Ham Tips

from KH6CQ

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Using a J-Pipe Mount to Support a VHF/UHF Antenna

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The J-pipe mounts commonly used for mounting Direct Broadcast Satellite (DBS) dish antennas to residential structures are ideal for supporting small amateur radio antennas. They can be installed on the roof or side of a house or on a fascia board as shown here. These mounts are readily available, inexpensive, and very easy to install and adjust. The antenna shown in this installation is a Comet GP-3 dual band vertical for a 2 meter and 440 MHz FM application.

Four 5/16 inch lag screws secure the base of the mount to the house. The ones I used were 2 inches long; however, you should use a length suitable for the material you're installing the base to. Once satisfied with the mounting location, spot the position for one of the mounting holes and drill a 7/32 inch pilot hole. Then install the lag screw through the base but don't tighten it yet. Next, use a level to plumb the base, spot the remaining mounting holes, drill pilot holes, and install the other lag screws. Finally, check to make sure the base is plumb before tightening all of the lag screws.

Adjust the J-pipe so it's plumb and tighten the adjustment screws. The top of the J-pipe is 1-5/8 inches in diameter. Although that size was not a problem for the clamps supplied with this antenna, you may need to use 1-3/4 inch U-bolts.

After the antenna was installed, a way was needed to get the feedline into the house without drilling any new holes. This was accomplished by using one of the attic vent holes and the weatherproof electrical box shown in Figure 2.

Figure 1 — The J-pipe mount commonly used for supporting DBS dish antennas makes an ideal mount for small amateur radio antennas. The one shown here mounts a dual band antenna to the fascia board of a house.

The box is a Carlon E989NNJ marine outlet box that cost less than $7 from Lowes. Figures 3 and 4 show how I prepared the box. The three notches for passing RG-58 size coax were made using a #4 drill bit (0.209 inch) to make holes 1/4 inch in from the bottom edge of the box. Then a hobby hacksaw was used to cut the remaining material to make the notches, and a utility knife was used to remove the remaining debris.

The box was secured to the house using four 3/16 inch lag screws 1 inch long. I spotted the locations of the four mounting holes, drilled 1/8 inch pilot holes, and then installed the lag screws. After the coax was pulled, the cover was installed, and then the slots were packed with caulk.

Once the coax was inside the attic, it was pulled to the area over a closet in the bedroom where the radio shack is located. Then, a hole was drilled in the ceiling drywall to get the coax to the radio and a new attic vent was installed in that hole.

Figure 2 — The center attic vent was removed and a box was installed over the existing hole. This permits the coax to enter the attic crawl space while keeping the bugs out.

Figure 3 — Notches for the coax were made by drilling holes of an appropriate size near the bottom edge of the box and then using a small file to form the notch. A utility knife was used to clean the remaining debris from the notches.

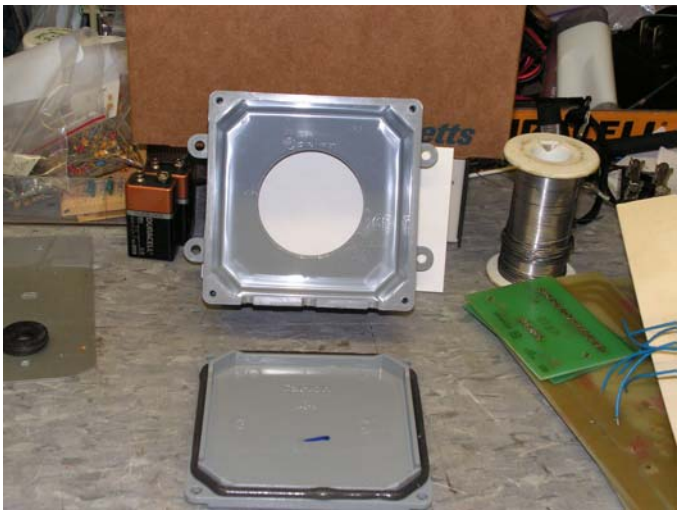

Figure 4 — A 2-1/8 inch hole was drilled in the electrical work box using a hole saw. This allows the coax to pass into the attic crawl space.

Figure 5 — To get the coax out of the attic crawl space and into the bedroom where the station is located, a 2 inch hole was drilled in the bedroom closet ceiling. Another attic vent, modified by adding a moveable cover, was used to finish the job.

Summary

This Ham Tip described a way to quickly and easily install a dual band VHF/UHF antenna on a house using a J-pipe mount normally used to support a small dish antenna. It also described a convenient way of bringing the feedline into the house without drilling any new holes. The J-pipe mounts are readily available, inexpensive, and very easy to set up.

73 from KH6CQ

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