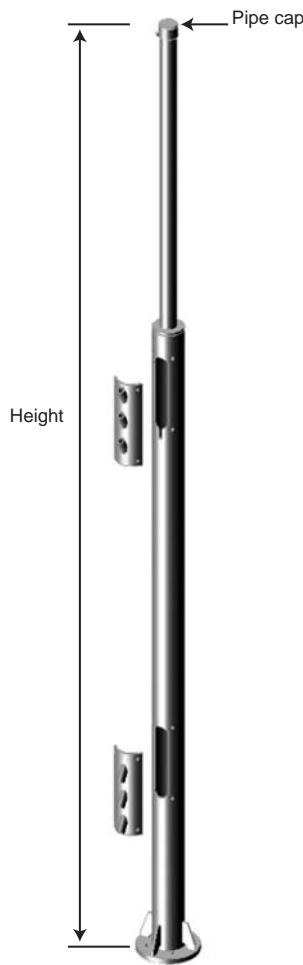


**PCS MONOPOLE**

PCS Monopoles, available in heights from 10' to 30', are designed to support 1 to 3 wireless panel antennas. The antennas mount directly to the top section of the Monopole, a 2<sup>7</sup>/<sub>8</sub>" OD x 5'-4" long pipe. Coax transmission lines enter and exit the pole through special entry plates that bolt to the Monopole. The entry plates are furnished with four 1" ID ports for 1/2" coax. A pipe cap furnished with the Monopole enables installation of an optional B964 Lightning Rod.



Product Number	Description	List Price
99533	10' height with 5 <sup>5</sup> / <sub>16</sub> " mast OD	\$575.00
99514	15' height with 5 <sup>5</sup> / <sub>16</sub> " mast OD	\$650.00
99515	20' height with 5 <sup>5</sup> / <sub>16</sub> " mast OD	\$735.00
99516	25' height with 6 <sup>5</sup> / <sub>8</sub> " mast OD	\$865.00
99517	30' height with 6 <sup>5</sup> / <sub>8</sub> " mast OD	\$970.00

**ANCHOR BOLT CLUSTER**

FOR PCS MONOPOLE

The Anchor Bolt Cluster includes four 7/8" diameter x 2'-6" long bolts, hardware, and the installation templates. The bolts are configured in a 10" diameter bolt-circle.

The normal-soil foundation is a drilled pier, 2'-6" diameter, that varies in depth with the height of the Monopole.

Product Number	Description	List Price
99518	Anchor Bolt Cluster for PCS Monopole	\$110.00

**GPS ANTENNA MOUNT**

FOR GROUND INSTALLATION

The GPS Antenna Mount provides a 2<sup>7</sup>/<sub>8</sub>" OD x 10' long pipe for ground mounting a GPS antenna. The antenna can be installed either directly to the pipe, or with the B1841 Universal GPS Mounting Kit (page 8.2), if a smaller diameter mounting pipe is required. The B1841 mounts on the 2<sup>7</sup>/<sub>8</sub>" OD pipe and provides a 1.90" OD antenna mounting pipe.

The base flange of the GPS Antenna Mount is furnished with four 3/4" diameter holes to accommodate 5/8" diameter anchor bolts. Concrete anchors or 7" long bolts (not included) can be used for anchoring.



Product Number	Description	List Price
B1842	GPS Antenna Mount	\$102.00

# STANDARDIZED STRUCTURES

## MONOPOLES

15.2

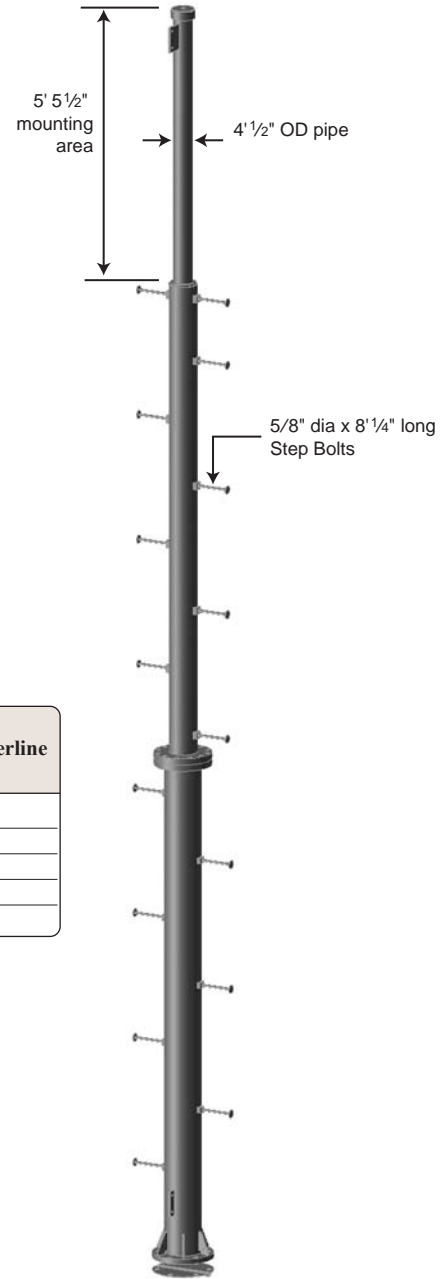
### MONOPOLE

FOR MICROWAVE & WIRELESS

These Monopoles are designed to support 4' diameter micro-wave antennas for short-haul communications. The Monopole is designed for a maximum sway that will maintain the high frequency communication link with winds up to 70 mph.

The Wireless Antenna Frames (section 11), for attachment to 4 1/2" OD pipe, may also be installed on these Monopoles.

Galvanized.



Product Number	Height	List Price
92500	10'	\$325.00
92501*	15'	\$630.00
92502*	20'	\$885.00
92503*	25'	\$1,505.00
92504*	30'	\$1,635.00

\* Welded-on tabs for Safety Climb installation are included.

Product Number	Antenna Load	Maximum Antenna Diameter	Base Reactions Overturning Moment, ft-lb	Shear	Download	Max Sway at Antenna Centerline with 20 psf
92500	560 lb	4'	4,940	660 lb	250 lb	0.36
92501	560 lb	4'	8,440	740 lb	350 lb	0.50
92502	560 lb	4'	12,500	850 lb	520 lb	0.56
92503	560 lb	4'	17,200	950 lb	730 lb	0.53
92504	560 lb	4'	22,800	1,070 lb	970 lb	0.63

### Anchor Bolts

Product Number	Description	List Price
92505	Use with 92500 monopole	\$119.00
92506	Use with 92501 monopole	\$130.00
92507	Use with 92502 monopole	\$151.00
92508	Use with 92503 monopole	\$167.00
92509	Use with 92504 monopole	\$194.00

Anchor Bolts are ordered separately

### Monopoles - Foundation Specifications

For Monopole	Number of Anchor Bolts	Concrete Volume, yd <sup>3</sup>	Foundation Depth	Hole Depth	Number of #4 Ties x 1'-6"*	Size of Vertical Bar (4 each)	List Price
92500	4	1.0	5'-6"	5'	8	#6	\$325.00
92501	4	1.2	6'-6"	6'	9	#6	\$630.00
92502	6	1.4	7'-6"	7'	10	#7	\$885.00
92503	6	1.6	8'-6"	8'	11	#7	\$1,505.00
92504	8	1.7	9'-6"	9'	12	#8	\$1,635.00

**MONOPOLE**

FOR MICROWAVE

Antenna Pipe Mounts, purchased separately, are installed to the poles mounting rings at 22½° increments around the pole, providing a mounting range of 360°. The Monopole design allows placement of the antennas centerline at the top of the pole.

Multiple antennas can be installed on the mounting rings, if their combined load is within the design limits of the Monopole model.

Step bolts for climbing are spaced at 1' intervals. Tapped 3/8" diameter holes, for attaching transmission line support hardware, are provided at 1'-3" intervals down the length of the pole.

Product Number	Lateral Antenna Load	Maximum Antenna Diameter	Overturning Moment at Base, ft-lb	Max Sway at Antenna Centerline with 20 psf	Height	List Price
92089	3,370 lb	10'	76,100	0.37	20'	\$1,950.00
92090	2,160 lb	8'	84,300	0.60	30'	\$2,590.00
92091	1,210 lb	6'	83,300	0.74	40'	\$3,970.00

Above reactions based on 100 mph wind load with ½" radial ice. Note: The 40' Monopole is provided in two 20' sections.

\*Anchor Bolts, Azimuth Rod Supports, and Pipe Mounts are ordered separately. See section 15.

\*\*Optional Monopole Anti-climb Covers and Safety-Climb Brackets and Cable are available. See section 22.

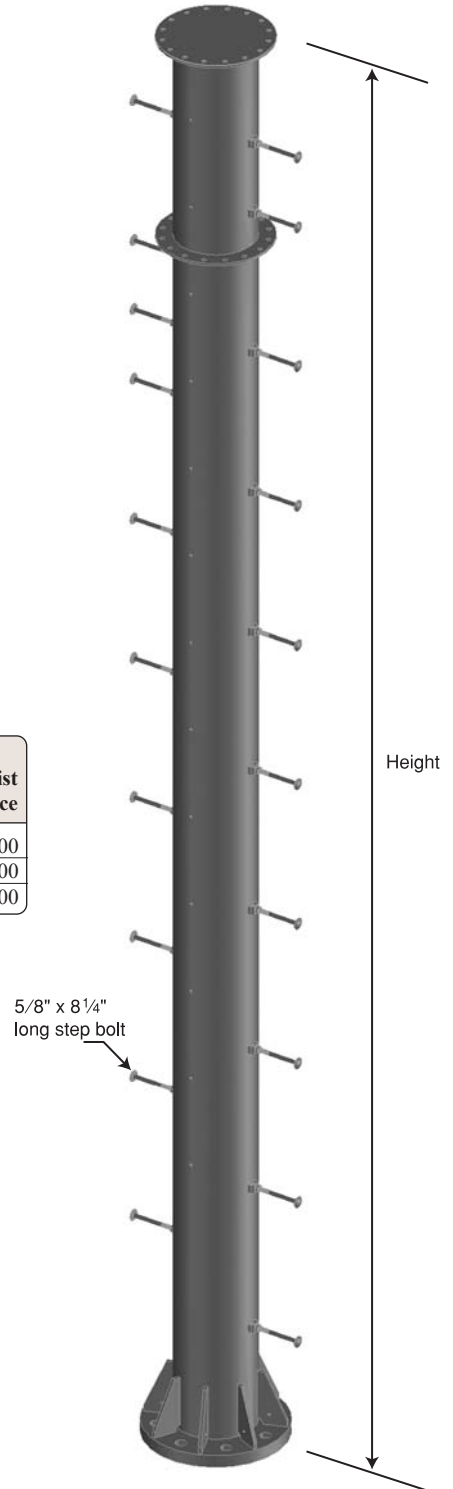
**ANCHOR BOLT CLUSTER**

FOR MICROWAVE MONOPOLE

The Anchor Bolt Cluster is used for the 92089, 92090, and 92091 Monopoles.

Product Number	Description	List Price
91162	Anchor Bolt Cluster for Monopole	\$580.00

Anchor Bolt Cluster includes nuts and flatwashers.



### CELL SILO™ PRODUCT LINE

#### GENERAL DESCRIPTION

Cell Silos™ are available in four diameters from 16" to 28" OD and are designed to support three panel antennas per silo (carrier) with provided Antenna Mounting Brackets (120 degrees apart). Custom brackets available for special azimuths and down-tilts. The Cell Silos™ are supplied in two standard colors: white and gray. They are composed of RF-friendly material and hot-dip galvanized steel. RF test data is available upon request.

A complete line of standard straight and tapered monopoles are available to support the Cell Silos™ at heights up to 200'.

#### 16" Diameter Cell Silo™ - 1 & 2 Carriers, wind speed up to 100 mph

- 1) Base silo is 10' tall, top silo is 8' tall.
- 2) Antenna mounting mast is 4½" OD

#### 20" Diameter Cell Silo™ - 1, 2 & 3 Carriers, wind speed up to 100 mph

- 1) Base silo is 10' tall, intermediate and top silos are 8' tall.
- 2) Antenna mounting mast is 4½" OD for 1 & 2 carrier, 6⅝" and 4½" OD for 3 carrier.

#### 24" Diameter Cell Silo™ - 1, 2, 3 & 4 Carriers, wind speed up to 100 mph

- 1) Base silo is 10' tall, intermediate and top silos are 8' tall.
- 2) Antenna mounting mast is 4½" OD for 1 carrier, 6⅝" OD for 2 & 3 carrier, 8⅝" and 6⅝" OD for 4 carriers.

#### 28" Diameter Cell Silo™ - 1, 2, 3 & 4 Carriers, Wind speed up to 100 mph for 1 & 2 carriers and 80 mph for 3 & 4 carriers.

- 1) Base silo is 12' tall, intermediate and top silos are 10' tall.
- 2) Antenna mounting mast is 4½" OD for 1 carrier, 6⅝" OD for 2 & 3 carrier, 8⅝" and 6⅝" OD for 4 carrier.



Cell Silo™ with Radomes Removed

Product Number	Description	List Price
B5022	16" One Carrier, White	\$4,995.00
B5023	16" One Carrier, Gray	\$4,995.00
B5024	16" Two Carrier, White	\$8,341.00
B5025	16" Two Carrier, Gray	\$8,341.00
B2815	20" One Carrier, White	\$5,297.00
B2841	20" One Carrier, Gray	\$5,297.00
B2816	20" Two Carrier, White	\$9,096.00
B2842	20" Two Carrier, Gray	\$9,096.00
B2850	20" Three Carrier, White	\$13,257.00
B2851	20" Three Carrier, Gray	\$13,257.00
B5026	24" One Carrier, White	\$6,652.00
B5027	24" One Carrier, Gray	\$6,652.00
B5028	24" Two Carrier, White	\$10,686.00
B5029	24" Two Carrier, Gray	\$10,686.00
B5030	24" Three Carrier, White	\$15,025.00
B5031	24" Three Carrier, Gray	\$15,025.00
B5032	24" Four Carrier, White	\$19,326.00
B5033	24" Four Carrier, Gray	\$19,326.00
B2819	28" One Carrier, White	\$7,465.00
B2845	28" One Carrier, Gray	\$7,465.00
B2820	28" Two Carrier, White	\$12,978.00
B2846	28" Two Carrier, Gray	\$12,978.00
B2852	28" Three Carrier, White	\$19,047.00
B2853	28" Three Carrier, Gray	\$19,047.00
B2822	28" Four Carrier, White	\$25,628.00
B2848	28" Four Carrier, Gray	\$25,628.00

**FLAG KIT**

FOR CELL SILO™

- 1) Polyester United States flag:  
 12' x 18' on poles up to 60' tall  
 15' x 25' on poles from 61' to 100'  
 20' x 30' on poles from 101' to 150'  
 20' to 38' on poles from 151' to 200'
- 2) 18" diameter gold top on the 16" and 20" Cell Silos™ and 24" diameter gold ball on 24" and 28" Cell Silos™.
- 3) Stainless steel rotating internal halyard truck
- 4) Internal stainless steel halyard
- 5) Internal hand-operated winch to raise and lower flag. Winch for 151' to 200' poles may be operated with a 1/2" power drill.



Cell Silo™ with Flag Kit

Product Number	Description	List Price
B2827	16" & 20", 12' x 18' Flag Kit, up to 60'	\$2,200.00
B2828	16" & 20", 15' x 25' Flag Kit, up to 100'	\$2,622.00
B2829	16" & 20", 20' x 30' Flag Kit, up to 150'	\$2,924.00
B2830	16" & 20", 20' X 38' Flag Kit, up to 200'	\$3,689.00
B2831	24" & 28", 12' x 18' Flag Kit, up to 60'	\$2,593.00
B2832	24" & 28", 15' x 25' Flag Kit, up to 100'	\$3,015.00
B2833	24" & 28", 20' x 30' Flag Kit, up to 150'	\$3,317.00
B2834	24" & 28", 20' X 38' Flag Kit, up to 200'	\$4,081.00

# STANDARDIZED STRUCTURES

## MONOPOLES

15.6

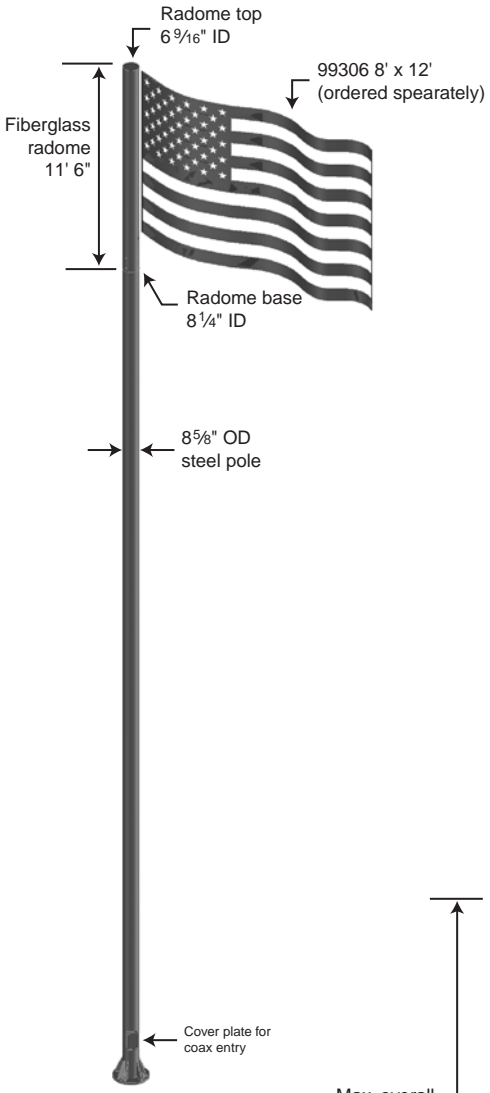
### WIRELESS FLAGPOLE

FOR OMNI ANTENNA

Wireless Flagpoles are designed to support a single omni whip antenna, up to 10'-6" long, concealed inside an 8<sup>5</sup>/<sub>8</sub>" OD x 11'-6" long fiberglass radome at the top of the pole. The inside diameter of the radome tapers from 8<sup>1</sup>/<sub>4</sub>" OD at the base to 6<sup>9</sup>/<sub>16</sub>" OD at the top. The lower section of the Flagpole consists of a 8<sup>5</sup>/<sub>8</sub>" OD steel pole that varies in height. The steel poles are spliced at a height of 25', except for the 35' Flagpole, to facilitate shipment of the pole. The steel pole and radome are painted gray.

The coax transmission line from the antenna is routed inside the Flagpole and exits the pole through either the foundation or the 5<sup>1</sup>/<sub>4</sub>" x 9<sup>1</sup>/<sub>4</sub>" access hole at the Flagpole base.

Flag Kits are available and include the hoisting rope and a U.S. or a State flag. The 6' x 10' size flag is used with the 35' and 40' Flagpoles and the 8' x 12' size is used with the 45' and 50' Flagpoles. Use the standard two-character State code to specify the flag for a particular State.



Product Number	Description	List Price
99300	Wireless Flagpole, 35' high, gray	\$3,555.00
99301	Wireless Flagpole, 40' high, gray	\$4,425.00
99302	Wireless Flagpole, 45' high, gray	\$4,590.00
99303	Wireless Flagpole, 50' high, gray	\$4,750.00

Product Number	Description	List Price
99305-US	US Flag Kit, 6' x 10'	\$170.00
*99305-xx	State Flag Kit, 6' x 10'	Call for Pricing
99306-US	US Flag Kit, 8' x 12'	\$270.00
*99306-xx	State Flag Kit, 8' x 12'	Call for pricing

\*To order a State Flag Kit, specify the State's two-character code.

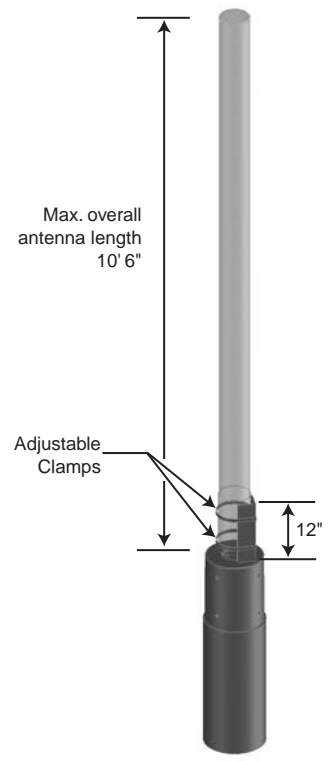
### ANCHOR BOLT CLUSTER

FOR WIRELESS FLAGPOLE

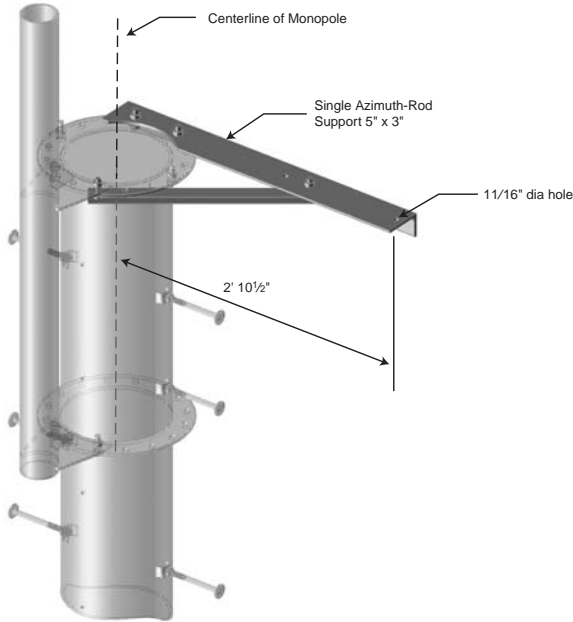
The Anchor Bolt Cluster includes four 1<sup>1</sup>/<sub>2</sub>" diameter x 5' long bolts, hardware, and installation templates. The bolts are configured in a 1'-2" diameter bolt-circle.

The normal soil foundation is a 2'-6" diameter drilled pier that varies in depth from 9' to 11' with the height of the Flagpole.

Product Number	Description	List Price
99304	Anchor Bolt Cluster for Wireless Flagpole	\$355.00



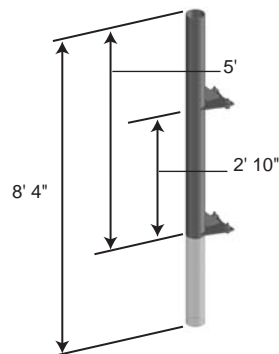
ANTENNA AZIMUTH-ROD SUPPORT



Product Number	Description	List Price
92087	Single Azimuth-Rod Support	\$63.00
92088	Double Azimuth-Rod Support	\$114.00

Attaching hardware included for both Azimuth-Rod Supports.

ANTENNA PIPE MOUNT  
FOR MICROWAVE MONOPOLES

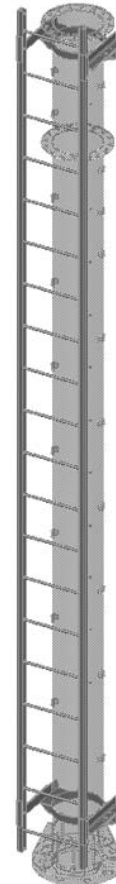


Product Number	Description	List Price
92086	2 <sup>3</sup> / <sub>8</sub> " OD x 5' long	\$92.00
92085	2 <sup>7</sup> / <sub>8</sub> " OD x 5' long	\$102.00
92084	4 <sup>1</sup> / <sub>2</sub> " OD x 5' long	\$108.00
92083	4 <sup>1</sup> / <sub>2</sub> " OD x 8'-4" long	\$184.00

Attaching hardware included for all Antenna Pipe Mounts.

CLIMBING LADDER  
FOR MICROWAVE MONOPOLE

The optional Climbing Ladder provides an alternative to the climbing step bolts that are furnished with the Monopole. The Climbing Ladder weldment consists of square rails, 1<sup>5</sup>/<sub>8</sub>" , with 1'-4" long, <sup>3</sup>/<sub>4</sub>" diameter rebar rungs, spaced 1' apart. The Ladder clamps to the 12<sup>3</sup>/<sub>4</sub>" OD Monopole and is intended to replace the step bolts. Installation hardware is included.



Product Number	Description	List Price
92080	92089 Monopole	\$320.00
92081	92090 Monopole	\$480.00
92082	92091 Monopole	\$640.00