

# Type 180: 1.8m Rx/Tx Class I Antenna System



- ISO 9001:2008 Certificate of Registration
- All materials comply with EU Directive No. 2002/95/EC (RoHS).
- One-piece precision offset thermoset-molded reflector.
- Single bolt fine elevation adjustment
- Galvanized 19 mm (.75") O.D. feed support legs
- Plated hardware for maximum corrosion resistance.
- Available with C-Band or Ku-Band feeds
- Hot dip galvanized Az/EI mount.
- Designed for typical 1W and 2W block Up-Converters (BUCs)\*



The **Skyware Global 1.8m Rx/Tx Class I Antenna** is a rugged commercial grade product suitable for the most demanding applications.

- The reflector is thermoset-molded for strength and surface accuracy. Molded into the rear of the reflector is a network of support ribs which not only strengthens the antenna, but also helps to sustain the critical parabolic shape necessary for transmit performance.
- The Az/EI mount is constructed from heavy-gauge steel to provide a rigid support to the reflector.
- The Az/EI mount secures the antenna to any 114 mm (4.50") O.D. mast and prevent slippage in high winds.
- Hot-dip galvanizing is standard for extreme environmental conditions.

\* 2 kg or 4.5 lb max. weight for RF electronics (BUC and LNB) Ku-Band

5 kg or 11 lb max. weight for RF electronics (BUC and LNB) at C-Band

## • PRODUCT SPECIFICATIONS

### RF Performance

#### Effective Aperature

C-Band . . . . . 1.8m (71in)  
Ku-Band . . . . . 1.8m (71in)  
Extended Band . . . . . 1.8m (71in)

#### Operating Frequency

C-Band . . . . . TX: 5.85-6.725Ghz; RX: 3.4Ghz-4.2Ghz  
Ku-Band . . . . . TX: 13.75-14.5Ghz; RX: 10.7Ghz-12.75Ghz  
Extended-Band . . . TX: 12.75-14.5Ghz; RX: 10.7Ghz-11.7Ghz

#### Polarization

C-Band . . . . . Linear or Orthogonal  
Ku-Band . . . . . Linear or Orthogonal  
Extended-Band . . . . . Linear or Orthogonal

#### Gain ( $\pm 0.2$ dBi)

C-Band . . . . . TX: 39.3 dBi@6.1Ghz; RX: 35.4 dBi@3.9Ghz  
Ku-Band . . . . . TX: 46.8 dBi@14.3Ghz; RX: 45.3 dBi@12Ghz  
Extended-Band . . . . . TX: 46.8 dBi@14.3Ghz; RX: 45.3 dBi@12Ghz

#### 3dB Beamwidth

C-Band . . . . . TX: 2.0@6.1Ghz; RX: 3.0@3.9Ghz  
Ku-Band . . . . . TX: 0.8@14.3Ghz; RX: 1.0@12Ghz  
Extended-Band . . . . . TX: 0.8@14.3Ghz; RX: 1.0@12Ghz

#### Sidelobe Envelope (Tx, Co-Pol dBi)

Mainbeam  $< \theta < 20^\circ$  . . . . . 29-25 log  $\theta$  dBi  
 $20^\circ < \theta < 26.3^\circ$  . . . . . -3.5 dBi  
 $26.3^\circ < \theta < 48^\circ$  . . . . . 32-25 log  $\theta$  dBi  
 $48^\circ < \theta < 180^\circ$  . . . . . -10

Antenna Cross-Polarization. . . . . 30db on Axis

#### Antenna Noise Temperature

C-Band . . . . . 10°EL@41K; 20°@36K; 30°@33K  
Ku-Band . . . . . 10°EL@43K; 20°@28K; 30°@23K  
Extended-Band . . . . . 10°EL@43K; 20°@28K; 30°@23K

#### VSWR

C-Band . . . . . TX: 1.3:1; RX: 1.4:1  
Ku-Band . . . . . TX: 1.3:1; RX: 1.5:1  
Extended Band . . . . . TX: 1.3:1; RX: 1.5:1

#### Isolation Port to Port

C-Band . . . . . TX: 60dB; RX: 60dB  
Ku-Band . . . . . TX: 80dB; RX: 35dB  
Extended-Band . . . . . TX: 80dB; RX: 35dB

#### Feed Interface

C-Band . . . . . TX: CPR-137 or Type N; RX: CPR-229  
Ku-Band . . . . . TX: WR75 Flat Flange; RX: WR75 Flat Flange  
Extended-Band . . . . . TX: WR75 Flat Flange; RX: WR75 Flat Flange

## 1.8m Rx/Tx Class I Antenna

### Mechanical Performance

Reflector Material. . . . . Glass Fiber Reinforced Composite

Antenna Optics . . . . . One-Peice Offset Feed Prime Focus

Mount Type . . . . . Elevation Over Azimuth

Elevation Adjustment Range . . . . . 8°-90° Continuous  
Fine Adjustment (Screw)

Azimuth Adjustment Range . . . . . 360° Continuous  
 $\pm 10^\circ$  Fine Adjustment (Cam)

Mast Pipe Interface. . . . . 4.5" (114mm) Diameter

### Enviromental Performance

#### Wind Loading

Operational . . . . . 45mph (72km/h)

Functional Survival. . . . . 80mph (128km/h)

Ultimate Survival . . . . . 125mph (200km/h)

Operational Temperature . . . . . -40°C to +60°C

Survival Temperature . . . . . -50°C to +80°C

Humidity. . . . . 0 to 100% (Condensing)

Atmosphere. . . . . Standard Hardware 720 Hrs  
SST Requirements (ASTM B-117)

Solar Radiation . . . . . 360 BTU/h/ft<sup>2</sup>

Shock and Vibration. . . . . As Encountered during  
Shipping and handling

(All specifications typical)



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