



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.

11.3 METER 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

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 11.3 Meter Earth Station Antenna

SPECIFICATIONS

ELECTRICAL

	C-band	Ku-band	X-band
Operating Frequency (GHz)			
Transmit	5.850 to 6.425	14.0 to 14.5	7.9 to 8.4
Receive	3.625 to 4.2	10.70 to 12.75	7.25 to 7.75
Gain (ref. feed horn)			
Transmit	55.67 dBi ¹	62.8 dBi ²	58.1 dBi ³
Receive	52.17 dBi ⁴	61.7 dBi ⁵	57.3 dBi ⁶
Feed Insertion Loss (dB)			
DP—2-Port RX/RX Linear			
Receive	0.051 dB	0.14 dB	N/A
RT—2-Port RX/TX Linear			
Transmit	0.10 dB	0.12 dB	N/A
Receive	0.10 dB	0.14 dB	N/A
4PL—4-Port RX/TX Linear			
Transmit	0.15 dB	0.20 dB	N/A
Receive	0.15 dB	0.20 dB	N/A
4PC—4-Port RX/TX Circular			
Transmit	0.17 dB	N/A	-0.68 dB
Receive	0.17 dB	N/A	-0.66 dB
VSWR			
Transmit	1:3:1	1:3:1	1:25:1
Receive	1:3:1	1:3:1	1:25:1
Beamwidth (-3 dB typical)			
Transmit	0.29°	0.13°	0.21°
Receive	0.43°	0.15°	0.22°
First Sidelobe Level (typical)			
	14.0 dB	14.0 dB	14.0 dB
Antenna Noise Temp (typical, ref. feed horn)⁷			
Elevation			
10°	25 K	36 K	31 K
20°	18 K	27 K	20 K
30°	16 K	25 K	18 K
40°	15 K	24 K	15 K
Power Handling Per Transmit Port			
	5 kW (CW)	1 kW (CW)	5 kW (CW) simultaneous
Cross Pol Isolation (on axis, min.) (linear)			
Transmit	35 dB	35 dB	25 dB
Receive	35 dB	35 dB	25 dB
Feed Port Isolation (4-port linear)⁸			
RX/TX (RX-band)	85 dB	50 dB	120 dB
TX/RX (TX-band)	85 dB	85 dB	130 dB
RX/RX	21 dB	35 dB	
TX/TX	18 dB	35 dB	
Axial Ratio (circular polarization)			
	1.06:1		1.0 dB (maximum), 0.60 typical
Passive Intermod (2 equal carriers at 400W)			
			-135 dBm (minimum), -150 dBm typical
Radiation Pattern			
	Meets standards set by FCC, INTELSAT, ASIASAT, EUTELSAT, ITU		Meets NATO STANAG 4484, ITU 580 (TX band)

MECHANICAL

Antenna Diameter	11 meter; 444 in.
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	No adjustment for CP operation
» Motorized	±90°
Antenna Travel Rate (Motorized)	Various—consult factory
Feed Interface	
» Transmit C-band	CPR-137G
» Transmit Ku-band	WR-75
» Transmit X-band	CPR-137G
» Receive C-band	CPR-229G
» Receive Ku-band	WR-75
» Receive X-band	CPR-137G
Weight C-band	
» Net	15,000 lb; 6,818 kg/15,200 lb; 6,909 kg
» Ship	21,500 lb; 9,773 kg/21,700 lb; 9,863 kg
Shipping Volume	2,600 ft ³ ; 73.6 m ³

ENVIRONMENTAL

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

NOTES

¹ Referenced at 6.175 GHz

² Referenced at 14.25 GHz

³ Referenced at 7.9 GHz

⁴ Referenced at 3.95 GHz

⁵ Referenced at 11.95 GHz

⁶ Referenced at 7.25 GHz

⁷ Assumes clear sky, clear horizon conditions at +23° C, +7.5 gm/m³ H₂O vapor density

⁸ Additional filtering available; contact factory

CONTACT

SALES

TEL 888 842 7281 (US Toll Free) or +1 760 476 4755 EMAIL insidesales@viasat.com WEB www.viasat.com/antenna-systems

Copyright © 2017 Viasat, Inc. All rights reserved. Viasat and the Viasat logo are registered trademarks of Viasat, Inc. All other product or company names mentioned are used for identification purposes only and may be trademarks of their respective owners. Specifications and product availability are subject to change without notice. 494566-171102-017

