

HPX12-77-D3M



3.7 m | 12 ft High Performance Parabolic Shielded Antenna, dual-polarized, 7.725–8.275 GHz, PDR84, gray antenna, enhanced white radome with flash, standard pack—two-piece reflector

Product Classification

Product Type

Microwave antenna

General Specifications

Antenna Type

HPX - High Performance Parabolic Shielded Antenna, dual-polarized

Diameter, nominal

3.7 m | 12 ft

Packing

Standard pack

Radome Color

White

Radome Material

Enhanced

Reflector Construction

Two-piece reflector

Antenna Input

PDR84

Antenna Color

Gray

Antenna Type

HPX - High Performance Parabolic Shielded Antenna, dual-polarized

Diameter, nominal

3.7 m | 12 ft

Flash Included

Yes

Polarization

Dual

Electrical Specifications

Operating Frequency Band

7.725 – 8.275 GHz

Beamwidth, Horizontal

0.7 °

Beamwidth, Vertical

0.7 °

Boresite Cross Polarization Discrimination (XPD)

33 dB

Electrical Compliance

US FCC Part 78B

Front-to-Back Ratio

72 dB

Gain, Low Band

46.4 dBi

Gain, Mid Band

46.7 dBi

Gain, Top Band

47.0 dBi

Operating Frequency Band

7.725 – 8.275 GHz

Radiation Pattern Envelope Reference (RPE)

2797D

Return Loss

30.7 dB

VSWR	1.06
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Mechanical Specifications

Fine Azimuth Adjustment	$\pm 5^\circ$
Fine Elevation Adjustment	$\pm 5^\circ$
Mounting Pipe Diameter	115 mm 4.5 in
Net Weight	431 kg 950 lb
Side Struts, Included	1 inboard 1 outboard
Side Struts, Optional	2 outboard
Wind Velocity Operational	110 km/h 68 mph
Wind Velocity Survival Rating	200 km/h 125 mph

Wind Forces At Wind Velocity Survival Rating

Angle α for MT Max	-110 °
Axial Force (FA)	25390 N 5708 lbf
Force on Inboard Strut Side	8000 N 1798 lbf
Force on Outboard Strut Side	11500 N 2585 lbf
Side Force (FS)	12577 N 2827 lbf
Twisting Moment (MT)	-14132 N-m -10423 ft lb
Weight with 1/2 in (12 mm) Radial Ice	895 kg 1973 lb
Zcg with 1/2 in (12 mm) Radial Ice	914 mm 36 in
Zcg without Ice	808 mm 32 in

Wind Forces At Wind Velocity Survival Rating Image



Packed Dimensions

Gross Weight, Packed Antenna	730.0 kg 1609.4 lb
Height	2140.0 mm 84.3 in
Length	3990.0 mm 157.1 in
Volume	13.1 m ³
Width	1530.0 mm 60.2 in

Antenna Dimensions And Mounting Information



ANTENNA DIMENSIONS			
All dimensions in mm (inches)			
A	3775 (148.5)	K	1205 (47.5)
B	3915 (154.5)	L	215 (8.5)
C	1090 (43.0)	M	330 (13)
D	685 (27.0)	N	1225 (48.25)
E	145 (5.75)	P	1145 (45.0)
F	1430 (56.25)	R	790 (31.0)
G	1525 (60)	S	1140 (44.75)
H	835 (32.75)	T	3050 (120)
J	355 (14.0)		

Regulatory Compliance/Certifications

Agency

ISO 9001:2015

Classification

Designed, manufactured and/or distributed under this quality management system



* Footnotes

Axial Force (FA)

Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

Boresite Cross Polarization Discrimination (XPD)

The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.

Front-to-Back Ratio

Denotes highest radiation relative to the main beam, at $180^\circ \pm 40^\circ$, across the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise.

Gain, Mid Band

For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.

Operating Frequency Band

Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.

Packing

Andrew standard packing is suitable for export. Antennas are shipped as standard in totally recyclable cardboard or wire-bound crates (dependent on product). For your convenience, Andrew offers heavy duty export packing options.

Radiation Pattern Envelope Reference (RPE)

Radiation patterns define an antenna's ability to discriminate against unwanted signals. Under still dry conditions, production antennas will not have any peak exceeding the current RPE by more than 3dB, maintaining an angular accuracy of $\pm 1^\circ$ throughout

Return Loss

The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.

Side Force (FS)

Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

Twisting Moment (MT)

Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

VSWR

Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.

Wind Velocity Operational

The wind speed where the antenna deflection is equal to or less than 0.1 degrees. In the case of Valuline antennas, it is defined as a maximum deflection of 0.3 x the 3 dB beam width of the antenna.

Wind Velocity Survival Rating

The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be

required. This wind speed is applicable to antenna with the specified amount of radial ice.