

# Installation Instructions

## Pipe Mounts With Downtilt Mounts For Panel Antennas

### DB380 and DB380-3 (Pipe Mounts) DB5083 and DB5083D (Downtilt Mounts)



#### GENERAL INFORMATION

DB380 is a galvanized pipe clamp kit (2 clamp assemblies) designed for mounting panel antennas to pipes with diameters measuring from 31.8mm to 115mm (1.25" to 4.50") OD. DB380-3 pipe clamp kit is the same as the DB380 kit, except it includes 3 clamp assemblies designed for use with panel antennas equipped with 3 mounting brackets.

The DB5083 downtilt kit is designed for use with the DB380 pipe mount assembly. DB5083D downtilt kit is like the DB5083 kit, designed for use with the DB380-3 pipe mount assembly. Both DB5083 and DB5083D provide up to 14" of downtilt.

#### DB380/DB380-3 INSTALLATION INSTRUCTIONS

1. Remove the antenna and hardware from the shipping box. Ensure that all parts are enclosed and that there is no physical damage.
2. Ensure that the antenna feed connector mates with the transmission line.
3. Verify that the frequency range shown on the label on the back of the antenna matches the frequency range of the station equipment.

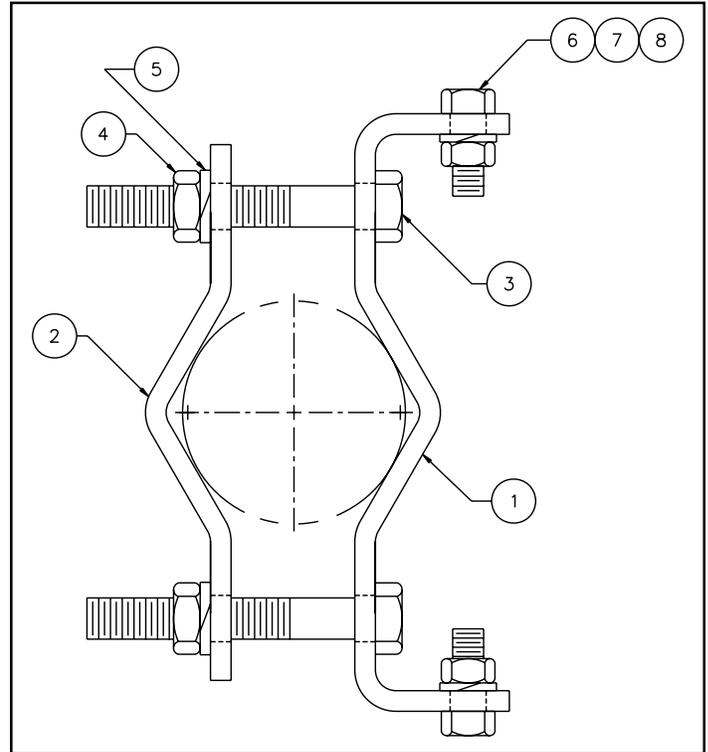


Figure 1. Assembled DB380/DB380-3 Pipe Mount Clamp.

DB380 Qty*	DB380-3 Qty*	Item	P/N	Description
*Each kit includes extra nuts, washers, and screws.				
2	3	1	017953-002	Bracket With Tabs
2	3	2	018066-003	Bracket Without Tabs
6	8	3	007028-277	1/2-13 x 4 1/2" LG. HX HD Cap Screw
6	8	4	007020-014	1/2-13 HX HD Nut
6	8	5	007022-010	1/2" Split Lock Washer
6	8	6	007028-223	3/8-16 x 1" LG. Cap Screw
6	8	7	007022-008	3/8" Split Lock Washer
6	8	8	007020-011	3/8-16 HX HD Nut

Table 1. DB380/DB380-3 Parts List.

(continued on page 2)

#### NOTICE

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. Andrew 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.

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



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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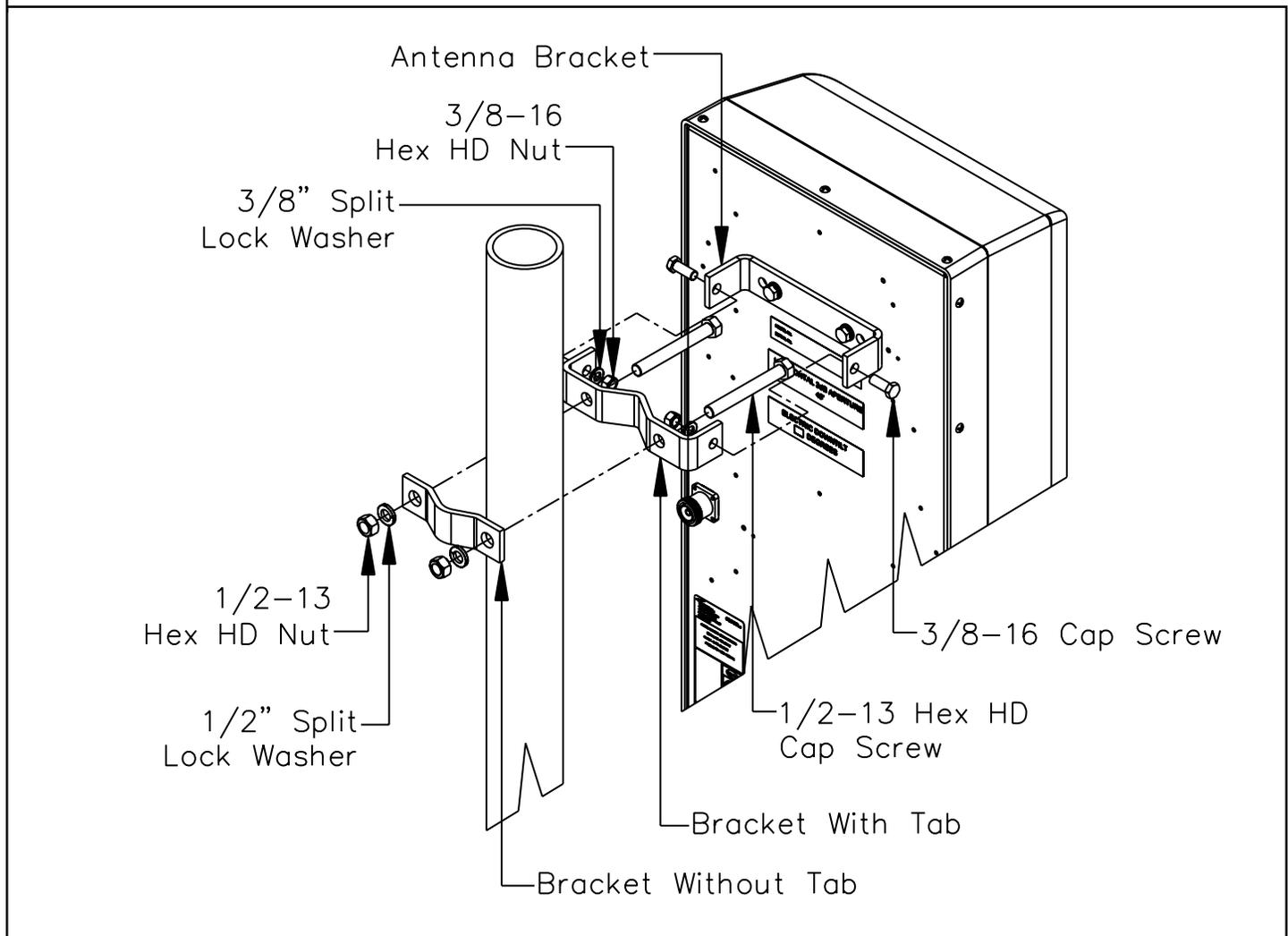


Figure 2. Mounting Antenna to Mast Using DB380/DB380-3 Pipe Mount Kit.

4. Insert the 1/2–13 hex head cap screws into the pipe brackets with tabs (Items 1 and 3, Table 1, Figure 1) as shown in Figure 2.

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Once the pipe bracket is attached to the antenna, there will not be enough room between the pipe bracket and the back of the antenna to feed the 1/2–13 hex head cap screws into the pipe brackets.

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6. Attach the pipe brackets with tabs to the brackets on the back of the antenna using the 3/8" split lock washers and 3/8–16 cap screws and nuts (Items 6 through 8, Table 1, Figure 1) as shown in Figure 2. Tighten hardware using two 3/8-inch hand wrenches to 20 ft-lbs.

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One end of the antenna is labeled with an "up" arrow. This end should point upward when the antenna is mounted; this will allow the antenna's drain hole to point downward.

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7. Pre-assemble as much of the remaining mounting hardware as possible to prepare antenna for lifting up to the top of the tower. Attach a rope to the mount-

ing hardware on the top of the antenna. Keep the antenna vertical when hoisting the antenna. For safety, an additional rope can be attached to the bottom of the antenna and used as a guide by someone else on the ground.

8. Bring the antenna into position on the tower. From the other side of the tower, feed the pipe brackets without tabs (Item 2, Table 1, Figure 1) onto the 1/2–13 hex head screws. Secure with the 1/2" split lock washers and 1/2–13 nuts (Items 4 and 5, Table 1, Figure 1). Refer to Figure 2.

To avoid twisting the antenna, ensure that all the mounting clamps are aligned with each other (Figure 3). Tighten hardware using two 1/2-inch hand wrenches to 43 ft-lbs.

9. 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.
10. After the VSWR is checked, connect the station transmission line (not supplied) to the antenna. Make the

(Continued from page 2)

connection snug using approved torque on the connector. Do not apply heavy force with pliers.

11. To avoid moisture problems, carefully weatherproof all connections, covering all cracks and the outer jacket of the transmission line. Failure to waterproof the connection may result in improper operation of your antenna.
12. Secure the transmission line to the tower in the best position to avoid physical damage to the cable.
13. After the antenna and transmission line have been installed, a careful visual check should be made to ensure that:

- All mechanical connections have been made and the antenna is mounted with sufficient physical clearance.
- The "up" arrow is pointing upward and the drain holes in the end cap are oriented downward.
- All connections have been carefully wrapped to prevent moisture problems.

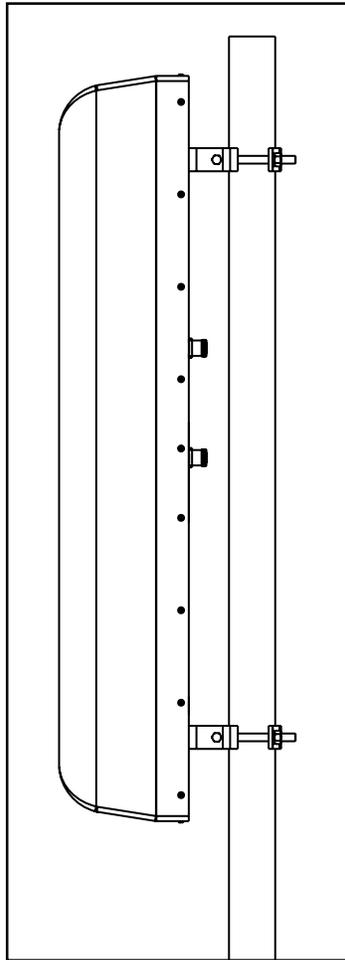


Figure 3. Aligning Mounting Clamps on Mast.

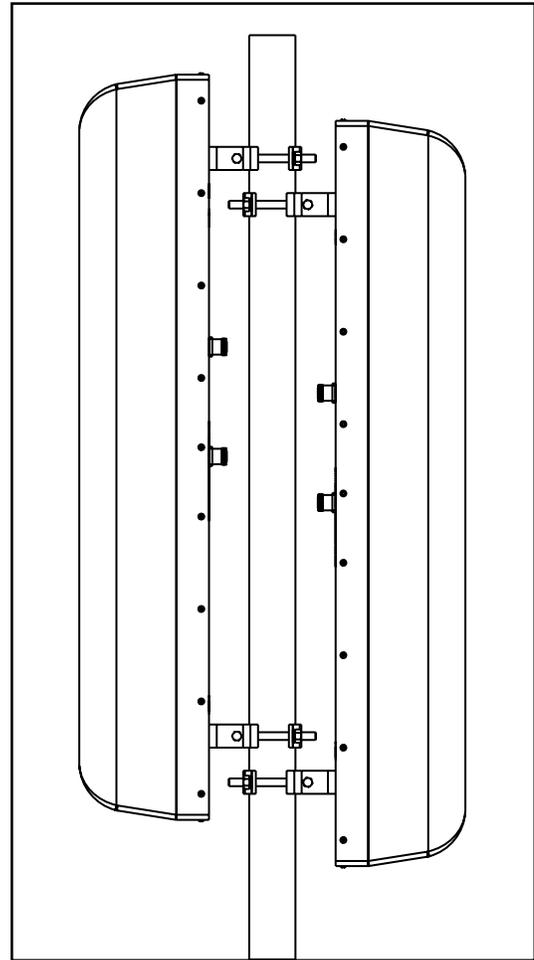


Figure 4. Two antennas "Stagger Mounted."

### MOUNTING MULTIPLE ANTENNAS

Up to three antennas can be mounted on a single mast; however, several factors must be considered to determine the proper mounting method. When two or three antennas are mounted on the same mast, the isolation should be measured for applications requiring a high isolation. The degree of offset around the mast combined with the diameter of the mast must also be considered.

When two or three antennas are mounted on a single mast, the mounting brackets prevent the antennas from being aligned on the same horizontal plane. As a result, the antennas must be "stagger-mounted" (i.e. each antenna should be mounted approximately 2 inches lower than the one above it on the mast). See Figure 4.

### DB5083/DB5083D INSTALLATION INSTRUCTIONS

1. Follow steps 1 through 4 of the DB380/DB380-3 installation procedures.
2. Use hand wrenches to pre-assemble the bracket links provided with the downtilt kit (Table 2 and Figure 5).
3. Attach the assembled downtilt bracket to the top antenna bracket and to one of pipe brackets with tabs with its 1/2–13 hex head cap screws inserted (as discussed in Step 4 of the DB380/DB380-3 installation procedures) using the 3/8–16 hex head cap screw, nut, and 3/8" split lock washer.. Refer to Figure 5.

If using the DB5083D downtilt kit, attach the second pre-assembled downtilt bracket to the middle antenna bracket in the same manner as used for the top bracket.

4. Attach the only available pipe bracket (with its 1/2–13 hex head cap screws pre-inserted) to the bottom antenna bracket using the 3/8–16 hex head cap screw, nut, and 3/8" split lock washer.
5. With the downtilt bracket(s) fully collapsed, follow steps 7 and 8 of the DB380 installation procedures. **DO NOT SECURELY TIGHTEN HARDWARE AT THIS POINT.**

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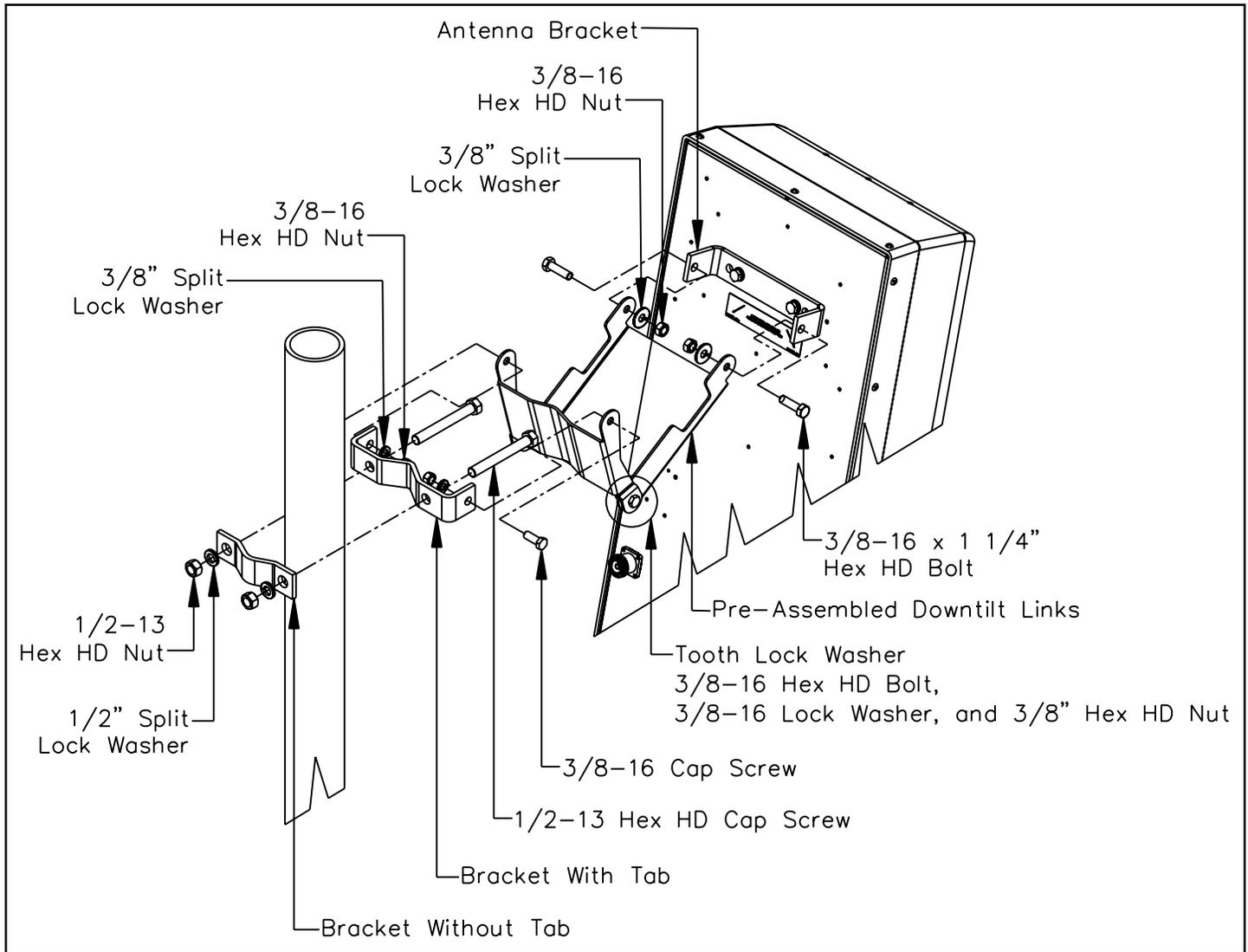


Figure 5. Downtilt Mounting Using DB380/DB380-3 Pipe Mount Kit with DB5083/DB5083D Downtilt Kit.

6. The maximum downtilt angle that can be obtained varies with the overall length of antenna being installed. Downtilt measurements should account for any degree of tower lean. The use of an inclinometer or other device which measures angles relative to the horizon is recommended for precise downtilt measurements.
7. After making tilt adjustments to the antenna, all nuts and bolts should be checked to ensure that they are tight. To avoid bending the brackets, use care when tightening the hardware.
8. Follow steps 9 through 13 of the DB380 installation procedures to complete the antenna installation.

DB5083 Qty*	DB5083D Qty*	*Each kit includes extra nuts, washers, and bolts.	
		P/N	Description
1	2	014958-001	Notched Bracket Link
1	2	014959-001	Bracket Link
8	14	007028-225	3/8-16 x 1 1/4" LG. Galv. HX HD Bolt
8	14	007022-008	3/8" Galv. Split Lock Washer
8	14	007020-011	3/8-16 Galv. HX HD Nut
4	6	007079-271	Tooth Lock Washer

Table 2. DB5083/DB5083D Parts List.



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