Model 101V VPD Antenna

Air Traffic Control Antennas

Vertex RSI™
ISO 9001 Registered

The Strength to Perform

Description

The 101V VPD antenna is a single encapsulated, radiating dipole column mounted on a frame that supports four reflector columns on either side of the dipole column to form an adjustable ground plane. The two ground planes are adjustable to the following ground plane angles: 90°, 120°, 150°, 180° (flat), 225° and 270°.

The antenna has one input connector and is designed to mount to a 2-inch diameter pole using U-bolts supplied with the antenna.

Features

- Used with the Airport Target Identification System (ATIDS)
- Detects position of aircraft and vehicles on airport surface
- Provides positive identification of target
- Encapsulated weatherproof dipole columns
- Lightweight (4 lbs)
- Adjustable RF performance (6.4 to 9.2 dBi gain)

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Technical Specifications

Electrical*		
Frequency Range		
Transmit	1030 ± 5 MHz	
Receive	1090 ± 10 MHz	
VSWR	2.0:1 maximum	
Impedance	50 ohms	
Power Handling Capacity	400 W peak, 5 W average	
Polarization	Vertical	
Gain (dB), Nominal @	1030 MHz	1090 MHz
90° Ground Plane	9.2	9.0
120° Ground Plane	9.1	9.0
150° Ground Plane	8.7	7.8
180° Ground Plane	6.9	6.7
225° Ground Plane	6.6	6.8
270° Ground Plane	6.4	6.9
Vertical 3 dB Beamwidth, nominal	45°	
Horizontal 3 dB Beamwidth, Nominal @	1030 MHz	1090 MHz
90° Ground Plane	52°	54°
120° Ground Plane	52°	54°
150° Ground Plane	71°	79°
180° Ground Plane	99°	102°
225° Ground Plane	127°	127°
270° Ground Plane	128°	128°
Front to Back Ratio	20 dB	
Azimuth Sidelobe Level	18 dB	

Mechanical	
Dimensions	
Height	15.25 in (38.7 cm)
Width	19.00 in (48.3 cm)
Depth	5.62 in (14.3 cm)
Weight	4 lbs. (1.8 kg)
Ground Plane Adjustment	90°, 120°, 150°, 180°, 225°, 270°
Input Connector	SMA

Environmental	
Elevation	0 to 12,000 ft (0 to 3,700 m) above sea level
Temperature	-58° to +158° F (-50° to +70° C)
Humidity	To 100%, condensing
Precipitation	
Rain	To 2.4 in/h (60 mm/h)
Hail	To 0.5 in (13 mm) diameter hailstones at 60 ft/second (18.3 m/second)
Ice Loading	To 0.5 in (13 mm) radial thickness
Wind	
Operating	70 knots maximum with 0.5 in (13 mm) radial ice
Survival	109 knots maximum (no ice)
Barometric Pressure	Up to 30.5 in (77 mm) of mercury
Operating Lifetime	20 years

* Patterns available upon request.

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655-0038B, 04/06