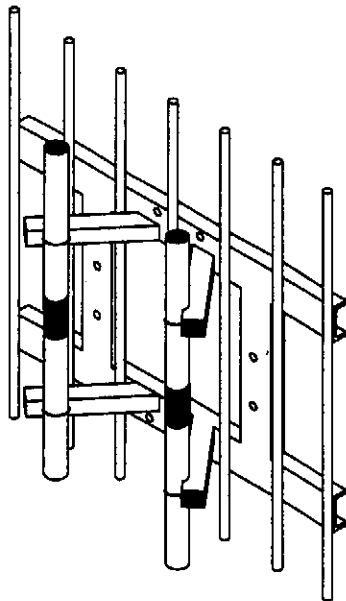


# **PANEL ANTENNAS**



# Features

- ◆ Wideband antenna - will operate over entire frequency range of 300-350 MHz or 350-406 MHz.
- ◆ Low VSWR and high front-to-back ratio to minimize interferences from and with other systems
- ◆ Heavy duty design to withstand extreme wind & ice conditions
- ◆ Weatherproof harness to eliminate moisture problems and increase resistance to temperature and humidity extremes
- ◆ Icing immunity due to its unique dipole configuration
- ◆ 50% less wind loading and torque on a supporting structure over conventional corner reflector, even under severe icing conditions
- ◆ 6061-T6 aluminum solid rods welded to heavy wall channels for increased strength and reliability
- ◆ Special mounting configuration allows for vertical or horizontal polarization without additional mounting hardware
- ◆ DC grounded to protect against damage from lightning strikes
- ◆ Dual & quad stacked arrays are available for increased gain or special pattern configurations



# Panel Antenna **A-3502-HD**

9.5 dBd

300-406 MHz

*Broadband high gain panel antenna with two dipoles spaced half wave apart and mounted 9 inches from the panel to provide 9.5 dBd gain. Its innovative design provides far greater advantages over the conventional corner reflector.*

### Electrical Specifications

### A-3502-HD

Frequency Range:	MHz	300-350 or 350-406
Nominal Gain:	dBd	9.5
Bandwidth, 1.5:1 VSWR:	MHz	300-350/350-406
Horizontal Beamwidth (-3 dBd)	Deg.	65
Vertical Beamwidth (-3 dBd)	Deg.	55
Front to Back Ratio:	dB	25
Power Rating:	Watts	300
Polarization:		Vertical or Horizontal
Pattern:		Directional
Lightning Protection:		DC ground
Termination:		Type "N" Male

Note: (1) VSWR is referenced to 50 ohms.  
 (2) When ordering, please specify frequency range.

### Mechanical Specifications

### A-3502-HD

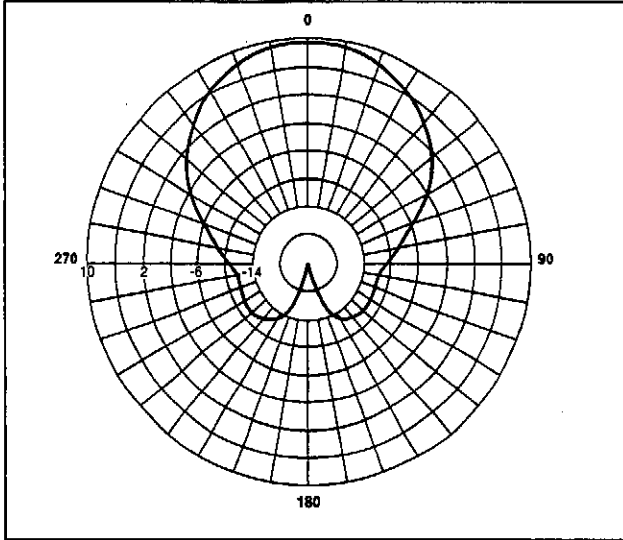
Dimensions:	in. (mm)	36" H x 36" W x 9" D (914 H x 914 W x 229 D)
Weight:	lbs.(kg)	17 (7.70)
Rated Wind Velocity:	mph(km/h)	185 (300)
Rated Wind Velocity with 0.5 in.(13 mm) radial ice:	mph(km/h)	95 (154)
Horizontal Thrust at Rated Wind Velocity and Ice Load:	lbs.(kg)	122 (55.4)
Equivalent Flat Plate Area:	Ft2(m2)	2.14 (0.20)

### Mounting Information:

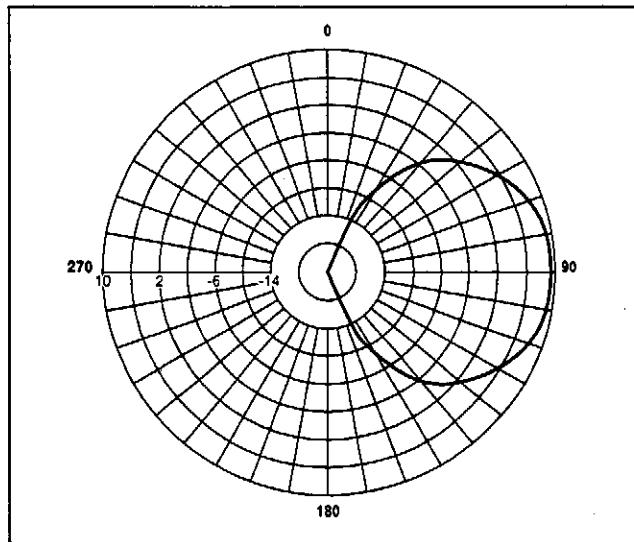
Two clamps are provided to mount on 2.38"-2.88" O.D. (60-73 mm) pipe.

Note: Above dimensions are calculated at 350 MHz.

**HORIZONTAL PATTERN FOR VERTICAL POLARIZATION**



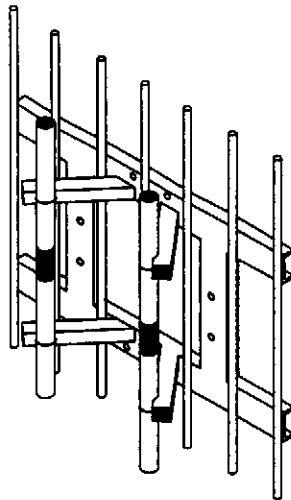
**VERTICAL PATTERN FOR VERTICAL POLARIZATION**





## Features

- ◆ Wideband antenna - will operate over entire frequency range of 406-470 MHz or 450-512 MHz.
- ◆ Low VSWR and high front-to-back ratio to minimize interferences from and with other systems
- ◆ Heavy duty design to withstand extreme wind & ice conditions
- ◆ Weatherproof harness to eliminate moisture problems and increase resistance to temperature and humidity extremes
- ◆ Icing immunity due to its unique dipole configuration
- ◆ 50% less wind loading and torque on a supporting structure over conventional corner reflector, even under severe icing conditions
- ◆ Ideal as a replacement for radome yagis
- ◆ 6061-T6 aluminum solid rods welded to heavy wall channels for increased strength and reliability
- ◆ Special mounting configuration allows for vertical or horizontal polarization without additional mounting hardware
- ◆ DC grounded to protect against damage from lightning strikes
- ◆ Dual & quad stacked arrays are available for increased gain or special pattern configurations



## Panel Antenna **A-4502-HD**

9.5 dBd

406-512 MHz

*Broadband high gain panel antenna with two dipoles spaced half wave apart and mounted 6 inches from the panel to provide 9.5 dBd gain. Its innovative design provides far greater advantages over the conventional corner reflector.*

### Electrical Specifications

		A-4502-HD
Frequency Range:	MHz	406-470 or 450-512
Nominal Gain:	dBd	9.5
Bandwidth, 1.5:1 VSWR:	MHz	406-470/450-512
Horizontal Beamwidth (-3 dBd)	Deg.	65
Vertical Beamwidth (-3 dBd)	Deg.	55
Front to Back Ratio:	dB	25
Power Rating:	Watts	300
Polarization:		Vertical or Horizontal
Pattern:		Directional
Lightning Protection:		DC ground
Termination:		Type "N" Male

Note: (1) VSWR is referenced to 50 ohms.  
 (2) When ordering, please specify frequency range.

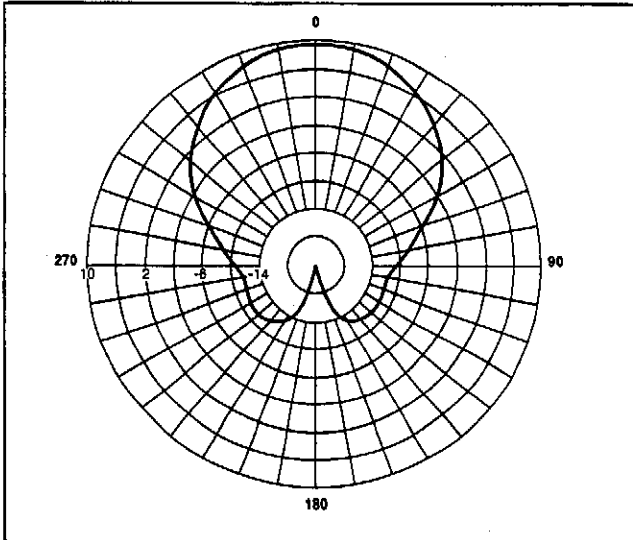
### Mechanical Specifications

		A-4502-HD
Dimensions:	in.	30" H x 24" W x 6" D
	(mm)	(762 H x 610 W x 155 D)
Weight:	lbs.(kg)	12 (5.45)
Rated Wind Velocity:	mph(km/h)	185 (300)
Rated Wind Velocity with 0.5 in.(13 mm) radial ice:	mph(km/h)	95 (154)
Horizontal Thrust at Rated Wind Velocity and Ice Load:	lbs.(kg)	100 (45.5)
Equivalent Flat Plate Area:	Ft <sup>2</sup> (m <sup>2</sup> )	1.75 (0.16)

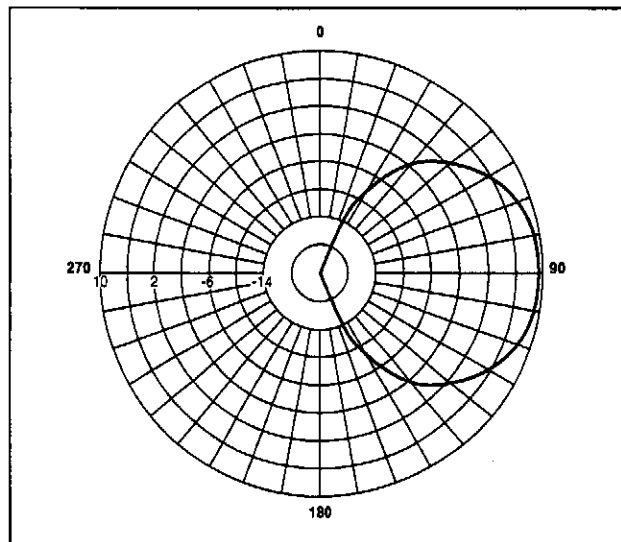
### Mounting Information:

Two clamps are provided to mount on 2.38-2.88 O.D. (60-73 mm) pipe.

**HORIZONTAL PATTERN FOR VERTICAL POLARIZATION**



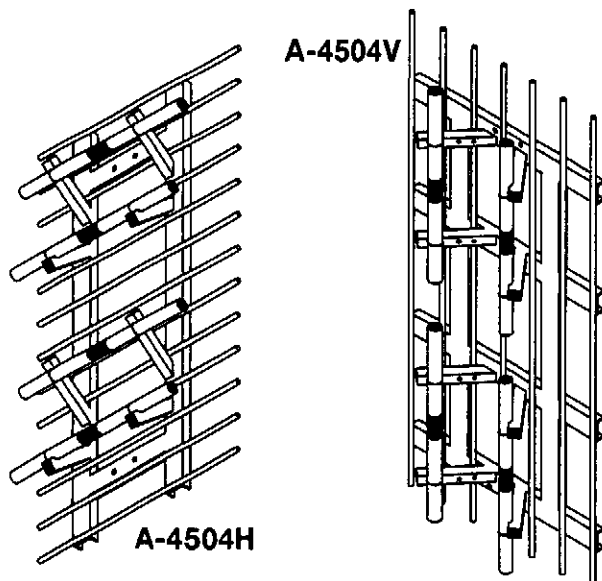
**VERTICAL PATTERN FOR VERTICAL POLARIZATION**





# Features

- ◆ Wideband antenna - will operate over entire frequency range of 406-470 MHz or 450-512 MHz.
- ◆ Low VSWR and high front-to-back ratio to minimize interferences from and with other systems
- ◆ Rugged design to withstand harsh environmental conditions
- ◆ Weatherproof harness to eliminate moisture problems and increase resistance to temperature and humidity extremes
- ◆ Icing immunity due to its unique dipole configuration
- ◆ 50% less wind loading and torque on a supporting structure over conventional corner reflector, even under severe icing conditions
- ◆ Ideal as a replacement for dual-stack radome yagi arrays
- ◆ 6061-T6 aluminum solid rods welded to heavy wall channels for increased strength and reliability
- ◆ DC grounded to protect against damage from lightning strikes
- ◆ Heavy duty version available for extreme wind & ice conditions



# Panel Array **A-4504**

12.0 dBd

406-512 MHz

*Broadband very high gain panel array consisting of a dual stack of dipole arrays spaced half-wave apart and mounted 6 inches from the panel to provide 12.0 dBd of gain. Its innovative design offers far greater advantages over the conventional corner reflector. Two model variants are offered: Model A-4504H for horizontal polarization, and model A-4504V for vertical polarization.*

Electrical Specifications		A-4504V A4504H
Frequency Range:	MHz	406-470 or 450-512
Nominal Gain:	dBd	12.0
Bandwidth, 1.5:1 VSWR:	MHz	406-470/450-512
Horizontal Beamwidth (-3 dBd)	Deg.	55
Vertical Beamwidth (-3dBd)	Deg.	20
Front to Back Ratio:	dB	25
Power Rating:	Watts	300
Polarization:		Vertical or Horizontal
Pattern:		Directional
Lightning Protection:		DC ground
Termination:		Type "N" Male

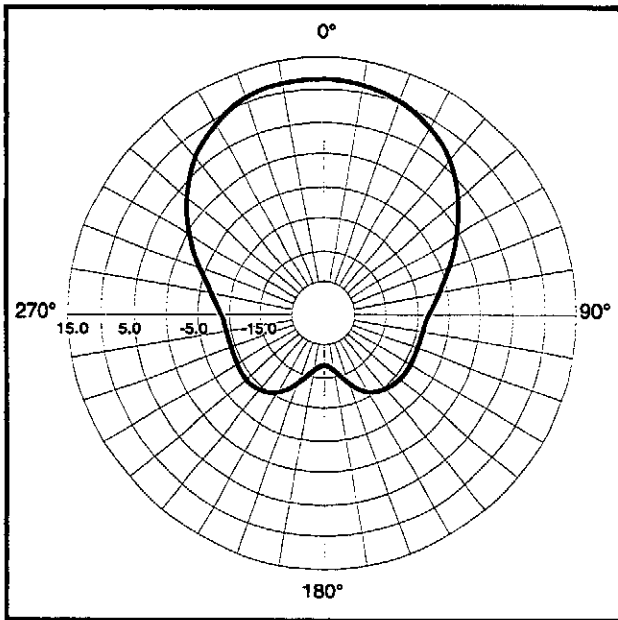
Note: (1) VSWR is referenced to 50 ohms.  
(2) When ordering, please specify frequency range.

Mechanical Specifications		A-4504V A-4504H
Dimensions:	in. (V)	60" H x 24" W x 6" D
	(H)	48" H x 30" W x 6" D
	(mm) (V)	(1524 H x 610 W x 155 D)
	(H)	(1219 H x 762 W x 152 D)
Weight:	lbs. (kg)	26 (11.3)
Rated Wind Velocity:	mph(km/h)	185 (300)
Rated Wind Velocity with 0.5 in. (13 mm) radial ice:	mph(km/h)	90 (145)
Horizontal Thrust at Rated Wind Velocity and Ice Load:	lbs. (kg)	155 (70.5)
Equivalent Flat Plate Area:	Ft <sup>2</sup> (m <sup>2</sup> )	3.85 (.42)

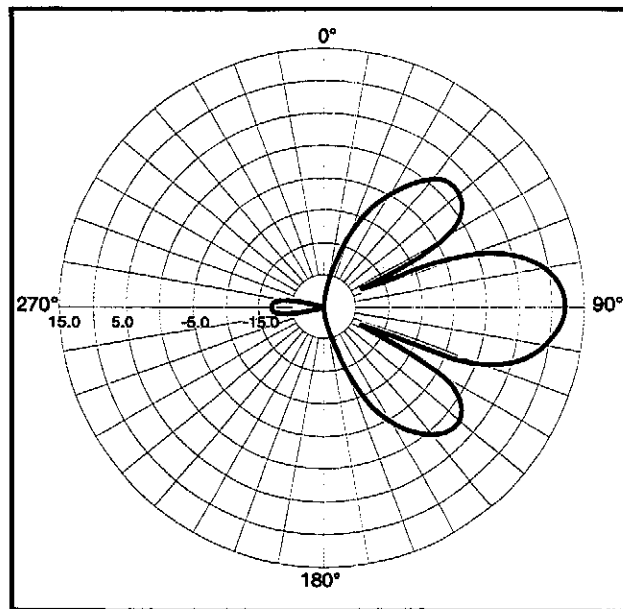
### Mounting Information

Two clamps are provided to mount on 2.38"-2.88" O.D. (60-73 mm) pipe.

**HORIZONTAL PATTERN FOR VERTICAL POLARIZATION**



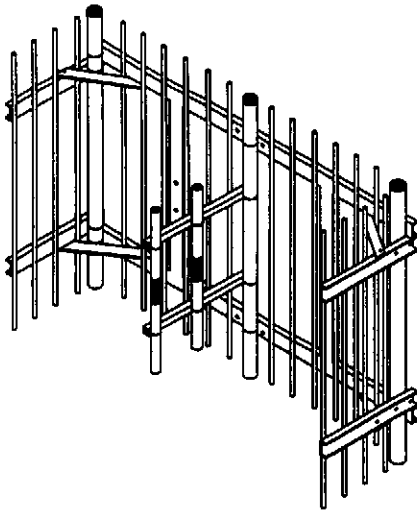
**VERTICAL PATTERN FOR VERTICAL POLARIZATION**





# Features

- ◆ Special design for increased directivity & gain
- ◆ Low VSWR and high front-to-back ratio to minimize interferences from and with other systems
- ◆ Rugged design to withstand harsh environmental conditions
- ◆ Weatherproof internal harness to eliminate moisture problems and increase resistance to temperature & humidity extremes
- ◆ 50% less wind loading and torque on a supporting structure compared to equivalents, even under severe icing conditions
- ◆ 6061-T6 aluminum solid rods welded to heavy wall channels for increased strength and reliability
- ◆ D.C. grounded for lightning protection
- ◆ Heavy duty version available for extreme wind & ice conditions



# Panel Antenna

# A-4560

14.5 dBd

406-512 MHz

*Highly directive U-Shaped panel antenna consisting of a dipole-reflector assembly, back-firing primary radiator for increased gain as required in certain system applications.*

### Electrical Specifications

### A-4560

Frequency Range:	MHz	406-420/450-470
Nominal Gain:	dBd	14.5
Bandwidth, 1.5:1 VSWR:	MHz	406-420/450-470
Horizontal Beamwidth (-3 dBd)	Deg.	30
Vertical Beamwidth (-3 dBd)	Deg.	38
Front to Back Ratio:	dB	25
Power Rating:	Watts	300
Polarization:		Vertical or Horizontal
Pattern:		Directional
Lightning Protection:		DC ground
Termination:		Type "N" Male

Note: (1) VSWR is referenced to 50 ohms.  
 (2) When ordering, please specify frequency range.

### Mechanical Specifications

### A-4560

Dimensions:	in.	42" H x 56" W x 16" D
	(mm)	(1066 H x 1422 W x 406 D)
Weight:	lbs.(kg)	31 (14.7)
Rated Wind Velocity:	mph(km/h)	175 (282)
Rated Wind Velocity with 0.5 in.(13 mm) radial ice:	mph(km/h)	85 (137)
Horizontal Thrust at Rated Wind Velocity and Ice Load:	lbs.(kg)	175 (79.5)
Equivalent Flat Plate Area:	Ft <sup>2</sup> (m <sup>2</sup> )	4.65 (.43)

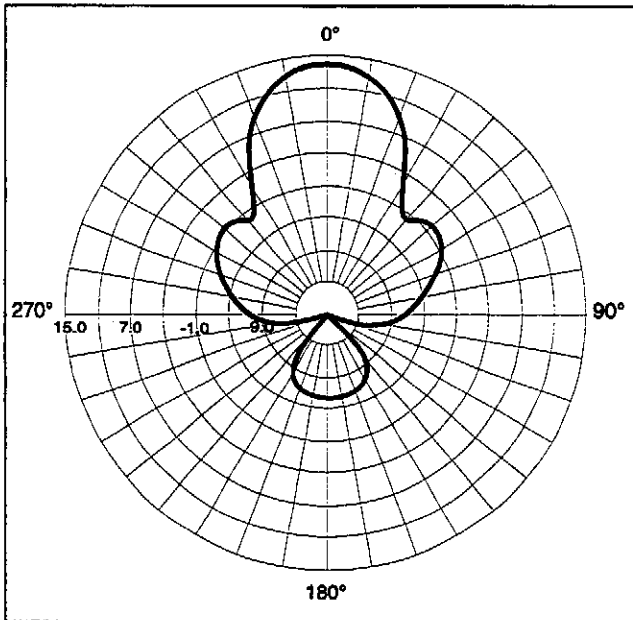
### Mounting Information

2 clamps supplied to mount on a 2.38"- 2.88" O.D. (60-73 mm) pipe.

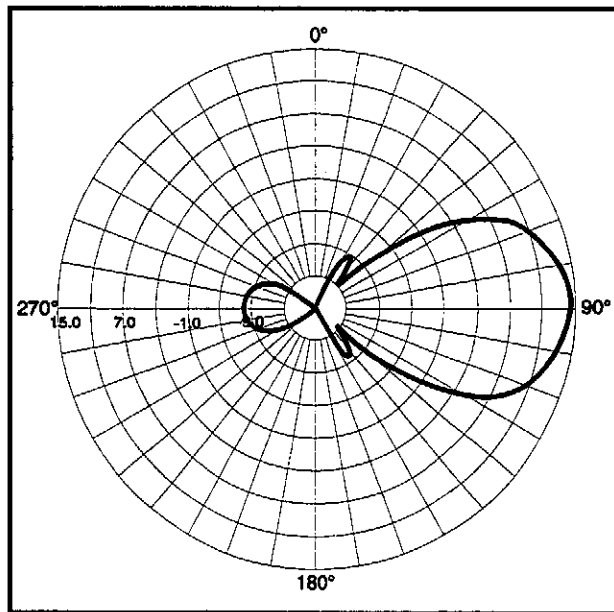
Note: Above dimensions are for frequency range of 406-420 MHz.



**HORIZONTAL PATTERN FOR VERTICAL POLARIZATION**



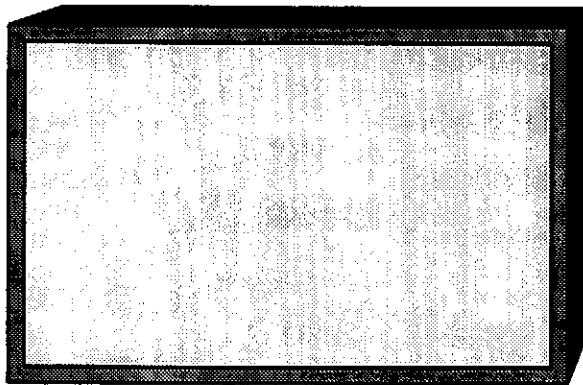
**VERTICAL PATTERN FOR VERTICAL POLARIZATION**





## Features

- ◆ Directional "Patch" antenna using state-of-the-art technology
- ◆ Aesthetically pleasing due to its low profile design
- ◆ Indoor application for added safety
- ◆ DC grounded for lightning protection
- ◆ Weatherproof housing for external mounting available at extra cost



## Data Antenna

# A-9049

4.0 dBd

928-952 MHz

*A low profile, directional micro-strip antenna, specifically designed for point-to-multipoint data systems. Due to its inconspicuous design, this antenna is ideal for indoor mounting. A weatherproof housing is also available for exterior applications.*

### Electrical Specifications

**A-9049**

Frequency Range:	MHz	928-952
Nominal Gain:	dBd	4.0
Bandwidth, 1.5:1 VSWR:	MHz	45
Horizontal Beamwidth (-3 dBd)	Deg.	95
Vertical Beamwidth (-3 dBd)	Deg.	95
Front to Back Ratio:	dB	18
Power Rating:	Watts	100
Polarization:		Vertical or Horizontal
Pattern:		Directional
Lightning Protection:		DC ground
Termination:		TNC Panel Jack

Note: (1) VSWR is referenced to 50 ohms.

### Mechanical Specifications

**A-9049**

Dimensions:	in. (mm)	8" H x 6" W x 0.25" D (203 H x 152 W x 6 D)
Weight:	lbs.(kg)	0.5 (.2)

Mounting Information:

As per specific needs.

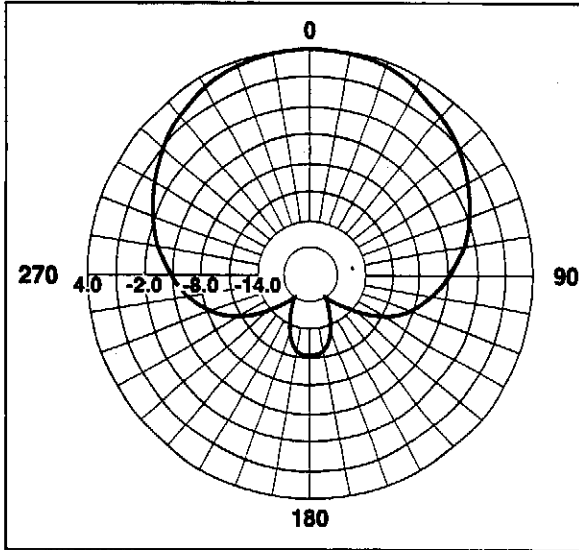


**Data Antenna** **A-9049**

4.0 dBd

928-952 MHz

**HORIZONTAL PATTERN FOR VERTICAL POLARIZATION**



**VERTICAL PATTERN FOR VERTICAL POLARIZATION**

