# Product Specifications

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## PL12-82-P7M

**3.7 m | 12 ft Standard Parabolic, Low VSWR Unshielded Antenna, single-polarized, 8.200–8.500 GHz, CPR112G, gray antenna, with flash, standard pack—two-piece reflector**

## General Specifications

| | |
|---|---|
| Packing | Standard pack |
| Reflector Construction | Two-piece reflector |
| Antenna Input | CPR112G |
| Antenna Color | Gray |
| Antenna Type | PL - Standard Parabolic, Low VSWR Unshielded Antenna, single-polarized |
| Diameter, nominal | 3.7 m \| 12 ft |
| Flash Included | Yes |
| Polarization | Single |

## Electrical Specifications

| | |
|---|---|
| Beamwidth, Horizontal | 0.7 ° |
| Beamwidth, Vertical | 0.7 ° |
| Cross Polarization Discrimination (XPD) | 30 dB |
| Electrical Compliance | ETSI Class 1 |
| Front-to-Back Ratio | 54 dB |
| Gain, Low Band | 46.8 dBi |
| Gain, Mid Band | 47.0 dBi |
| Gain, Top Band | 47.1 dBi |
| Operating Frequency Band | 8.200 – 8.500 GHz |
| Radiation Pattern Envelope Reference (RPE) | 2901C |
| 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 | 245 kg \| 540 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 \| 124 mph |

## Wind Forces At Wind Velocity Survival Rating

| | |
|---|---|
| Angle α for MT Max | -125 ° |
| Axial Force (FA) | 34587 N \| 7775 lbf |
| Side Force (FS) | 9441 N \| 2122 lbf |
| Twisting Moment (MT) | -15900 N•m |
| Weight with 1/2 in (12 mm) Radial Ice | 528 kg \| 1164 lb |

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| | | |
|---|---|---|
| Zcg with 1/2 in (12 mm) Radial Ice | 566 mm | 22 in |
| Zcg without Ice | 483 mm | 19 in |

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## Wind Forces At Wind Velocity Survival Rating Image

## Packed Dimensions

| | |
|---|---|
| Gross Weight, Packed Antenna | 541.0 kg \| 1192.7 lb |
| Height | 2140.0 mm \| 84.3 in |
| Length | 3990.0 mm \| 157.1 in |
| Volume | 9.1 m³ |
| Width | 1070.0 mm \| 42.1 in |

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## Antenna Dimensions And Mounting Information

## Regulatory Compliance/Certifications

| Agency | Classification |
|---|---|
| ISO 9001:2008 | 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. |
| 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° ±40°, 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 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. |

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