

EXPLORER 8100

1.0m Stabilized, Auto-Acquire, Drive-Away Antenna System

COBHAM

February 2016 Product Sheet

The most important thing we build is trust

Introducing the all-new EXPLORER 8100 VSAT

A unique Dynamic Pointing Correction technology and an advanced carbon fiber reflector make the 1 meter EXPLORER 8100 the most advanced Auto-Acquire Drive-Away Land VSAT antenna available.

Uninterrupted Communication

Traditional vehicle mounted 'Comms-On-The-Pause' VSAT antennas can lose connection to the satellite with even the slightest movement of the vehicle on its suspension caused by high winds or people getting in and out. EXPLORER 8100 isn't a traditional land VSAT antenna.

With EXPLORER 8100 you can enjoy continuous connectivity services even if the vehicle rocks thanks to a new and unique 'Dynamic Pointing Correction' system. Using lessons learned from Cobham SATCOM's maritime stabilized VSAT antennas, EXPLORER 8100 offers the most reliable connectivity available in its class.

Reliable EXPLORER

EXPLORER 8100 is developed completely in-house by Cobham SATCOM. It features genuine EXPLORER design, which is already established and proven with Cobham SATCOM's highly regarded EXPLORER BGAN and GX terminals.

It is designed to offer unparalleled Comms-On-The-Pause performance, ensuring high-quality connectivity that is available even when other antennas would have lost their connection to the satellite. In the field, this means you can count on EXPLORER 8100 to provide you with vital communications whatever the conditions.

Industry Best

EXPLORER 8100 features industry-leading fast satellite acquisition with pointing achieved typically in less than four minutes, making getting connected to a satellite a quick and easy process.

The system is available in both Ka- and Ku-band configurations and works with all major satellite networks. A swappable feed system allows users to change frequency bands, ensuring full choice of what services to use throughout the lifetime of the antenna.



SYSTEM FEATURES

- A genuine EXPLORER Design
- Rugged, Reliable 1.0m Drive-Away Antenna
- Single Piece 1.0m Offset Feed Carbon Fiber Reflector for Multi-Band Ku/Ka Operation
- Built-in Wifi and a Web-based User Interface for easy PC and Smartphone Configuration
- Precision Polarization Drive in Ku-band configuration
- Harmonic Drive Gear systems
- Inclined orbit satellite tracking and Dynamic Pointing Correction
- Eutelsat Ka-band configuration includes 3W transmit and receive integrated assembly (ViaSat eTRIA)



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| ANTENNA CHARACTERISTICS | Ku-band | | Ka-band (ViaSat eTRIA) | |
|-----------------------------------------------|----------------------------------------|--------------|---------------------------------------|-------------|
| | Receive | Transmit | Receive | Transmit |
| Frequency (GHz) | 10.7 - 12.75 | 13.75 - 14.5 | 19.2 - 21.2 | 29.0 - 30.0 |
| Antenna Gain | 39.3 - 40.8 | 42.0 - 42.2 | 43.9 - 44.5 | 47.6 - 47.8 |
| Cross Pol Isolation (dB) within 1dB beamwidth | >21.4 | >24 | >20.4 | >20.5 |
| Cross Pol Isolation (dB) On-Axis | >24.7 | >32.2 | - | - |
| Feed Port Isolation - Tx to Rx (dB) | 40 | 110 w/filter | - | - |
| Beamwidth (degrees) at -3dB | 1.6° - 1.9° | 1.4° - 1.5° | 1.1 | 0.7 |
| Beamwidth (degrees) at -10dB | 2.8° - 3.4° | 2.5° - 2.6° | 1.9 | 1.3 |
| Antenna Noise Temp. (°K) at 30° Elevation | 55° | | 107° | |
| G/T - Comm (dB/K) | 18.4 dB/K @ 30° EL Midband | | 22.0 dB/K (eTRIA 1.5 dB Noise Figure) | |
| Radiation Pattern Compliance | FCC §25.209, ITU-R S.580 | | ITU-R S.580 | |
| Polarization | Linear Orthogonal Std. Optional Co-pol | | RHCP or LHCP (eTRIA auto selectable) | |
| Standard BUC Options | 8 Watt Extended Band | | 3W ViaSat eTRIA | |
| EIRP with Standard BUC Options (dBW) | 50 dBW | | 54 dBW | |
| Product number | 408157A-50211 | | 408157B-50551 | |

| MECHANICAL | |
|----------------------------|---------------------------------------|
| Positioner | Harmonic Drive |
| Azimuth | ± 195° |
| Elevation | 0-100° antenna boresight (mechanical) |
| Polarization | ± 95° (Ku-band) |
| Satellite Inclination | ± 15° |
| Slewing & Deploying | Up to 9° per second |
| Acquisition time (typical) | < 4 minutes from cold start |

| ELECTRICAL | |
|---------------------------------------|------------------------------------------------------------------|
| RF | Rx and Tx: Type F (75-ohm) connectors on ACU for modem interface |
| LNB (Ku) | Multi-band for international use included. (10.7 - 12.75 GHz) |
| Motors | Low noise, brushless, DC |
| Antenne Controller (1RU) Power Supply | 90 - 264 VAC, 50/60Hz Single Phase 540W (peak) |
| Power Consumption | Motors Active – 290 Watts Motors Idle – 55 Watts |
| BUC Mounting (Ku) | 8 watt extended range BUC included |

| ENVIRONMENTAL | |
|------------------------------------|-------------------------------|
| Wind Speed: Operational (anchored) | 72 km/h / 45 mph |
| Survival, deployed | 118 km/h / 73 mph |
| Survival, stowed | 161 km/h / 100 mph |
| Temperature: Operational | -33° to +55°C / -27° to 131°F |
| Survival | -40° to +80°C / -40° to 176°F |
| Rain | <100 mm/hr |
| Humidity | 0 to 100% (condensing) |
| IP Rating: Antenna | IP-55 |
| Antenna Control Unit | IP-30 |

| REFLECTOR | |
|----------------|------------------------------------------------------------------|
| Size | 1.0m single piece carbon fiber RTM reflector |
| Optics | Offset, Prime Focus |
| Mount Geometry | 2-Axis, Elevation over Azimuth |
| Polarization | Ku-band: Linear with Motorized Rotation Ka-band: RHCP or LHCP |

| WEIGHT & MEASURES | |
|----------------------------|--------------------------------------------------------------------------------------------------------------|
| Weight | 63 kg / 139 lbs with BUC / LNB 56.5 kg / 124.5 lbs with eTRIA |
| Length | 156 cm / 61" |
| Stowed: Height / Width | 35 cm / 14" / 100 cm / 39" |
| Antenna Control Unit (1RU) | |
| - Weight | 4.5 kg / 9.9 lbs. |
| - Dimensions | 4.4 x 48 x 33 cm / 1.75" x 19" x 13" |
| Shipping Crate Dimensions | |
| - Weight | 136.5 Kg / 300 lbs (Ku Antenna, ACU and Accessories) 130 kg / 286.6 lbs (Ka Antenna, ACU and Accessories) |
| - Dimensions (L/W/D) | 162 x 107 x 59 cm / 63.2" x 42.1" x 23.2" |

| ACCESSORIES | |
|-------------|-------------------------------------------|
| 408157A-100 | EXPLORER 8100 Ku to KA-SAT Conversion Kit |

For further information please contact:

Cobham SATCOM Land
Lundtoftegaardsvej 93 D
DK-2800 Kgs. Lyngby, Denmark
Tel: +45 3955 8800

2100 N Alafaya Trail Suite 300
Orlando, Florida 32826 USA
Tel: +1-407-650-9054

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