

DB201 Ground Plane Omni Antenna

30-512 MHz

Assembly and Mounting Instructions

PRODUCT DESCRIPTION

The DB201 is a heavy duty ground plane antenna with a folded radiating element. It provides an omnidirectional radiation pattern with unity gain - 0 dB with respect to a vertically polarized half wave dipole. Designed for the most rugged duty, the DB201 features a unique molded epoxy feed-through insulator. This design affords easy replacement of the connecting lead by means of a male to female connection which is completely protected from weather.

Unless otherwise specified when ordering, each antenna is cut to frequency at the factory and adjusted for minimum VSWR. As a result, no field tuning or adjustment is required. If ordered uncut, a cutting chart is provided separately.

INSTALLATION INFORMATION

The DB201 is designed for mounting above the top of a tower or wooden pole, and best operation is obtained when the ground plane rods are above all objects.

Should metal objects extend above the level of the ground plane (or it is necessary to mount the antenna on the side of a tower) the radiation pattern will be distorted. The shape of the pattern will depend on the frequency of operation, the size of the tower, and the distance between the antenna and tower. Radiation "through the tower" will be lower than from other directions. If a more specific pattern is desired, please furnish tower and mounting specifics to Decibel's Engineering staff.

1. After removing antenna from shipping box, inspect it to be sure all parts are on hand and that there is no physical damage.
2. Inspect the antenna feed assembly output connector to determine that it mates with the end of your station transmission line.
3. Verify that the frequency to which the antenna has been tuned is the frequency on which your radio system is to operate.
4. Mount the DB365 mounting clamps to the support pipe. At frequencies above 120 MHz, the antenna is supplied with a single DB365 mounting clamp. Two clamps are provided for antennas in the 30-120 MHz frequency range. Tighten the mounting clamps securely and evenly. In the case of two clamps, verify that the clamps are in line vertically.

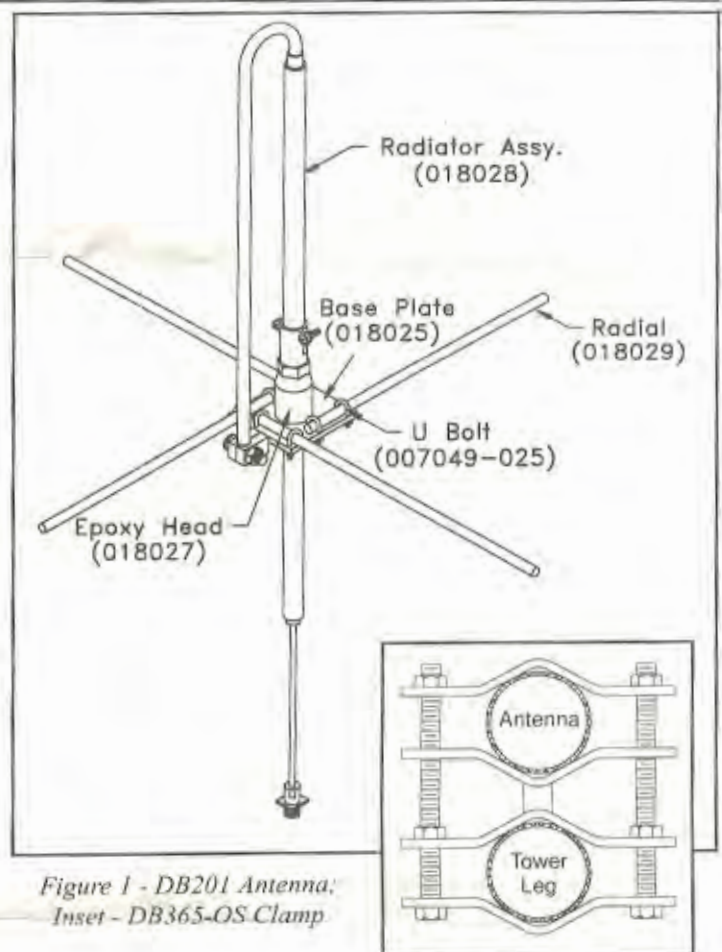


Figure 1 - DB201 Antenna;
Inset - DB365-OS Clamp

5. Using the supplied lockwashers and nuts, install the U-bolts onto the base plate, leaving them loose enough that the ground radials can be placed between the U-bolts and the base plate. Slide the radials in until they butt against the side of the adjacent U-bolt. Then, tighten the U-bolts securely and evenly.
6. Mount the fully assembled antenna onto the tower making sure that the antenna is vertical and that the mounting clamps are tightened evenly and securely.

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Warning!

Installation of this product near power lines is *dangerous*.
For your safety, follow the installation procedures.



DECIBEL PRODUCTS
A Division of the ALLEN TELECOM GROUP

8635 Stemmons Freeway • P. O. Box 569610 • Dallas, Texas 75356-9610
214 / 631-0310 • Fax: 214 / 631-4706



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7. A check of the antenna VSWR as measured at the antenna is recommended at this point. Note this measurement carefully and record it for future reference.
8. After checking the VSWR at the antenna, connect the station transmission line to the antenna. Make the connection snug but do not apply heavy force with pliers. To prevent moisture problems, carefully wrap Vapor-Wrap (part no. 11317 or 11316) around the connection; work the compound into all cracks and smooth it over the outer jackets of the transmission line. Failure to waterproof the cable connection will result in improper operation of the antenna.
9. Secure the feeder cable and antenna transmission line to the tower in the best position to avoid physical damage to the cable.
10. After the antenna and transmission line installation has been completed, a careful visual check should be made to ensure that:
 - All mechanical connections have been securely made.
 - All connections have been securely wrapped with Vapor-Wrap to prevent moisture problems.

Mechanical Data				
	35 MHz	50 MHz	150 MHz	450 MHz
Materials: Radiator Assy.	6063-T832 aluminum, 7/8" OD with 1/8" wall and 3/8" OD solid rod	6063-T832 aluminum, 7/8" OD with 1/8" wall and 3/8" OD solid rod	6063-T832 aluminum, 7/8" OD with 1/8" wall and 3/8" OD solid rod	6063-T832 aluminum, 7/8" OD with 1/8" wall and 3/8" OD solid rod
Ground Radials	6061-T6 aluminum, 1/2" OD solid rod tapered to 1/4" OD	6061-T6 aluminum, 1/2" OD solid rod tapered to 1/4" OD	6061-T6 aluminum, 1/2" OD solid rod	6061-T6 aluminum, 1/2" OD solid rod
Support Pipe	Galvanized steel, 1-5/16" OD, 24" length	Galvanized steel, 1-5/16" OD, 24" length	Galvanized steel, 1-5/16" OD, 12" length	Galvanized steel, 1-5/16" OD, 12" length
Mounting Clamps	Galvanized steel	Galvanized steel	Galvanized steel	Galvanized steel
Maximum Exposed Area (flat plate equivalent)	1.1 sq. ft.	0.8 sq. ft.	0.4 sq. ft.	0.3 sq. ft.
Wind Rating Survival (w/o ice) Survival (1/2" radial ice)	93 mph 51 mph	122 mph 65 mph	Over 125 mph Over 125 mph	Over 125 mph Over 125 mph
Lateral Thrust at 100 mph (40 psf flat equivalent)	45 lbs.	32 lbs.	16 lbs.	11 lbs.
Bending Moment (2" below plate) At 100 mph (40 psf flat equivalent)	64 ft. lbs.	35 ft. lbs.	5 ft. lbs.	1 ft. lbs.
Overall Length	101"	78"	30"	19"
Height (above base plate)	77"	54"	18"	6-1/2"
Maximum Width (horizontal)	216"	151"	49"	15"
Net Weight	24 lbs.	22 lbs.	10 lbs.	6 lbs.
Shipping Weight (with clamps)	33 lbs.	30 lbs.	14 lbs.	9 lbs.
Mounting Clamps (DB-365)	Supplied with antenna. Fits round tower members from 1-1/4" to 3" OD and angle members up to 2-1/2" on a side. At frequencies above 120 MHz, the antenna is supplied with a single clamp. Other size clamps available upon special order.			

Frequency: _____ Radiator Assy.: _____ inches Ground Radials: _____ inches

A.O.: _____ Date: _____ Tested: _____

