PerforMax™ Base Station Antennas

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Superior Performance

Maximum Performance is integral to PerforMax™ antennas and to Andrew.

Commitment to Customer Needs

Andrew is committed to delivering a full line of durable, reliable, competitively priced PerforMax™ base station antenna and RF path products. As a global supplier, Andrew is committed to meeting your schedule anywhere in the world.

Complete RF Path Supplier

Andrew brings you everything you need to connect the air interface to your radio equipment. Our products are designed for compatibility, so when you upgrade or replace, what you order today will work with Andrew products you already have.

Global Manufacturing and Distribution

PerforMax™ antennas and transmission line products are manufactured in facilities around the world. Andrew products can be shipped quickly and cost effectively to sites anywhere.

PerforMax™ Applications

PerforMax™ sector antennas are available for both PCS and cellular applications in single- or dual-polarized configurations.

PerforMax™ vertically-polarized omni-directional antennas are available for both PCS and cellular applications.

In addition, Andrew offers PerforMax™ single-polarized sector, horizontally- or vertically-polarized omnidirectional, and TRI-CORNER™ subscriber antennas for Wireless Local Loop and Rural Telephony applications as well as single-polarized sector or omni PerforMax™ antennas for paging applications.

Rapid Product Availability

These antennas are ready for rapid deployment from Andrew worldwide facilities to make these antennas available and easy to order.

Features:

High Performance

- *Excellent Pattern Performance*
- *Low Intermodulation Distortion (IMD)*
- *100% VSWR Testing*
- *Guaranteed Specifications*

Reliable and Durable

- *Fewer Components and Connections*
- *Fewer Solder Joints*
- *Internal Grounding*
- *High Strength, UV-Resistant, Field-Paintable Radomes*
- *Virtually Maintenance-Free Operation*

Easy Installation

- *Saves Time and Installation Costs*
- *Easy to Follow Instructions Prevent Errors*
- *Instructions Can be Re-ordered Via Andrew Fax-On-Demand or Web Site*

Fully Warrantied

- *All PerforMax™ Antennas Include a 3-Year Warranty*

Comprehensive Testing

- *Outdoor Pattern Range Testing*
- *Azimuth/Elevation Beamwidths are Measured and Recorded*
- *Extensive Environmental Testing*

  Gain, VSWR, and IMD measurements are made before and after testing to ensure performance stability.

  Test antennas are disassembled and inspected for internal mechanical damage or wear resulting from testing performed by an outside, accredited test lab.
- *Each Antenna is VSWR Tested/Recorded and Assigned a Unique Serial Number which Andrew Maintains in a Test Data Base for Every Antenna*
- *Antenna Manufacturing Facilities are ISO 9001 Certified*

Single-/Dual-Polarized Sector and Omni Antennas

PerforMax™ Base Station Antennas:

PCS/PCN:

1710 - 1880 MHz and 1850 - 1990 MHz

Cellular Systems:

824 - 896 MHz and 870 - 960 MHz

Specialized Mobile Radio - SMR/ESMR:

806 - 869 MHz

Wireless Markets	Polarizations	Gains
Personal Communication Systems:		
1850 - 1990 MHz	Single-Polarized Sector	11 - 22 dBi
1710 - 1880 MHz	Dual-Polarized Sector	14 - 18 dBi
	Omni	2 - 12 dBi
Cellular:	Single-Polarized Sector	12 - 22 dBi
870 - 960 MHz	Dual-Polarized Sector	14 - 19 dBi
824 - 896 MHz	Omni	9 - 12 dBi
Specialized Mobile Radio SMR and ESMR:	Single Polarized Sector	12 - 18 dBi
806 - 869 MHz	Dual-Polarized Sector	15 - 17 dBi

Other Applications

In addition, Andrew offers PerforMax™ single-polarized sector, horizontally- or vertically-polarized omnidirectional, and TRI-CORNER™ subscriber antennas for Wireless Local Loop and Rural Telephony applications as well as single-polarized sector or omni PerforMax™ antennas for paging applications.

Call our Customer Service Center for more information.

For specific models, specifications, and patterns, ask for PerforMax™ Antenna Bulletin 10138.

PerforMax™ Single-Polarized Sector Antennas:

PCS/PCN:

1710 - 1880 MHz and 1850 - 1990 MHz

Cellular Systems:

824 - 896 MHz and 870 - 960 MHz

SMR/ESMR:

806 - 869 MHz

Gains:

11 dBi to 22 dBi

Horizontal Beamwidths:

33- to 120-degrees

Includes extended connector that aids installation

Optional integral jumper

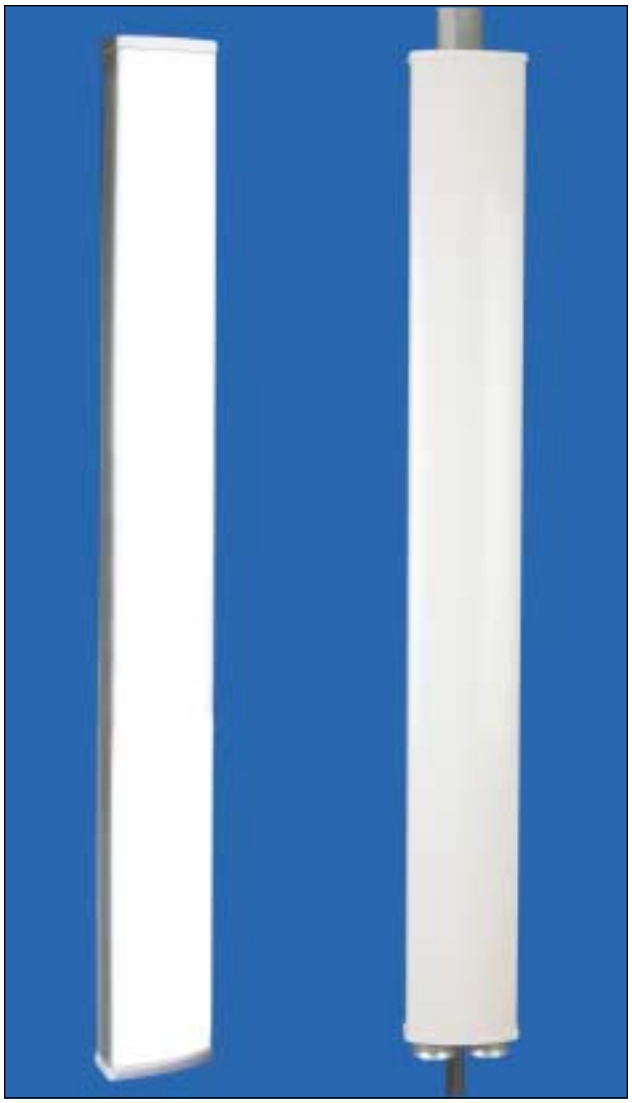
Features:

- *High Performance Elevation Patterns*
- *Low IMD*
- *Many Models Include Null Fill and Upper Side Lobe Suppression; Others are Optimized for Maximum Gain*
- *Guaranteed Performance*
- *Comprehensive Range of Electrical Downtilt Options*

PerforMax™ Sector Antennas are designed with an aesthetically pleasing appearance, low weight and low wind loading. With broadband frequency ranges, they are well suited for transmit or receive applications.

For specific models, specifications, and patterns, ask for PerforMax™ Antenna Bulletin 10138.

Dual-Polarized Sector Antennas



PerforMax™ Dual-Polarized Sector Antennas:

PCS/PCN:

1710 - 1880 MHz and 1850 - 1990 MHz

Cellular Systems:

824 - 896 MHz and 870 - 960 MHz

SMR/ESMR:

806 - 869 MHz

Gains:

14 to 19 dBi

Horizontal Beamwidths:

60- to 90-degrees

Features:

- *High Performance Elevation Patterns*
- *Low IMD*
- *Many Models Include Null Fill and Upper Side Lobe Suppression; Others are Optimized for Maximum Gain*
- *Guaranteed Performance*
- *Comprehensive Range of Electrical Downtilt Options*
- Replaces Two Single-Polarized Antennas in a Space Diversity Configuration. Replaces Three Single-Polarized Antennas when a Diplexer is Used
- Reduces Tower Space and Infrastructure Costs. Speeds Zoning Approvals
- External Weather Ring Facilitates Weatherproofing

PerforMax™ Dual-Polarized Sector Antennas from Andrew are designed for modern base station applications. New technology brings high performance in a trim profile that enhances antenna aesthetics.

Polarization diversity is a proven attractive alternative to space diversity techniques. Dual-polarization allows for receive diversity without the need for large structures on top of the tower.

For specific models, specifications, and patterns, ask for PerforMax™ Antenna Bulletin 10138.

PerforMax™ Omni Antennas:

PCS/PCN:

1710 - 1880 MHz and 1850 - 1990 MHz

Cellular Systems:

824 - 896 MHz and 870 - 960 MHz

SMR/ESMR:

806 - 869 MHz

Wireless Local Loop and Rural Telephony - WLL and RT:

1.425 - 1.535 GHz

2.3 - 2.485 GHz

2.485 - 2.69 GHz

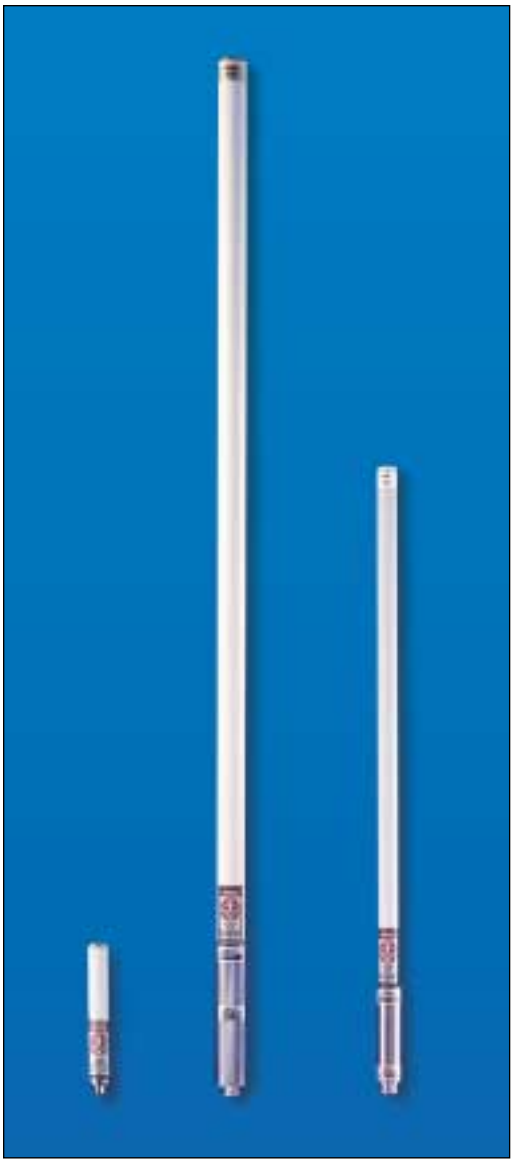
3.4 - 3.6 GHz

Paging:

901–902 MHz, 901–944 MHz

Gains:

2 dBi to 12 dBi



Features:

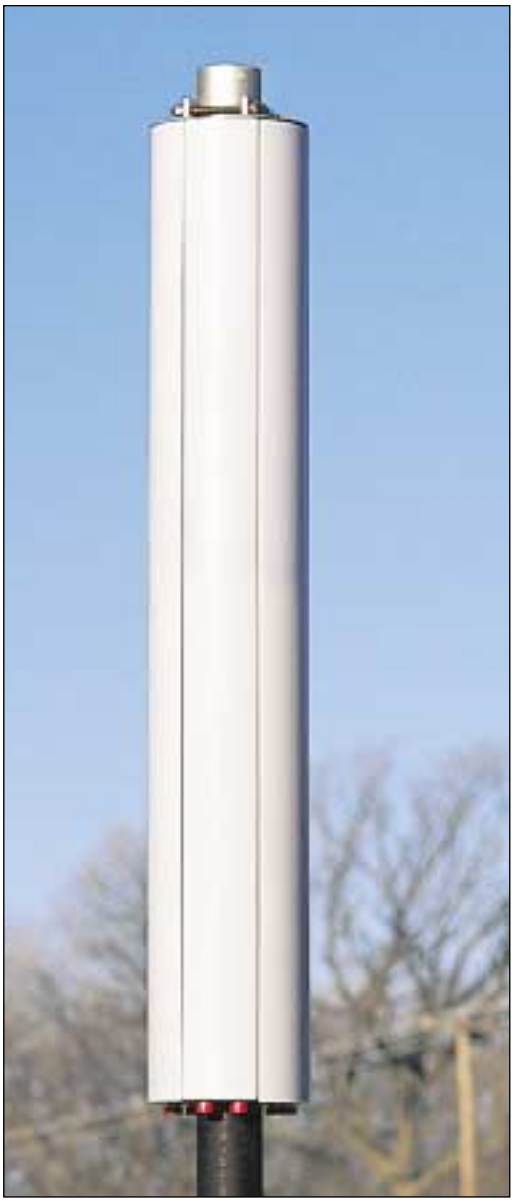
- *Weather-Tight, High-Strength Radome Minimizes Beam Deflection, Maintains Beam Integrity and Provides Peak Performance in Even the Harshest Environments*
- *Patented Radiating Element with Fewer Internal Components for Low IMD and Superior Reliability in Wind and Vibration Conditions*

Based on patented technology, Andrew PerforMax™ Omni Antennas have superior performance, outstanding reliability and excellent durability.

PerforMax™ Omni Antennas are designed for an aesthetically pleasing appearance and low wind loading.

For specific models, specifications, and patterns, ask for PerforMax™ Antenna Bulletin 10138.

Microsite Antenna Mounts



Complete 3-Sector Antenna Site in One, Trim Cylinder for PCS/PCN 1800/1900 MHz

The Microsite system is the innovative answer to zoning concerns regarding the appearance of your base station.

Features:

- *Pipe-Mounted Microsite System Installs Virtually Anywhere – on Towers, Billboards, Buildings*
- *No Secondary Radome is Needed – No Performance Degradation*
- *Easy Zoning Board Approval – Most Aesthetically Pleasing Mounting System Available*

The Microsite antenna mounting system holds three Andrew PerforMax™ dual-polarized PCS/PCN 1800/1900 antennas in a compact 12-inch (305 mm) diameter. Its low visual profile is the trimmest in the industry and readily meets with residential and zoning board approval.

One Microsite system with three PerforMax™ dual-polarized antennas can replace up to nine single-polarized antennas mounted on a triangular platform. One-third as many antennas, clean, pleasing appearance and dual-polarization technology is a proven alternative to costly and ungainly space diversity techniques for designing a PCS/PCN base station.

The lightweight Microsite mount system is as easy to install as a standard mount. No special tools are needed. Access to the top of the mounting pipe is not required to install the Microsite system, significantly simplifying installation and reducing costs. Antennas are mounted 120-degrees apart and can be individually accessed if service is required. Color matched “filler” panels eliminate the gaps between antennas and create a neat, unobtrusive cylinder.

For specific models, specifications, and patterns, ask for PerforMax™ Antenna Bulletin 10138.

Complete 3-Sector Antenna Site in One, Trim Cylinder for Cellular 800/900 MHz

The Cluster Mount system is the innovative answer to zoning concerns regarding the appearance of your base station.

Features:

- *Pipe-Mounted Cluster Mount System Installs Virtually Anywhere – on Towers, Billboards, Buildings*
- *No Secondary Radome is Needed – No Performance Degradation*
- *Easy Zoning Board Approval – Aesthetically Pleasing Mounting System*
- *Dramatically Reduces Tower and Site Costs*
- *Lightweight*
- *Clean, Pleasing Appearance*
- *Easy to Install – No Special Tools Needed*
- *Easy to Service*

The Cluster Mount system holds three PerforMax™ dual-polarized cellular 800/900 MHz antennas in a compact 26-inch (660 mm) cylinder when no mechanical downtilt is applied. Its low visual profile reduces visible antenna hardware and eases residential and zoning board approval.

One Cluster Mount system with three PerforMax™ dual-polarized antennas can replace up to nine single-polarized antennas mounted on a triangular platform. Only one-third as many antennas are needed. Dual-polarization technology is a proven alternative to costly and ungainly space diversity techniques for designing a cellular base station.

The lightweight Cluster Mount installs as easily as a standard mount. Access to the top of the mounting pipe is not required to install the Cluster Mount system, significantly simplifying installation and reducing costs. Antennas are mounted 120-degrees apart and can be individually serviced.

A Cluster Mount system permits independent, continuous mechanical downtilt of each antenna from 0 to 12-degrees. The Cluster Mount is also available with no mechanical downtilt adjustment when the absolute lowest profile is required.

For specific models, specifications, and patterns, ask for PerforMax™ Antenna Bulletin 10138.

Antenna Tilt Mounts

For Sector Antennas in PCS, Cellular, or SMR/ESMR Systems

Features:

- *Continuous Tilt Adjustment*
- *Easy to Install*
- *Simple to Set or Change in the Field*
- *Provides Maximum Flexibility in Network Design*

Andrew base station antennas for Rural Telephony applications are available in vertical- and horizontal-polarizations with gains from 8 dBi to 13 dBi.

The omnidirectional antennas feature low VSWR characteristics, low intermodulation distortion and can be optimized with electrical downtilt and null fill based upon the gain configuration to optimize total coverage.

Andrew TRI-CORNER™ subscriber antennas for Rural Telephony systems operate in either horizontal or vertical polarization. They feature excellent polarization discrimination and are available in 14 and 17 dBi nominal gain configurations. Their superior front-to-back ratio maximizes the carrier signal and minimizes interference with adjacent system cells.