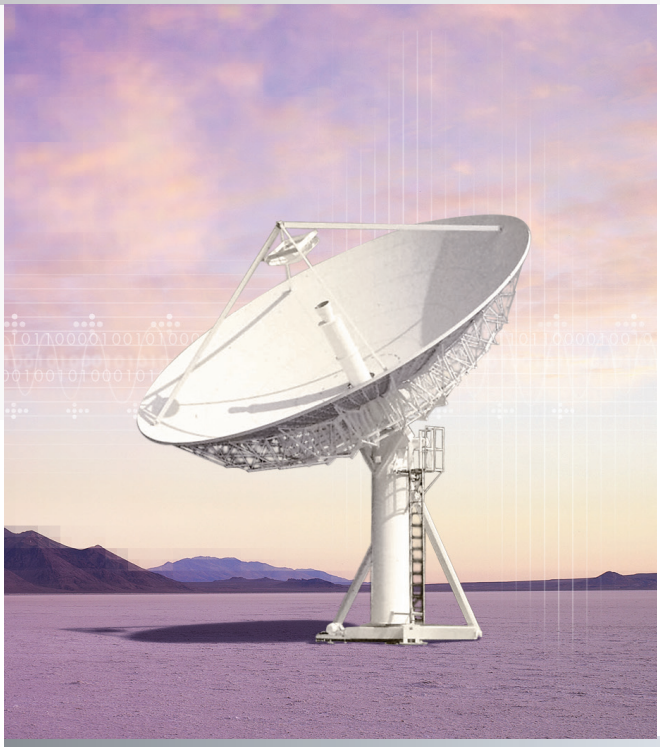
Model 8016A 11.3 Meter Earth Station Antenna

Model 8016A is an 11.3 meter earth station antenna that provides superior performance through the use of precision stretch-formed reflector panels and a dual-shaped Cassegrain feed.



Corrugated conical feed horns ensure excellent antenna gain and sidelobe performance. Forty-eight high-strength aluminum panels are durable enough to withstand rough handling and a range of environmental conditions. Antenna panels mount to radial trusses attached to a central hub.

The hub also provides a protective enclosure for sensitive electronics. The high-strength structural steel mount employs an elevation-over-azimuth geometry for easy pointing to any satellite within the visible orbital arc. The mount's stiff, rugged construction provides pointing accuracy for continuous operation, even under adverse wind conditions.

The Model 8016A includes a TORQUETUBE™ mount with continuous 120° of motorized azimuth coverage in three overlapping sectors.

Options

- 180° continuous azimuth coverage
- TT&C pointing upgrade
- Workplatform and ladder
- Expanded workplatform and ladder
- Hub light and fan
- Hub cover
- Standard power cross -axis transmit waveguide (2 kW C-band, 700 W Ku-band)
- High power cross-axis transmit waveguide
- Waveguide loads
- Crossguide couplers
- Lightning protection
- Aircraft warning lights
- De-icing

MODEL 8016A AT-A-GLANCE

- Compliant with FCC, ASIASAT, INTELSAT, EUTELSAT, ITU and more
- Meets INTELSAT Standard F-3 and B requirements
- High-efficiency shaped Cassegrain optics
- Use with C-band or Ku-band systems (custom frequency options — consult factory)
- Add our 8860/8861A/8862 Antenna Controller with patented AdaptTrack for accurate tracking
- Minimal satellite repointing time with high-speed motorized option
- Generous electronics space in hub
- Precision high-strength structural steel TORQUETUBE™ mount
- Full line of feed, reflector, and mount options available including TT&C pointing upgrade
- CE compliant

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SPECIFICATIONS

ELECTRICAL

	C-band	Ku-band
Operating Frequency (GHz)		
Transmit	5.850 – 6.425	14.0 – 14.5
Receive	3.625 – 4.2	10.95 –12.75
Gain (Midband, Ref. Feed Horn)		
Transmit	55.67 dBi3	62.8 dBi4
Receive	52.17 dBi[1]	61.7 dBi[2]
Feed Insertion Loss (dB)		
DP – 2-Port RX/RX Linear		
Receive	0.051 dB	0.14 dB
RT – 2-Port RX/TX Linear		
Transmit	0.10 dB	0.12 dB
Receive	0.10 dB	0.14 dB
4PL – 4-Port RX/TX Linear		
Transmit	0.15 dB	0.20 dB
Receive	0.15 dB	0.20 dB
4PC – 4-Port RX/TX Circular		
Transmit	0.17 dB	N/A
Receive	0.17 dB	N/A
VSWR		
TX	1.3:1	1.3:1
RX	1.3:1	1.3:1
Beamwidth (-3 dB):		
Transmit	0.29°	0.13°
Receive	0.43°	0.15°
First Sidelobe Level	14.0 dB	14.0 dB

Radiation Pattern C- and Ku-band: Meets standards set by FCC, INTELSAT, ASIASAT, EUTELSAT, ITU and others.

Antenna Noise Temp (Typical, Ref. Feed Horn)		
Elevation	**C-band**	**Ku-band**
10°	25 K	36 K
20°	18 K	27 K
30°	16 K	25 K
40°	15 K	24 K

Power Handling Per TX Port[6]	
5 kW (CW)	1 kW (CW)

Cross Pol Isolation (on axis, min.) (Linear)		
Transmit	35 dB	35 dB
Receive	35 dB	35 dB
Feed Port Isolation (4-Port Linear)		
RX/TX (RX-band)	85 dB	50 dB
TX/RX (TX-band)	85 dB	85 dB
TX/TX	21 dB	35 dB
RX/RX	18 dB	35 dB

Axial Ratio
(Circular Polarization) 1.06:1

MECHANICAL

Antenna Diameter	11 meters (444 inches)
Antenna Type	shaped dual reflector
Reflector Construction	48 aluminum panels on hub and truss structure
Mount Type	Elevation-over-azimuth
Antenna Travel	Elevation: 0° to 90° continuous[5] Azimuth: 180° in 3 overlapping 120° sectors Optional 180° continuous
Polarization Adjustment	Manual: 360° Motorized: ±90°
Antenna Travel Rate (Motorized)	Various — consult factory
Feed Interface	Transmit C-band: CPR-137G Transmit Ku-band: WR-75 Receive C-band: CPR-229G Receive Ku-band: WR-75
Weight C-Band	Net: 6,818 kg (15,000 lb.)/6,909 kg (15,200 lb.) Ship: 9,773 kg (21,500 lb.)/9,863 kg (21,700 lb.)
Shipping Volume	73.6 cubic meters (2,600 cubic feet)

ENVIRONMENTAL

Wind Loading	Operational: 72 km/h (45 MPH) gusting to 105 km/h (65 MPH) Survival: 161 km/h (100 MPH), any position, 15° C, no ice 201 km/h (125 MPH), stowed, 15° C, no ice
Temperature Range	Operational: -40° C to +65° C (-40° F to +150° F)
Atmospheric Conditions	Salt, pollutants and corrosive contaminants as found in coastal and industrial areas

NOTES

[1] Referenced at 3.95 GHz
[2] Referenced at 11.95 GHz
[3] Referenced at 6.175 GHz
[4] Referenced at 14.25 GHz
[5] Minimum elevation angle is 5° with the hot air de-icing option installed
[6] Higher power options available, Consult factory.

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