Model 8118 16.0/18.3 Meter Earth Station Antenna

Model 8118 is a 16.0 or 18.3 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. High-strength aluminum panels are durable enough to withstand rough handling and a range of environmental conditions.

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.

16.0 / 18.3 METER AT A GLANCE

- Compliant with FCC, ASIASAT, INTELSAT, EUTELSAT, ITU and more
- Meets INTELSAT Standard A requirements
- High-efficiency shaped Cassegrain optics
- High wind survival, enclosed base, and safety interlocks
- Use with C-band and Extended C-band systems
- Linear/circular (Switchable feeds available – consult factory)
- Add our 8860/8862 Antenna Controller with patented AdaptTrack for accurate tracking
- Variable-speed motorized drive
- Design minimizes maintenance, site prep and shipping costs
- Generous electronics space in hub
- Premium quality galvanized steel structure
- CE compliant

OPTIONS

- 100-ton jackscrews (75-ton is standard)
- Continuous azimuth travel up to 360°
- Mount lighting kit
- Changeable polarization feeds
- Remote switchable polarization feeds
- Extended frequency band feeds
- Standard power cross-axis transmit waveguide (2 kW C-band, 700 W Ku-band)
- High power cross-axis transmit waveguide
- Lightning protection
- Aircraft warning lights
- De-icing

Model 8118 16.0/18.3 Meter Earth Station Antenna Specifications

ELECTRICAL

Operating Frequency (GHz)

Transmit	5.850 – 6.425
Receive	3.625 – 4.2

Gain (Midband, Ref. Feed Horn)

Diameter	**18.3 meter**	**16.0 meter**
Transmit	60.3 dBi2	58.9 dBi2
Receive	56.6 dBi[1]	55.4 dBi[2]

Feed Insertion Loss (dB)
DP – 2-Port RX/RX Linear

Receive	0.051 dB

RT – 2-Port RX/TX Linear

Transmit	0.10 dB
Receive	0.10 dB

4PL – 4-Port RX/TX Linear

Transmit	0.15 dB
Receive	0.15 dB

4PC – 4-Port RX/TX Circular

Transmit	0.17 dB
Receive	0.17 dB

VSWR

TX	1.3:1
RX	1.3:1

Beamwidth (-3 dB)

Transmit	0.18°	0.21°
Receive	0.28°	0.32°

First Sidelobe Level

	14.0 dB	14.0 dB

Radiation Pattern Meets standards set by FCC, INTELSAT, ASIASAT, EUTELSAT, ITU and others.

Antenna Noise Temp (Typical, Ref. Feed Horn)

Elevation	**Noise temp.**
5°	44 K
10°	35 K
20°	29 K
40°	25 K
60°	25 K

Power Handling Per TX Port 5 kW (CW)

Port to Port Isolation (on axis, min.)

TX/RX	85 dB
TX/TX	22 dB
RX/RX	20 dB

Axial Ratio
(TX/RX) 1.06:1/1.06:1

MECHANICAL

Antenna Diameter 18.3 meters (720 inches)
16.0 meter optional (630 inches)

Antenna Type Cassegrain dual reflector

Reflector Construction: 168 precision aluminum panels (120 on 16 meter)

Mount Type Elevation-over-azimuth

Antenna Travel:

Elevation	0° to 90° continuous
Azimuth	360° in 6 overlapping 90° sectors

Antenna Travel Rate (Motorized) Various — consult factory

Feed Interface

Transmit	CPR-137G
Receive	CPR-229G

Weight C-Band

18.3 meter	57,618 kg (127,000 lb.)
16.0 meter	56,245 kg (124,000 lb.)

ENVIRONMENTAL

Earthquake Survival Per Grade 11, (1.5 G) Mercalli Scale

Wind Loading Max. Rated Wind Speed @ 59ºF, no ice mph (kph)

	16 meter (with std 75-ton jackscrews)	**18 meter** (with std 75-ton jackscrews)	**18 meter** (with optional 100-ton jackscrews)
Operating @ Any Look Angle3	100 mph (160 kph)	90 mph (144 kph)	90 mph (144 kph
Survival @ Any Look Angle	125 mph (200 kph)	105 mph (168 kph)	125 mph (125 kph)
Survival @ Stow Positon	175 mph (280 kph)	140 mph (224 kph)	165 mph (265 kph)

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 4.0 GHz

[2] Referenced at 6.175 GHz

[3] Max. Operational Rated Wind Speed: antenna cannot be driven to stow position if this wind speed is exceeded

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