



Installing an “Inside Coax” Ventenna

The “inside coax” version of the Ventenna offers the ultimate in stealthiness for your antenna installation. In the standard Ventenna, the coax exits the side of the antenna, a few inches up from the bottom. The coax is then run across the roof to some convenient place to bring it into the house. But this allows some keen-eyed observer to notice the coax and wonder about it. For the “inside coax” version, the coax comes down inside the vent pipe, making it completely invisible. The only drawback is the requirement for the vent pipe be modified to allow the coax to exit the pipe inside the house, typically in the attic, under the roof. There are a couple of ways to do this.

One option is to drill a hole in the vent pipe, and retrieve the coax through the hole. This requires about a 1 inch hole in the pipe, because the diameter of the SO-connector is about $\frac{3}{4}$ inch, and the cable must be pulled through the hole with the connector on it. (Note – At the customer’s request, we will install a BNC connector instead of the SO connector, for no extra charge. The BNC connector is only about $\frac{1}{2}$ inch in diameter, and is easier to get through the hole in the pipe.) Or, the factory-installed connector could be cut off, and a new connector installed after the coax is pulled through the hole. This connector installation could be a difficult operation, however, in a tight space in the attic.

Another option is to saw the vent pipe completely through, and install a pipe coupler ring (available at your local home-improvement store). After the pipe is cut, file a vertical notch in one of the cut ends, using a $\frac{1}{4}$ inch rat-tail file. The notch should be about $\frac{1}{4}$ inch longer than the pipe insert dimension of the coupler ring. The coax is then placed in the notch, the coupler ring installed to keep the coax in place, and the other end of the pipe put into the other side of the ring. Once you see that it all works, take it apart again, and re-assemble it using the appropriate cement to permanently bond the coupler and the pipe ends.

After the coax is retrieved through the hole, the hole **MUST** be completely sealed, to prevent sewer gas from escaping into the attic. We use a sealer called “Goop”. We don’t recommend standard RTV sealant (the type which releases acetic acid), because it seems to react with the outer covering of the coax cable, and could cause problems. Non-acidic RTV should be OK, but it’s hard to find. The large hole in the pipe is much more difficult to seal, because the sealant tends to “slump”. Typically, the large hole requires a couple of passes to fill the hole properly, and seal it completely. The small hole in the “ring” option is much easier to seal.

One important point – test the Ventenna and the coax extension you intend to use, on the ground **BEFORE** installing the Ventenna on the roof. Since this is a permanent installation, you want to be sure there is no problem with either the antenna or the coax.