Installation

The protective radome shields the antenna from all environmental conditions and yields higher tracking accuracy and throughput, with industry-leading reliability. Adding ease and flexibility of installation, and the proprietary balanced low-power tracking system ensure uninterrupted operation at a significantly lower total cost of ownership than other systems.

Systems are delivered pre-configured and pre-tested, with simple software tools and standard interfaces, allowing quick installation, configuration and connection to the user network. They also come with a full warranty, backed by Cobham SATCOM's 24/7 customer service and global support network, with optional installation and tailored support services.

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)

POWER REQUIREMENTS

Input power	200-264 VAC, 47-63Hz, single phase

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 (2 piece)
Diameter	3.7 m (145.67 in)
Frequency TX	2.025 - 2.120 GHz (S-band)
Frequency RX	2.20 - 3.30 GHz (S-band), 8.0 - 8.5 GHx (X-band)
Size	3.7 m (12.14 ft)
Gain TX	34.9 dBi at 2.025 GHz
Gain RX	35.8 dBi at 2.25 GHz

G/T ELEVATION

40 degree	12.5 dB/K (S Band) 25.5 dB/K (X Band)

FEED S-BAND (TX/RX) - X-BAND RX

Frequency TX	2.025-2.120 GHz (S-band)
Frequency RX	2.20-2.30 GHz (S-band) 8.0-8.5 GHz (X-band)
Polarization	Single Pol TX/RX LHCP/RHCP Co Pol selectable
for S	Band, Dual Pol RX LHCP/RHCP for X-band
XPD	20 dB
VSWR	<1.3:1
Interface Antenna	Circular
Optics	Prime focus

RF EQUIPMENT

100 Watt Psat 50 Watt P1dB S-band SSPA

REDUNDANCY

N/A

RADOME ASSEMBLY

Type	Frequency tuned
Material	Composite foam/laminate
Radome loss	0.75 dB (Reflective loss)
Radome life	20 Years

SIZE

Diameter	4.30 m (168 inch)
Height	4.38 m (172 inch)
Side door	18” wide x 36” high
Number of panels	(8 upper, 8 lower & 8 extension panels + 1 cap
Installed height	4.38 m (190 inch) Including 18” lightning diverter.

FOUNDATION

Mounting	Contract grade concrete pad
Mechanical alignment leveling	Not required
Mechanical alignment pointing	Not required

ENVIRONMENTAL CONDITIONS

Temperature range (operating)	-40° to +55° C (-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	IP56

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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