



The 7.3 meter Earth station antenna is ideally suited to high-performance Ka-band geostationary applications. The shaped Cassegrain reflector provides superior gain and sidelobe performance at Ka-band frequencies.

High precision stretch formed panels are supported by strong radial trusses attached to a large central hub. Spars support a high-precision machined subreflector.

Thermal effects at Ka-band are minimized by aluminum reflector materials coated with solar diffusive white paint. The reflector back structure and subreflector spars are designed to stringent Ka-band rigidity requirements under wind and gravity loads.

The oversized hub provides a protective enclosure for sensitive electronics with ample space for equipment such as HPAs. The large extended work platform provides easy access to the hub. Transmit path losses are improved by storing the HPAs in the hub.

The precision steel mount delivers extremely accurate Ka-band pointing even under adverse wind conditions. The pedestal design features a precision azimuth bearing and very low backlash for high performance.

ViaSat's Antenna Control Units are ideally suited for controlling the Ka-band antenna, offering full DC servo performance and adaptive step tracking or monopulse autotrack options depending on the desired tracking accuracy.

7.3 METER AT-A-GLANCE

- » Antenna patterns compliant with FCC, ITU, and Eutelsat regulations
- » High efficiency shaped Cassegrain optics
- » 2-port and 4-port circularly and linearly polarized feeds available
- » Precision structural steel mount
- » CE compliant Antenna Controller with adaptive step tracking or monopulse autotrack options available
- » Roll-up door provides easy access to electronics packages
- » Standard accessories include large work platform and ladder, foundation template and anchor bolts, lightning protection kit

OPTIONS

- » De-icing
- » HPA/LNA mounting
- » Environmentally controlled hub
- » Alternate frequency band
- » Large riser with HVAC for equipment mounting

ELECTRICAL

OPERATING FREQUENCY (GHZ)

Receive	17.7 – 20.2
Transmit	27.5 – 30.0

GAIN (REF FEED HORN)

17.70 GHz	61.0 dBi
18.95 GHz	61.6 dBi
20.20 GHz	62.3 dBi
27.50 GHz	64.5 dBi
28.75 GHz	64.8 dBi
30.00 GHz	65.2 dBi

FEED INSERTION LOSS (dB, 4-PT CP, TRACKING)

Receive	<0.65 dB
Transmit	<0.63 dB

BEAMWIDTH (3 dB)

Receive	0.14° nominal
Transmit	0.09° nominal

Feed System

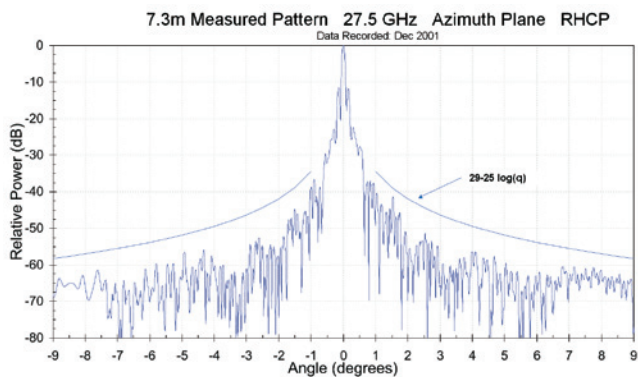
4-port Tx/Rx circular polarization
TE21 tracking coupler
WR34 Tx ports / WR42 Rx ports
500 W CW transmit power per port
85 dB Tx/Rx isolation
18 dB Tx/Tx and Rx/Rx isolation

VSWR (Tx/Rx)	1.25:1
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POLARIZATION

Sense	Simultaneous RHCP & LHCP
Axial Ratio	1.06:1 (0.50 dB)

Pattern Envelope	Compliant to ITU 580-5, FCC 25.209
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ANTENNA NOISE TEMPERATURE

Clear sky, 20° C, ref feed horn:

Elevation	@17.7 GHz	@20.2 GHz
10°	61 K	102 K
30°	34 K	51 K
40°	31 K	45 K

Note: Other 2.5 GHz wide frequency bands within 17.7 – 21.2 GHz and 27.5 – 31.0 GHz bands available

MECHANICAL

OPTICS

Dual reflector, axis-symmetric

REFLECTOR

Diameter	7.3 meters (288 inches)
Panels	16, precision aluminum

MOUNT TYPE

Elevation over Azimuth

AXIS DRIVES

Elevation	Jackscrew, 0.25°/sec, Options to 0.5°/sec
Azimuth	Dual Drive, 0.5°/sec, Options to 1.0°/sec

ANTENNA TRAVEL

Elevation	0° to 90° continuous
Azimuth	180° continuous

HUB ENCLOSURE

Width	82 in (208 cm)
Depth	44 in (121 cm)

ENVIRONMENTAL

TEMPERATURE

Operational	-30° C to +55° C
Optional Range	-40° C to +55° C

WIND

Operational	72 km/hr gusting to 97 km/h
Survival	200 km/hr (stow mode)

Atmospheric Conditions

Salt, pollutants, and corrosive contaminants as found in coastal and industrial areas

DEICING (OPTIONAL)

Main reflector	Hot air
Subreflector	Resistive heaters
Feed	Resistive heaters



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