

# EXPLORER 8100GX

1.0m Stabilized, Auto-Acquire, Drive-Away VSAT System for Inmarsat Global Xpress®

# COBHAM

November 2017 Product Sheet

The most important thing we build is trust

## EXPLORER 8100GX VSAT

The EXPLORER 8100GX enables users to access Inmarsat's global Ka-Band satellite service Global Xpress® and it joins the EXPLORER VSAT family of the most advanced Auto-Acquire Drive-Away Land systems available.

### Uninterrupted Communication

You can enjoy continuous connectivity services with EXPLORER 8100GX even if the vehicle rocks due to high winds or people getting in and out thanks to our unique 'Dynamic Pointing Correction' system. The technology enables a high degree of pointing accuracy as the antenna automatically adjusts to compensate for movement.

### Industry-Leading

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. A swappable feed system allows users to change frequency bands from GX to Ku-band and KA-SAT, ensuring full choice of what services to use throughout the lifetime of the antenna.

### Reliable EXPLORER

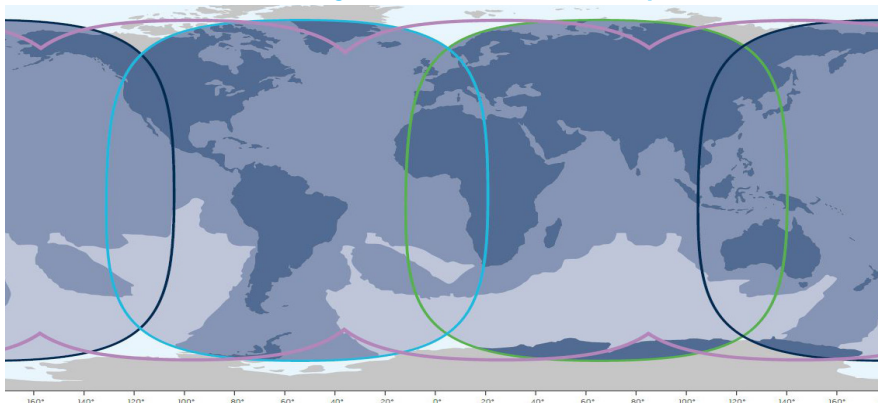
EXPLORER 8100GX is developed completely in-house by Cobham SATCOM. It features genuine EXPLORER design, ensuring high-quality connectivity that is available even when other antennas would have lost their connection to the satellite. In the field, this means you can count on EXPLORER 8100GX to provide you with vital and global communications whatever the conditions.



## SYSTEM FEATURES

- Rugged, Reliable 1.0m Auto-Acquire Drive-Away Antenna
- Single Piece Offset Feed Carbon Fiber Reflector
- Type Approved for Inmarsat Global Xpress® - system includes 5W BUC and modem
- Built-in Wifi and a Web-based User Interface for easy PC and Smartphone Configuration
- Pointing error less than 0.1 degrees
- Advanced Dynamic Pointing Correction
- Harmonic Drive Gear systems
- Advanced Blocking Zone Functionality
- Swappable feed system enables switching to KA-SAT and Ku-band with optional conversion kits

## Global coverage with Inmarsat Global Xpress®



Cobham SATCOM is an official launch partner for the Inmarsat Global Xpress® Ka-band network. With three geo-stationary satellites, Global Xpress® is the first high-speed broadband network to span the world.

Regardless of the application, the Cobham SATCOM suite of EXPLORER GX terminals will provide the reliability and functionality required to fast and effectively connect users to the Global Xpress® network.

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[www.cobham.com/satcom](http://www.cobham.com/satcom)

# EXPLORER 8100GX



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ANTENNA CHARACTERISTICS		
	Receive	Transmit
Frequency (GHz)	19.2 - 20.2	29 - 30
Antenna Gain	43.9 - 44.1	48.1 - 48.3
Cross Pol Isolation (dB) within 1dB	>29.2	>24.2
Cross Pol Isolation (dB) On-Axis	>30.7	>27.1
Beamwidth (degrees) at -3dB	1.0°	0.7°
Beamwidth (degrees) at -10dB	1.8°	1.2°
Antenna Noise Temp. (°K) at 30° Elevation	177°	-
G/T - Comm (dB/°K)	21.5 dB/°K @ 30° EL Midband	
Radiation Pattern Compliance	FCC/ETSI	
Polarization	RHCP (Tx) and LHCP (Rx)	
BUC (NJT5830)	5 Watt Ka Band	
LNB (NJR2825)	Ka Band PLL	
EIRP	55.3 dBW	

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

ELECTRICAL	
RF	Rx and Tx: Type F (75-ohm) connectors on ACU for modem interface
LNB (Ka)	19.2 - 20.2 GHz
Motors	Low noise, brushless, DC
Antenna Control Unit Power Supply	100 - 240 VAC, 50/60Hz Single Phase 500W or 1000W option available. BUC Voltage Nom. 48VDC
ACU to antenna cable	10m / 30" cable harness, incl. Rx, Tx, BUC power and control, antenna power and control
Power Consumption	Motors Active – 290 Watts Motors Idle – 55 Watts

ENVIRONMENTAL	
Wind Speed: Operational (anchored) Survival, deployed Survival, stowed	112 km/h / 69 mph 130 km/h / 80 mph 161 km/h / 100 mph
Temperature: Operational Survival	-33° to +55° C / -27° to 131° F -40° to +80° C / -40° to 176° F
Rain	<100 mm/hr
Humidity	0 to 100% (condensing)
IP Rating: Antenna ACU / GX Modem	IP-55 IP-30

ACU AND GX MODEM SPECIFICATIONS		
	ACU	GX Modem
Dimensions (HxWxD)	4.4 x 48.3 x 47.6 cm 1.7" x 19.0" x 18.7"	4.4 x 48 x 33 cm 1.7" x 19.0" x 13"
Rackmount	1 Unit, 19" RU	1 Unit, 19" RU
Weight	4.3 kg / 9.5 lbs	3.5 kg / 7.7 lbs
Display and Controls	OLED display, Web Interface, 5 push buttons, 3 indicator LEDs and ON/OFF switch	Web Interface, power LED and ON/OFF switch
Interfaces	2 x F-Connectors (Modem Rx/Tx) 1 x SMA-Connector (LNB Rx) 1 x N-Connector (BUC Tx) 1 x ODU Power & Comm 1 x BUC Power & Comm 2 x Serial Ports (RS-232 / RS-422) 6 x LAN Connectors, RJ45 1 x WLAN Antenna 1 x AC power input	2 x F-Connectors (Rx/Tx) 1 x RS-422 (Modem Control) 1 x RS-232 (Modem Control) 1 x RS-232 (modem Console) 1 x LAN Connector, RJ45 1 x AC power input
Modem	-	iDirect GX Core Module

REFLECTOR	
Size	1.0m single piece carbon fiber reflector
Optics	Offset, Prime Focus
Mount Geometry	2-Axis, Elevation over Azimuth

ANTENNA WEIGHT & MEASURES	
Weight	60 kg / 132 lbs with GX feed / BUC / LNB
Length	156 cm / 61"
Stowed: HxW	35 cm x 100cm / 14" x 39"

PRODUCT NUMBER	
408157C-50111	EXPLORER 8100GX

ACCESSORIES	
408157A-300	EXPLORER 8100 Ku to Ka (5W) Conversion Kit
408157D-100	EXPLORER 8100 Ka (5W) to GX Conversion Kit
408157A-100	EXPLORER 8100 Ku to KA-SAT Conversion Kit

OTHER PRODUCT VARIANTS	
408157A-50211	EXPLORER 8100 Ku (8W BUC / 500W ACU)
408157A-50313	EXPLORER 8100 Ku (20W BUC / 1000W ACU)
408157A-50013	EXPLORER 8100 Ku (No BUC / 1000W ACU)
408157B-50551	EXPLORER 8100 Ka (ViaSat eTRIA)
408157D-50111	EXPLORER 8100 Ka (5W BUC)

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