**Model 7.3m Cassegrain Antenna**

*SATCOM Antennas - The Strength to Perform*

**Description**

The General Dynamics SATCOM Technologies 7.3-meter antenna delivers exceptional performance for transmit/receive and receive only applications for L through DBS-band frequencies. This antenna offers a reflector design that incorporates precision-formed panels, contoured radials and a machined hub assembly. It features an innovative Cassegrain feed and subreflector design which results in high gain, low noise temperature, high antenna efficiency and excellent rejection of noise and microwave interference. A large center hub provides spacious accommodation for equipment mounting. The reflector is supported by a galvanized kingpost pedestal that provides the required stiffness for pointing and tracking accuracy. The pedestals are designed for full orbital arc coverage and are readily adaptable to ground or rooftop installations. The electrical performance is compliant with FCC and ITU-RS-580 sidelobe specifications and Intelsat (F3, E3) and Eutelsat (L, S1) requirements. All configurations meet SATCOM Technologies’ own type-approved quality assurance and performance guarantee.

**Options**

- L, S, C, X, Ku and DBS-band feeds
- C/Ku receive only feed systems
- Specialized feed systems (e.g. extended, multi-band)
- Antenna control system with tracking
- Reflector and feed deicing systems
- Environmental hub configurations
- Integrated transmit cross axis kits
- Integrated LNA or LNB systems
- HPAs, converters and M&C systems
- Load frame mounts
- Packing for sea and air transport
- Turnkey installation and testing

**Upgrades**

- Extended azimuth travel
- Low operating temperatures
- High power configurations
### Model 7.3m Cassegrain Antenna

#### Technical Specifications

<table>
<thead>
<tr>
<th></th>
<th>C-Band 4-Port Circular Polarized</th>
<th>C-Band 4-Port Linear Polarized</th>
<th>Ext. C-Band 4-Port Circular Polarized</th>
<th>Ku-Band 4-Port Linear Polarized</th>
<th>DBS-Band 4-Port Linear Polarized</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency (GHz)</strong></td>
<td>C-Band: 3.625 - 5.850</td>
<td>C-Band: 3.625 - 5.850</td>
<td>C-Band: 3.400 - 5.850</td>
<td>C-Band: 10.700 - 17.300</td>
<td>C-Band: 10.700 - 17.300</td>
</tr>
<tr>
<td></td>
<td>4.200</td>
<td>4.200</td>
<td>4.200</td>
<td>12.750</td>
<td>12.750</td>
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<tr>
<td><strong>Gain, Midband dBi</strong></td>
<td>48.10</td>
<td>48.10</td>
<td>48.00</td>
<td>56.50</td>
<td>56.90</td>
</tr>
<tr>
<td><strong>VSWR</strong></td>
<td>1.25:1</td>
<td>1.25:1</td>
<td>1.30:1</td>
<td>1.30:1</td>
<td>1.30:1</td>
</tr>
<tr>
<td><strong>Pattern Beamwidth</strong></td>
<td>-3 dB, at midband</td>
<td>0.67°</td>
<td>0.67°</td>
<td>0.23°</td>
<td>0.23°</td>
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<tr>
<td></td>
<td>-15 dB, at midband</td>
<td>1.41°</td>
<td>1.41°</td>
<td>0.48°</td>
<td>0.48°</td>
</tr>
<tr>
<td><strong>Antenna Temperature (K)</strong></td>
<td>5° Elevation</td>
<td>49</td>
<td>49</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>10° Elevation</td>
<td>40</td>
<td>40</td>
<td>73</td>
<td>73</td>
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<tr>
<td></td>
<td>20° Elevation</td>
<td>35</td>
<td>35</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>40° Elevation</td>
<td>33</td>
<td>33</td>
<td>61</td>
<td>61</td>
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<tr>
<td><strong>Typical G/T (dB/K)</strong></td>
<td>4.000 GHz, 30 K LNA</td>
<td>29.8</td>
<td>29.6</td>
<td>35.2</td>
<td>36.1</td>
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<tr>
<td></td>
<td>11.725 GHz, 70 K LNA</td>
<td>30.0</td>
<td>35.0</td>
<td>36.1</td>
<td>36.1</td>
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<tr>
<td><strong>Axial Ratio (dB)</strong></td>
<td>0.50</td>
<td>10 kW CW</td>
<td>10 kW CW</td>
<td>2 kW CW</td>
<td>2 kW CW</td>
</tr>
<tr>
<td><strong>Cross Polarization Isolation (dB)</strong></td>
<td>On Axis</td>
<td>30.8</td>
<td>35.0</td>
<td>35.0</td>
<td>35.0</td>
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<tr>
<td></td>
<td>Within a 1.0 dB beamwidth</td>
<td>35.0</td>
<td>35.0</td>
<td>35.0</td>
<td>35.0</td>
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<tr>
<td><strong>Port to Port Isolation (dB)</strong></td>
<td>Rx/Tx (Rx frequency)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td></td>
<td>Tx/Rx (Tx frequency)</td>
<td>-85</td>
<td>-85</td>
<td>-85</td>
<td>-85</td>
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<tr>
<td><strong>Sidelobe Performance</strong></td>
<td>RF Specification</td>
<td>975-3475</td>
<td>975-3475</td>
<td>975-3480</td>
<td>975-3484</td>
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<td></td>
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</tbody>
</table>

(1) All values are at rear feed flange. (2) C-band Rx values are at 4 GHz. (3) Typical G/T at 20° elevation with clear horizon using single bolt-on LNA to feed.

### Mechanical Environment

- **Kingpost Pedestal (KX120)**
- **Kingpost Pedestal (KX200)**

#### Antenna Diameter
7.3 meters (24 feet)

#### Antenna Type
Cassegrain design

#### Reflector Construction
20 precision-formed aluminum panels with heat-diffusing white paint
Cleaned and brightened aluminum back-up structure

#### Hub Dimensions
66 in (152 cm) OD, 36 in (91 cm) depth

#### Mount Configuration
Elevation over azimuth pedestal, constructed of galvanized A36 steel

#### Drive Type
Manual jack screws

#### Azimuth Travel
120° continuous

#### Elevation Travel
0 to 90° continuous

#### Foundation (L x W x D)
16.5 x 16.5 x 2 ft (5.0 x 5.0 x 0.61 m)

#### Concrete
20.2 yds³ (15.5 m³)

#### Reinforcing Steel
1,980 lbs. (900 kg)

#### Shipping Containers
One 40 ft standard

#### Operational Wind Loading
45 mph (72 km/h) gusting to 60 mph (97 km/h)

#### Survival Wind Loading
125 mph (200 km/h) @ 58° F (15° C), any position

#### Operational Temperature
+5° to +122° F (-15° to +50° C)

#### Survival Temperature
-22° to +140° F (-30° to +60° C), low temperature options available

#### Rain
Up to 4 in/h (10 cm/h)

#### Relative Humidity
0 to 100% with condensation

#### Solar Radiation
360 BTU/h/ft² (1,000 Kcal/h/m²)

#### Ice (survival)
1 in (2.5 cm) on all surfaces or 1/2 in (1.3 cm) on all surfaces with 80 mph (130 km/h) wind gusts

#### Atmospheric Conditions
As encountered in coastal regions and/or heavily industrialized areas

#### Shock and Vibration
As encountered during shipment by airplane, ship or truck

(4) Some specifications may vary based on the combination of equipment, options and/or upgrades ordered.