

# Product Specifications



PL8-77

2.4 m | 8 ft Standard Parabolic, Low VSWR Unshielded Antenna, single-polarized, 7.750–8.400 GHz



## CHARACTERISTICS

### General Specifications

Antenna Type	PL - Standard Parabolic, Low VSWR Unshielded Antenna, single-polarized
Diameter, nominal	2.4 m   8 ft
Polarization	Single

### Electrical Specifications

Beamwidth, Horizontal	1.1 °
Beamwidth, Vertical	1.1 °
Cross Polarization Discrimination (XPD)	30 dB
Electrical Compliance	ETSI Class 1
Front-to-Back Ratio	50 dB
Gain, Low Band	42.9 dBi
Gain, Mid Band	43.3 dBi
Gain, Top Band	43.6 dBi
Operating Frequency Band	7.750 – 8.400 GHz
Radiation Pattern Envelope Reference (RPE)	2760G
Return Loss	30.7 dB
VSWR	1.06

### Mechanical Specifications

Fine Azimuth Adjustment	±5°
Fine Elevation Adjustment	±5°
Mounting Pipe Diameter	115 mm   4.5 in
Net Weight	114 kg   251 lb
Side Struts, Included	1 inboard

[www.commscope.com/andrew](http://www.commscope.com/andrew)

©2011 CommScope, Inc. All rights reserved.

All trademarks identified by ® or ™ are registered trademarks or trademarks, respectively, of CommScope. All specifications are subject to change.  
See [www.commscope.com/andrew](http://www.commscope.com/andrew) for the most current information.

page 1 of 5  
4/30/2011

# Product Specifications

PL8-77



Side Struts, Optional	1 inboard   1 outboard
Wind Velocity Operational	110 km/h   68 mph
Wind Velocity Survival Rating	200 km/h   124 mph

## Wind Forces At Wind Velocity Survival Rating

---

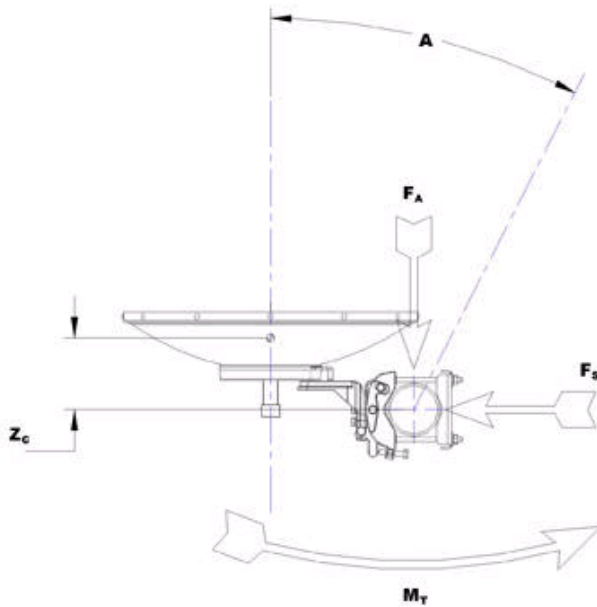
Angle $\alpha$ for MT Max	-125 °
Axial Force (FA)	15372 N   3456 lbf
Side Force (FS)	4196 N   943 lbf
Twisting Moment (MT)	-5349 N•m
Weight with 1/2 in (12 mm) Radial Ice	243 kg   536 lb
Zcg with 1/2 in (12 mm) Radial Ice	427 mm   17 in
Zcg without Ice	343 mm   14 in

# Product Specifications

PL8-77

## Wind Forces At Wind Velocity Survival Rating Image

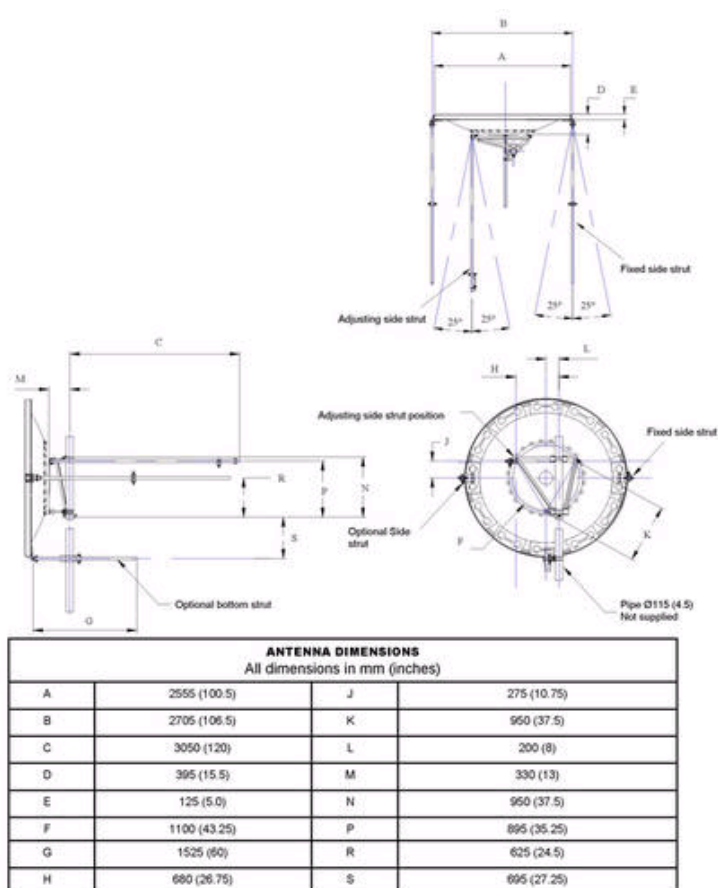
---



# Product Specifications

PL8-77

## Antenna Dimensions And Mounting Information



### \* 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.

#### 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

# Product Specifications

PL8-77



throughout the world. Other ranges can be accommodated on special order.

Radiation Pattern Envelope Reference (RPE)	Radiation patterns determine an antenna's ability to discriminate against unwanted signals under conditions of radio congestion. Radiation patterns are dependent on antenna series, size, and frequency.
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.