

Ground Plane Omni Antenna

30 - 124 MHz & 220 - 512 MHz / Unity Gain



DB201

30 - 512 MHz

- **Very Popular** — Heavy duty, lightweight DB201 is one of our most widely used.
- **Unique Design** — Features a new approach to the feeding of the insulated portion of the radiator.
- **Moisture Resistant** — 50-Ohm feed-through connector is encapsulated in a moisture and corrosion proof molded epoxy insulator.
- **Cut and Tested** — The radiating element and ground radials are cut to frequency and tested at the factory for minimum VSWR. Uncut models for 30-50, 144-174 and 406-512 MHz are optional. Cutting chart is included.
- **Lightning Resistant** — Constructed of metal with all elements operating at DC ground.
- **Protected Lead** — A Male-to-Female connection is weather protected but can be replaced if necessary.
- **New** — 30-50 MHz models have galvanized steel support pipe.
- **Easy Mounting** — Galvanized steel DB365-OS Mounting Clamps are included for top mounting to a tower, pole or building.



▲ DB201

MECHANICAL DATA

Radiator (aluminum) – in. (mm)	0.875 (22.23) OD with 0.125 (3.18) wall & 0.375 (9.35) OD solid rod			
Ground Rods (aluminum) – in. (mm)	0.5 (12.7) OD solid rod tapered to 0.25 (6.35) OD			
Support Pipe – in. (mm)	1.31 (33.34) OD, 24 (609.6) length			
30 MHz to 150 MHz	1.31 (33.34) OD, 12 (304.8) length			
150 MHz to 470 MHz	35 MHz	50 MHz	150 MHz	450 MHz
Maximum Exposed Area (flat plate equivalent) – ft ² (m ²)	1.1 (0.102)	0.8 (0.074)	0.4 (0.037)	0.3 (0.028)
Wind Rating* – mph (km/hr)				
Survival without Ice	93 (150)	122 (196)	125 (201)	125 (201)
Survival with 0.5" (12.7 mm) Radial Ice	51 (82)	65 (105)	125 (201)	125 (201)
Lateral Thrust at 100 mph (161 km/hr) – lbf (N)	44 (195.7)	32 (142.3)	16 (71.2)	12 (53.4)
Net Weight (w/clamps) – lbs. (kg)	25 (11.34)	23 (10.43)	10 (4.54)	6 (0.152)
Shipping Weight (w/clamps) – lbs. (kg)	35 (15.88)	31 (14.06)	14 (6.35)	9 (0.229)
Mounting Clamps (Galv. steel)	DB365-OS	DB365-OS	DB365-OS	DB365-OS

* Calculation of wind survivability does not include damage due to flying debris.

ELECTRICAL DATA

Frequency Ranges – MHz	See Ordering Information Table.
Bandwidth	2% of frequency
VSWR	1.5 to 1 or less
Nominal Impedance – ohms	50
Gain (over half-wave dipole) – dBd	Unity
Maximum Power Input – watts	500
Vertical Beamwidth (half power points)	78°
Lightning Protection	Direct ground
Standard Termination	Captive Type N-Male to end of flexible lead.

MODEL	Frequency Range – MHz	Overall Height – in. (mm)	Max. Height (above base plate) – in. (m)	Max. Width (horizontal) – in. (m)
DB201-A	30 - 33	114 (2,895.6)	90 (2,286)	127 (3,225.8)
DB201-B	33 - 37	105.5 (2,679.7)	81.5 (2,070.1)	115.75 (2,940.1)
DB201-C	37 - 42	96.75 (2,457.5)	72.75 (1,847.9)	103.75 (2,635.3)
DB201-D	42 - 50	89.5 (2,273.3)	65.5 (1,663.7)	93.5 (2,374.9)
DB201-E	60 - 88	67.5 (1,714.5)	43.5 (1,104.9)	63 (1,600.2)
DB201-F	100 - 144	50.88 (1,292.4)	26.89 (683)	39.56 (1,004.8)
DB201-G	144 - 150	30.63 (778)	18.63 (473.02)	27.56 (700)
DB201-H	150 - 174	29.86 (758.5)	17.88 (454.2)	26.5 (673.1)
DB201-J	225 - 406	24.25 (615.9)	12.25 (311.2)	17.13 (435.1)
DB201-JJ	220 - 222	25 (635)	13 (330.2)	16.75 (425.5)
DB201-K	406 - 512	19.25 (488.9)	7.25 (184.2)	9.38 (238.3)
DB201-L	30 - 50	114 (2,895.6)	90 (2,286)	12.7 (322.6)
DB201-M	144 - 174	30.63 (778)	18.63 (473.2)	27.56 (700)
DB201-N	406 - 512	19.25 (488.9)	7.25 (184.2)	9.38 (238.3)
DB201-P	450 - 470	18.38 (466.9)	6.38 (162.1)	8.63 (219.2)

ORDERING INFORMATION

Use model number for correct frequency or specify uncut model and frequency range; also termination if non-standard. Order jumper cable separately, if desired. Order 12007 for Radial U-Bolt Kit to support field adjustments.

Yagi Antenna

150 - 174 MHz & 220 - 222 MHz / 9.5 dBd Gain



DB292

30 - 512 MHz

DB292, a 6-element Yagi, is constructed with a reflector, four directors and a folded dipole driven element mounted on a common boom.

- **Broad Bandwidth** — 10 MHz gives optimum performance in either single or multi-frequency systems.
- **Weather Resistant** — The feed is enclosed within the dipole assembly for added protection from ice and snow.
- **Lightning Resistant** — All elements are grounded.
- **Stacked Arrays** — Two antennas provide 12.5 dBd gain, four antennas 15.5 dBd. A vertical spacing of 0.75 to 1.0 wavelengths between antennas is recommended.
- **Key Applications** — The DB292 is ideal for systems in need of broadband coverage, protection against severe environments, high gain in a narrow sector or reduced interference on the backside of the antenna.
- **No Field Tuning** — Antenna is adjusted at the factory for minimum VSWR.
- **Rugged** — DB292 is made of aluminum alloys and reinforced with 0.875" (22.26 mm) sockets at the boom. Brackets and hardware are galvanized steel.



▲ DB292

ELECTRICAL DATA

Frequency Ranges – MHz	A = 150-160 B = 155-165, C = 164-174, JJ = 220-222
Bandwidth	Same as above
VSWR	1.5 to 1 or less
Nominal Impedance – ohms	50
Forward Gain (over half-wave dipole) – dBd	9.5
Polarization	Vertical
Maximum Power Input – watts	350
Vertical Beamwidth of Single Antenna (half power)	50°
Horizontal Pattern of Beamwidth of Single Antenna (half power)	62°
Front-to-Back Ratio – dB	18
Lightning Protection	Direct ground
Standard Termination	Captive Type N-Male attached to end of flexible lead.

ORDERING INFORMATION

Use model number for correct frequency and specify termination if non-standard. Brackets and clamps are supplied. **Examples:** DB292-A, or 2 ea. DB292-A plus 1 ea. 14292-2-A for dual array. Order jumper cable separately.

Gain	Order
9.5 dB	1 ea. DB292 Antenna
12.5 dB	2 ea. DB292 Antenna
	1 ea. 14292-2 Dual Harness
15.5 dB	4 ea. DB292 Antenna
	2 ea. 14292-2 Dual Harness
	1 ea. 14292-4 Harness

MECHANICAL DATA

	DB292	DB292 (two)	DB292 (four)
Support Boom (aluminum) – in. (mm)	1.5 (38.1) x 2 (50.8) with 0.078 (1.98) wall	1.5 (38.1) x 2 (50.8) with 0.078 (1.98) wall	1.5 (38.1) x 2 (50.8) with 0.078 (1.98) wall
Elements (aluminum) – in. (mm)	0.75 (19.05) dia. with 0.875 (22.23) diameter sockets	0.75 (19.05) dia. with 0.875 (22.23) diameter sockets	0.75 (19.05) dia. with 0.875 (22.23) diameter sockets
Dipole (aluminum) – in. (mm)	0.625 (15.88) dia.	0.625 (15.88) dia.	0.625 (15.88) dia.
Maximum Exposed Area (flat plate equivalent) – ft ² (m ²)	1.8 (0.167)	3.6 (0.335)	7.2 (0.669)
Lateral Thrust at 100 mph (161 km/hr) – lbf (N)	72 (320.3)	144 (640.5)	288 (1281)
Wind Rating:*			
Survival without Ice – mph (km/hr)	100 (161)	100 (161)	100 (161)
Survival with 0.5" (12.7 mm) Radial Ice – mph (km/hr)	70 (113)	70 (113)	70 (113)
Height – in. (mm)	38 (965.2)	110 (2,794)	254 (6,452)
Overall Length – in. (mm)	84 (2,134)	84 (2,134)	84 (2,134)
Net Weight – lbs. (kg)	15 (6.8)	32 (14.51)	68 (30.84)
Shipping Weight – lbs. (kg)	19 (8.62)	41 (18.60)	81 (36.74)
Mounting Brackets	Galvanized steel	Galvanized steel	Galvanized steel

* Calculation of wind survivability does not include damage due to flying debris.

Exposed Dipole Quasi-Omni Antenna

138 - 174 MHz & 220 - 285 MHz / 6 or 9 dBd Gain

DB224

30 - 512 MHz

This popular antenna is available with four folded dipoles for high gain and broad bandwidth. MODEL DB224 is a high gain, lightweight, high strength antenna for use in the 138-285 MHz band. It is factory adjusted and checked for minimum VSWR over a wide band of frequencies. Clamps for top mounting are supplied with the antenna but an additional side mount kit (Model DB5001) must be ordered when side mounting the antenna.

- Broad Response** — 10 MHz bandwidth provides optimum performance in single or multi-frequency systems, on both transmit and receive. Unique model, DB224-FAA, available for most VHF air control systems.
- Optional Radiation Pattern** — The radiation pattern of the DB224 can be easily changed from a 6 dB gain omni-directional pattern, to a 9 dB maximum gain offset pattern, or from an offset to an omni-directional pattern. When the four-dipole elements are positioned evenly, every 90 degrees around the mast, a circular radiation pattern results. When all four dipoles are in line (collinear) along one side of the mast, the antenna has a directional characteristic.
- Bandwidth** — Through the use of folded dipole elements and binary cable harness, the DB224 has an exceptionally broad bandwidth. Performance characteristics (gain, VSWR) are essentially constant over a frequency range of 10 MHz or more. This permits the DB224 to provide optimum performance when used in either single or multi-frequency systems.
- Two-Piece Mast** — For ease of handling and to facilitate shipment, the mast is made in two sections. Assembly of the sections is quite simple and requires only the use of ordinary hand tools. The unique center splice assures proper alignment.
- Split Version** — The DB224S is a split version of the DB224. It consists of two independent antennas on the same mast; each with a separate feedline terminated at the bottom of the mast. Essentially it amounts to two 3 dB gain in an omni-directional pattern (DB224S) or two 6 dB gain in an offset pattern (DB224ES). Each antenna may be used omni-directionally or directionally without regard to the other. Isolation between the two antennas is 35 dB or more.
- Lightning Resistant** — The radiators operate at DC ground, and the aluminum mast, with its pointed cap, provides a low resistant discharge path to the tower or ground system.
- For Air Shipment** — Model DB224X, refer to table.



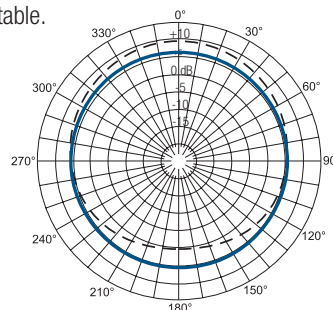
Simple but secure stainless steel banding clamp allows an easy change from circular to offset radiation pattern.



Molded connections for weatherproof operation.



Unique center splice prevents misalignment; two piece construction for easier handling before installation.



Horizontal patterns illustrate the maximum gain of the DB224 (6 dB) and DB224E (9 dB) with respect to a half wave dipole (0 dB level).

DB224E
(Offset Pattern)



DB224
(Omni Pattern)

ORDERING INFORMATION

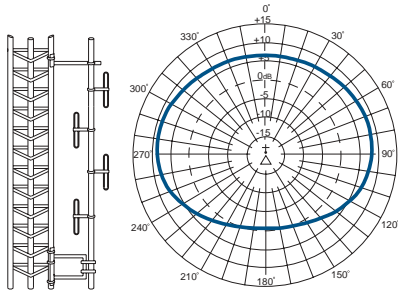
See model number table for correct frequency and type. DB365-OS Mounting Clamps are included. For side mounting order DB5001 Side Mount Kit. For Stabilizer Kit, order 12088 (four required). For shortened mast, order DB224X. Order jumper cable separately.

Exposed Dipole Quasi-Omni Antenna

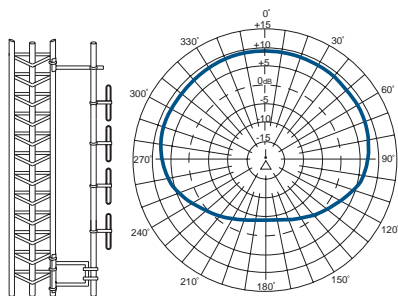
138 - 174 MHz & 220 - 285 MHz / 6 or 9 dBd Gain

30 - 512 MHz

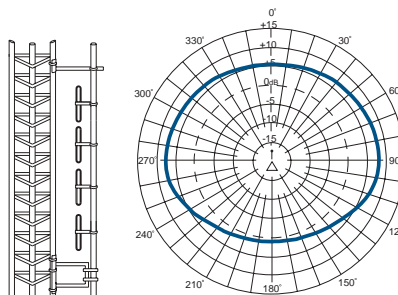
DB224



▲ DB224 (omni) mounted on side of tower.



▲ DB224E, elements pointed away from the tower.



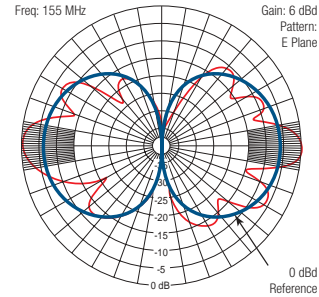
▲ DB224E, elements pointed toward the tower.

SIDE MOUNTING

The patterns indicate the typical pattern shape of the antenna side mounted on a tower with an 18" to 24" (457.2 to 609.6 mm) face, using the DB5001 Side Mount Kit.

The DB5001 Side Mount Kit positions the antenna approximately 18" from the tower and consists of an upper sway brace, lower bracket (both galvanized) and the necessary hardware for attaching the bracket to round tower members up to 3" OD, or angular members up to 2" on a side. Other size clamps can be supplied on special order.

DB224 Vertical Pattern



ELECTRICAL DATA

Frequency Ranges* – MHz	See Model Table	
Bandwidth (150-174 MHz) – MHz	10	
VSWR	1.5 to 1 or less	
Nominal Impedance – ohms	50	
Gain (over half-wave dipole) – dBd	Omni Pattern	Offset Pattern
	6.0	9.0
Maximum Power Input – watts	500	
Vertical Beamwidth (half power points)	16°	
Decoupling Between Antennas (split models) – dB	35 minimum	
Lightning Protection	Direct ground	
Standard Termination	Captive Type N-Male attached to end of flexible lead.	

* Special frequencies are available; contact factory for details.

MECHANICAL DATA

Mast – Upper (aluminum) – in. (mm)	1.75 (44.45) OD with 0.062 to 0.125 (1.57 to 3.18) wall	
Mast – Lower (aluminum) – in. (mm)	2 (50.8) OD with 0.125 to 0.187 (3.18 to 4.75) wall	
Radiating Elements (aluminum) – in. (mm)	0.5 (12.7) OD with 0.058 (1.47) wall	
Maximum Exposed Area (flat plate equivalent) – ft ² (m ²)	3.15 (0.292)	
Lateral Thrust at 100 mph (161 km/hr) – lbf (N)	126 (560.5)	
Wind Rating:*	Top Mounted	Side Mounted
Survival w/o ice – mph (km/hr)	80 (129)	100 (161)
Survival with 0.5" (12.7 mm) Radial Ice – mph (km/hr)	55 (89)	70 (113)
Mounting Clamps (Galv. steel)	DB365-OS	

* Calculation of wind survivability does not include damage due to flying debris.

Circular	Offset	Dual	Dual Offset	Frequency	Overall Length - in. (mm)	Net Weight (w/clamps) - lbs. (kg)	Shipping Length - in. (mm)	Shipping Width - in. (mm)	Shipping Height - in. (mm)	Shipping Weight (w/clamps) - lbs. (kg)
DB224-FAA	DB224E-FAA			127-141	279 (7087)	38 (17.25)	149 (3784.6)	17 (431.8)	8 (203.2)	48 (21.8)
DB224-A	DB224E-A			150-160	255 (6477)	35 (15.89)	149 (3784.6)	17 (431.8)	8 (203.2)	45 (20.43)
DB224-B	DB224E-B			155-165	255 (6477)	35 (15.89)	149 (3784.6)	17 (431.8)	8 (203.2)	45 (20.43)
DB224-C	DB224E-C			164-174	255 (6477)	35 (15.89)	149 (3784.6)	17 (431.8)	8 (203.2)	45 (20.43)
DB224-E	DB224E-E			138-150	279 (7087)	38 (17.25)	149 (3784.6)	17 (431.8)	8 (203.2)	48 (21.8)
DB224-F				160-170	255 (6477)	35 (15.89)	149 (3784.6)	17 (431.8)	8 (203.2)	45 (20.43)
DB224-J				276-285	165 (4191)	27 (12.26)	100 (2540)	17 (431.8)	8 (203.2)	37 (16.8)
DB224-JJ	DB224E-JJ	DB224S-JJ	DB224ES-JJ	220-225	209.75 (5328)	35 (15.89)	121 (3073.4)	17 (431.8)	8 (203.2)	42 (19.07)
		DB224S-A	DB224ES-A	150-158	255 (6477)	36 (16.34)	149 (3784.6)	17 (431.8)	8 (203.2)	46 (20.89)
Antennas with Shortened Mast for Air Shipment										
DB224X-A				150-160	191.25 (4858)	38 (17.25)	124 (3150)	21 (533.4)	12 (304.8)	48 (21.8)
DB224X-B				155-165	191.25 (4858)	44 (19.98)	125 (3175)	21 (533.4)	12 (304.8)	54 (24.52)
DB224X-C				164-174	191.25 (4858)	38 (17.25)	124 (3150)	21 (533.4)	12 (304.8)	48 (21.8)
DB224X-E				138-150	191.25 (4858)	44 (19.98)	96 (2438)	17 (431.8)	17 (431.8)	54 (24.52)

DECIBEL®

DB573E-JJ

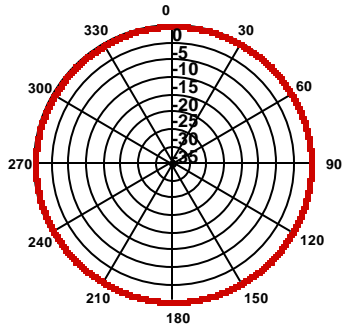
3 dBd, Omni Antenna
217-222 MHz

217-222 MHz

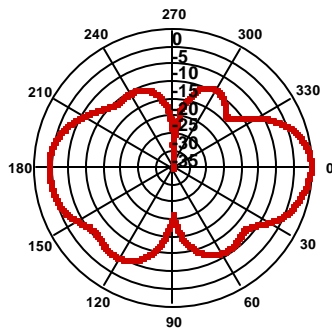
Aeroglas®

- 3 dBd gain Omni directional antenna for 217-222 MHz
- Rugged construction for minimum passive intermodulation

360°



Horizontal 220 MHz (Tilt=0)



Vertical 220 MHz (Tilt=0)



ELECTRICAL

Frequency (MHz):	217-222
Polarization:	Vertical
Gain (dBd/dBi):	3/5.1
Azimuth BW:	360°
Elevation BW:	24°
Beam Tilt:	0°
VSWR:	<1.5:1
Impedance:	50 Ohms
Max Input Power:	350 Watts
Lightning Protection:	DC Ground

MECHANICAL

Weight:	11 lbs (5 kg)
Dimensions (LxUO):	109 X 2 in (2768.6 X 50.8 mm)
Max. Wind Area:	1 ft² (0.09 m²)
Max. Wind Load (@ 100mph):	40 lbf (178 N)
Max. Wind Speed:	125 mph (201 km/h)
Tip Deflection (@ 100mph):	7°
Radiator Material:	Brass/Copper
Radome Material:	Fiberglass
Mounting Hardware Material:	Galvanized Steel
Connector Type:	7/16 DIN - Female (Bottom)
Color:	Horizon Blue
Standard Mounting Hardware:	DB365-OS



Andrew Corporation
8635 Stemmons Freeway
Dallas, Texas U.S.A 752473701
Tel: 214.631.0310

Fax: 214.631.4706
Toll Free Tel: 1.800.676.5342
Fax: 1.800.229.4706
www.andrew.com

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dbtech@andrew.com