The General Dynamics SATCOM Technologies lightweight 1.8-meter motorized flyaway antenna is designed for worldwide transmit and receive operation in C, X, Ku and Ka-band. This flyaway antenna consists of a carbon fiber composite reflector, a cable-driven elevation-over-azimuth positioner and an aluminum/CFRP support structure. This results in a low-weight, motorized antenna with superior stiffness and high performance under wind loading conditions.

The unique shape and the accurate reflector surface provide exceptionally low sidelobe and cross-polarization performance meeting INTELSAT and EUTELSAT requirements. Repeatability is maintained with precision registration of the nine reflector segments and the feed support structure. The interchangeable feeds are palletized for quick, easy removal and replacement, allowing the end-user to effectively change frequency bands in the field within minutes. The complete antenna system, including a single feed and a motorized positioner, is packaged in four robust, portable cases.

Features
- Carbon fiber reflector: Lightweight, precision surface and high stiffness
- Cable-driven positioner: Composite/aluminum construction, lightweight, sturdy
- Easy deployment: Two-person assembly in less than 15 minutes, captive hardware and precision alignment
- Auto-acquisition with DVB reference
- 24 VDC or 100-240 VAC input
- High performance: Low sidelobes and high EIRP capability

Options
- Finishes: White, green, tan or per customer spec
- Feeds: Four-port, co-pol, CP/LP switchable
- L, C, X, Ku, Ka and DBS-band
- C-band CP/LP switchable also available
- Beacon receiver
- Spectrum Analyzer
- SSPB / LNB integration
Technical Specifications

**Environmental**

- **Wind Loading**
  - Operational (with ballast): 30 mph (48 km/h) gusting to 45 mph (72 km/h)
  - Survival (with tie-downs): 60 mph (96 km/h)

- **Temperature**
  - Operational: -22° to +122° F (-30° to +50° C)
  - Survival: -40° to +158° F (-40° to +70° C)

- **Relative Humidity**
  - Operational and survival: 0% to 100%

- **Solar Radiation**: 360 BTU/h/ft² (1000 Kcal/h/m²)

- **Shock and vibration tolerant to conditions encountered during shipment by airplane, ship or truck. Atmospheric tolerant to conditions encountered in coastal regions and/or heavily industrialized areas.**

**Mechanical**

- **Azimuth Travel**: ±180°
- **Elevation Travel**: 0° to 90°
- **Polarization Travel**: ±90° (linear polarization only)
- **Reflector Structure**: Carbon fiber composite
- **Pedestal Structure**: Aluminum/composite cable-driven azimuth-over-elevation positioner on carbon fiber structural case

**Boom Mounted HPA Loading**

- 60 lbs (27.2 kg)

**Transport Configuration**

- **Case**
  - Case Size (L x W x H)
    - Component Case 1: 41.12 x 37.12 x 38.82 in (104.4 x 94.3 x 98.6 cm)
    - Component Case 2: 30.00 x 28.00 x 28.79 in (76.2 x 76.2 x 73.1 cm)
  - Total weight (component and case)
    - Component Case 1: 174 lbs (78.9 kg)
    - Component Case 2: 156 lbs (70.8 kg)

- **Reflector Case**
  - Case Size (L x W x H)
    - Reflector Case 1: 37.25 x 27.18 x 19.44 in (94.6 x 69 x 49.4 cm)
    - Reflector Case 2: 37.38 x 37.38 x 38.43 in (94.9 x 94.9 x 97.6 cm)
  - Total weight (component and case)
    - Reflector Case 1: 79 lbs (35.8 kg)
    - Reflector Case 2: 163 lbs (73.9 kg)

- **Total System (feeds cased separately)**
  - 91.75 ft³ (2.6 m³)
  - 572 lbs (259.5 kg)

**Electrical**

- **Frequency (GHz)**
  - C-Band: 3.625 - 5.850
  - Ku-Band: 7.250 - 7.900
  - Ka-Band: 10.950 - 13.750
  - X-Band: 20.200 - 30.000

- **Antenna Gain at Midband**
  - C-Band: 35.60 dBi
  - Ku-Band: 41.30 dBi
  - Ka-Band: 45.10 dBi

- **Typical G/T at 4.000 GHz, 20° Elevation, Clear Horizon**
  - C-Band: 25.1 dB/K
  - Ku-Band: 24.1 dB/K

- **Typical G/T at 7.500 GHz, 20° Elevation, Clear Horizon**
  - X-Band: 20.0 dB/K

- **Pattern Beamwidth (in degrees at midband)**
  - -3 dB Beamwidth: 2.84°, 1.87°, 1.86°, 1.44°, 1.33°, 0.95°, 0.80°, 0.55°, 0.38°

- **Sidelobe Performance**
  - For Angle A beyond Mainbeam to 20°: 29-25 log A
  - For Angles from Mainbeam to 45°: 32-25 log A
  - For Angle A from 1°-30°: 29-25 log A
  - For Angles from 30°-130°: 29-25 log A
  - For Angles from 130°-180°: 0 dBi

- **Cross Polarization**
  - On Axis: 30.0 dB
  - Within 1.0° Beammatic: 26.0 dB
  - VSWR: 1.30:1

- **Port-to-Port Isolation**
  - Rx/Tx (Rx frequency): 0 dB
  - Tx/Rx (Tx frequency): -20 dB

- **Feed Insertion Loss**
  - 0.20 dB

- **Output Waveguide Flange Interface**

**Electrical**

- **C-Band 2-Port Linear Polarized Feed**
  - Gain: 35 dB

- **Ku-Band 2-Port Circular Polarized Feed**
  - Gain: 41 dB

**Other feeds available. Contact factory for information.**

**Low axial ratio feed available.**