

095001-000 Revision L, May 2016

Ground Plane Omni Antenna

DB201 Series

GENERAL INFORMATION

The DB201 antenna 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 the 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.

These antennas are 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 contact CommScope's Applications Engineering with tower and mounting specifics.

INSTALLATION INSTRUCTIONS

1. After removing the antenna from the shipping box, inspect it to ensure all parts are on hand and that there is no physical damage.
2. Inspect the antenna feed 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 antenna to the support pipe using the DB365 mounting clamp(s), supplied with the antenna. This clamp fits round members from 1-1/4" to 3" OD and angle members up to 2-1/2" on a side. A single clamp is provided with DB201 antennas at frequencies above 120 MHz. Two clamps are provided with DB201 antennas in the 30-120

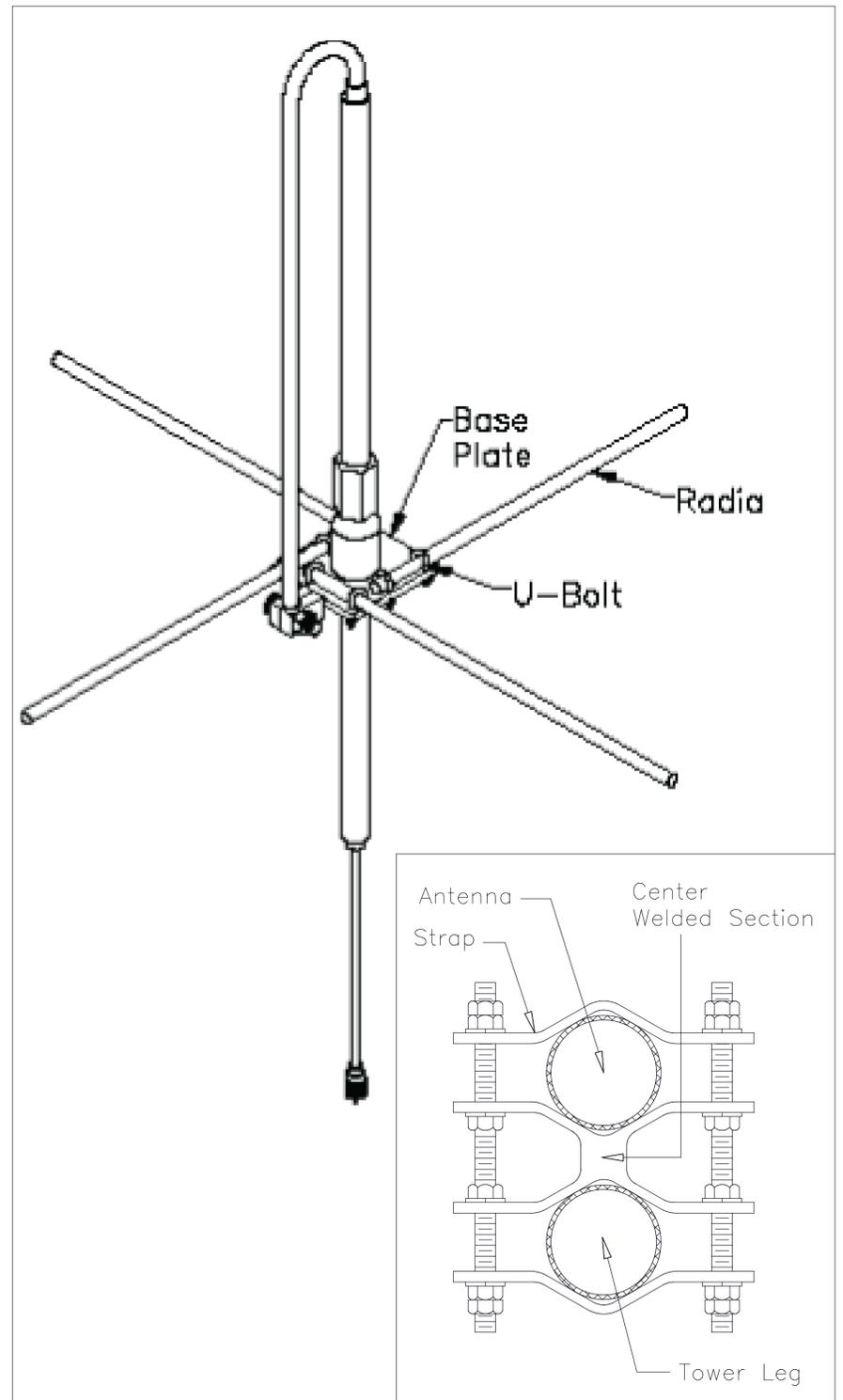


Figure 1. DB201 Antenna; Inset - DB365-OS Clamp

(Continued on page 2)



Do not install near power lines. Power lines, telephone lines, and guy wires look the same. Assume any wire or line can electrocute you.



Do not install on a wet or windy day or when lightning or thunder is in the area. Do not use metal ladder.



Wear shoes with rubber soles and heels. Wear protective clothing including a long-sleeved shirt and rubber gloves.

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MHz frequency range. Tighten the mounting clamps securely and evenly. If two clamps are used, ensure that the clamps are vertically aligned.

5. Using the supplied lockwashers and nuts, install the Ubolts 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 touch 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 ensuring that the antenna is vertical and that the mounting clamps are tightened evenly and securely.
7. It is recommended that a check of the antenna VSWR is measured 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 VAPORWRAP™ (11317 or 11316) around the connection; working the compound into all cracks and smoothing 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 as 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.

SAFETY NOTICE

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. CommScope installation instructions are written for such installation personnel. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment.

CommScope disclaims any liability or responsibility for the results of improper or unsafe installation practices.

It is recommended that transmit power be turned off when the field installation is performed. Follow all applicable safety precautions as shown on this page.

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
Max. Exposed Area (flat plate equivalent)	1.1 ft2	0.8 ft2	0.4 ft2	0.3 ft2
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"
Max. Width (horizontal)	216"	151"	49"	15"
Net Weight	24 lbs.	22 lbs.	10 lbs.	6 lbs.