

Type 690: 69cm Rx/Tx Ka-Band Antenna System



- ISO 9001:2008 Certificate of Registration
- All Materials Comply with EU Directive No. 2002/95/EC (RoHS)
- Precision pressed steel reflector
- Long focal length optics for low cross-pol or beam squint
- Steel components are pre-galvanized and powder coat painted for excellent corrosion resistance
- All hardware meets 500 minimum salt spray test requirements (ASTM B-117)
- Fine elevation and azimuth adjustments
- Ideally suited for Skyware Global Ka-Band Transceiver



The **Skyware Global 69cm Rx/Tx Ka-Band Antenna** is a rugged, commercial grade product suitable for the most demanding applications.

- The pressed steel reflector assures the surface accuracy needed for Ka-band performance. Pre-galvanized steel with a powder coat finish guarantees excellent corrosion resistance and long life.
- The pressed steel back structure provides for precision alignment of the reflector and support of the RF assembly without distortion.
- The reflector optics incorporate a long focal length for excellent cross-pol discrimination or “beam squint”.
- The heavy gauge steel Az/EI mount provides a rigid support for the antenna and incorporates precise fine elevation and azimuth adjustment.
- This Az/EI allows the antenna to be installed on any standard 2” (51mm) or 2 3/8” (60.3mm) OD installation mount or mast depending of customer requirements.



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• PRODUCT SPECIFICATIONS

RF Performance

Operating Frequency
TX 29.50-30.00GHz
RX 19.20-20.20GHz

Polarization
TX Circular RH or LH
RX Circular RH or LH

Gain (± 0.3 dB)
TX 44.8 dBi @ 29.75GHz
RX 41.2 dBi @ 19.70GHz

3 dB Beamwidth
TX 0.7° @ 29.75GHz
RX 1.1° @ 19.70GHz

Sidelobe Envelope (Tx, Co-Pol dBi)
100 $\lambda/D < \theta < 20^\circ$ 29-25 log θ dBi
20° < $\theta < 26.3^\circ$ -3.5 dBi
26.3° < $\theta < 48^\circ$ 32-25 log θ dBi
48° < $\theta < 180^\circ$ -10 dBi (Typical)

Antenna Cross-Polarization (within 1dB B/W)
RX 22dB

Antenna Noise Temperature¹
..... @ 30° EL 56K Max

VSWR 1.3:1 Max

Feed Interface Custom Circular

¹ Gain and Noise Temperature at Feed Horn Flange
(All specifications typical)

69cm Rx/Tx Ka-Band Antenna System

Mechanical Performance

Reflector Material Steel

Antenna Optics One-Piece Offset Feed Prime Focus

Mount Type Elevation Over Azimuth

Elevation Adjustment Range 8°-90° Continuous
Fine Adjustment

Azimuth Adjustment Range 360° Continuous
 $\pm 5^\circ$ Fine Adjustment

Mast Pipe Interface 51mm (2.00in) Diameter (Std.)
60mm (2.38in) Diameter (Opt.)

Environmental 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)

Corrosion protection Standard Hardware 500 Hrs
SST Requirements (ASTM B-117)

Solar Radiation 360 BTU/h/ft²

Shock and Vibration As Encountered during
Shipping and handling



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