

# EXPLORER 5120

1.2 Meter, Auto-Deploy Fly-Away Antenna System

# COBHAM

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The most important thing we build is trust



EXPLORER 5120 Fly-Away Antenna System

## EXPLORER 5120

The EXPLORER 5120 is a 1.2m Ku-band fly-away antenna system that deploys automatically. This allows personnel with minimal satellite experience to easily configure and operate the terminal, enabling the user to access any broadband application over satellite.

### System Features

- Rugged, Reliable 1.2m Ku Band Fly-Away Antenna
- Solid Resin Fiber Composite Reflector: High EIRP, High-Performance
- Mechanical Drive systems including Zero-Backlash Az/EI Cable Drive, and Precision Polarization Drive
- WR-75 Flex WaveGuide to BUC interface
- Inclined orbit satellite tracking

### About EXPLORER Products

Cobham SATCOM Land offers a diverse array of turn-key satellite terminals that fulfill critical communications needs and reduce system configuration requirements for end users. The solutions we provide offer a wide variety of data rates in multiple frequency bands including L, Ku, Ka, and X-bands. Systems are available as manual, or auto-deploy configuration, and are organized in drive-away, fly-away and comm-on-the-move (COTM) families. When traditional communication technologies are unavailable or fail, our products provide high quality VoIP, RoIP, FAX, data, and multimedia communications that work efficiently across satellite links. We specialize in assisting partners with integrated end-to-end solutions for rapid deployment to support disaster recovery, continuity of operations and other mission critical applications.

### Markets

- Military
- Homeland Security
- Emergency Response
- Law Enforcement
- Media: Live Streaming Video, TV Broadcasting
- Telemedicine: Critical Medical Information Transmission
- Mobile Insurance Claims & Settlements
- Remote Office Communications
- Energy and Mining

### Applications

- Continuity of Business Operations
- Remote Business Videoconferencing
- Internet Cloud Services: Voice, Radio, Data, Fax, Live Broadcast

### Assembly Time

15 Minutes (typical)

### Reflector

Size	1.2m Resin Fiber Composite
Optics	Offset, Prime Focus, 0.8 F/D
Construction	2 Segments
Polarization	Motorized Rotation of Feed

### Mechanical

Positioner	Cable Drive
Travel Velocity	
Azimuth	400° or $\pm 200^\circ$ from stow position
Elevation	5 - 75° from stow position (operational)
Polarization	$\pm 95^\circ$
Slewing & Deploying	2° per second
Peaking	0.2° per second
Tracking	0.1° per second

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Antenna Characteristics		Ku-Band
Polarization	Linear orthogonal	
Frequency (GHz)	Rx	10.95 -12.75
	Tx	13.75 -14.50
Antenna Gain (dBi ± 0.2)	Rx	41.4
	Tx	42.9
VSWR	Rx	1.30:1
	Tx	1.30:1
Beamwidth - at -3db  - at -10db	Rx	1.4
	Tx	1.2
	Rx	2.5
	Tx	2.1
Cross Pol Isolation: (dB) - On Axis  - Off Axis (within 1 dB BW)	Rx	30
	Tx	35
	Rx	28
	Tx	30
Feed Port Isolation Tx to Rx (dB)	Rx	35
	Tx	80 w/ filter
Antenna Noise Temperature (°K) at 20° Elevation	Rx	54°
G/T - Comm @ 30° EL, Midband (dB/K)	21.5	
Radiation Pattern Compliance > 1.8°	FCC §25.209, ITU-R S.580	
Standard BUC Options	8W, 20W	

## Environmental

Wind Speed	
Operational (anchored)	72 km/h (45 mph)
Survival (anchored)	80.5 km/h (50 mph)
(anchored/stowed)	161 km/h (100 mph) Fly & Drive Option
Temperature	
Operational	-30° to +51°C (-22° to 125°F)
Survival	-40° to +60°C (-40° to 140°F)
Rain	<100 mm/hr
Humidity	0 to 100% (condensing)

## Electrical

RF	Rx and Tx: Type F (75-ohm) connectors
Interfacility Link	9.14m (30 ft) Dual RG6 Coax, 1 Control Cable
Motors	24VDC Servo w/ Optical Encoder, Constant Torque
Controller (1RU) Power Supply	90 - 264 VAC, 50/60Hz Single Phase 300W standard; 1000W option available
Power Consumption (controller)	Motors Active – 150 Watts Motors Idle – 30 Watts
Waveguide	90° WR75 Waveguide Rotary Joint @ Feed TX Input
Emergency Drive	Handcrank on Az & El; Knob on Pol

## Approximate Weights & Measures

2-Case Packup Option	
Positioner Case	43.1 kg (95 lbs) 58.4 x 66.0 x 55.8 cm (23" x 26" x 22")
Reflector Case	57.2 kg (126 lbs) 122.8 x 62.2 x 40.6 cm (48" x 24.5" x 16") Fly & Drive Reflector Case: 65.3 kg (144 lbs)
Rack Mount (1RU)	Weight 2 kg (4.5 lbs.) 22.9 L x 26 W x 6.4 H cm (9" x 10.3" x 2.5")
Antenna Control Unit	
Handheld Display Unit	Weight 0.22 kg (0.5 lbs) 114 L x 8.3 W x 3.5 H cm (5 <sup>1</sup> / <sub>2</sub> " x 3 <sup>1</sup> / <sub>4</sub> " x 1 <sup>3</sup> / <sub>8</sub> ")

## Integrated "TraCLRI" GUI Feature:

The Live Remote Interface (LRI) is a web-based graphical user interface accessory for EXPLORER satellite antenna terminals. TraCLRI communicates with any Cobham Antenna Controller Unit (ACU) and allows the user to easily configure and remotely monitor satellite auto-acquisition operations using a standard web browser. Available on a variety of devices such as PC's, tablets and smart phones.



## Cobham Antenna Controller

Industry standard setting one-button auto-deploy operation with automatic satellite acquisition and cross-pol adjustment, integrated GPS, GLONASS, Compass, Level Sensors and user configurable satellite selection for primary and secondary satellites.

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