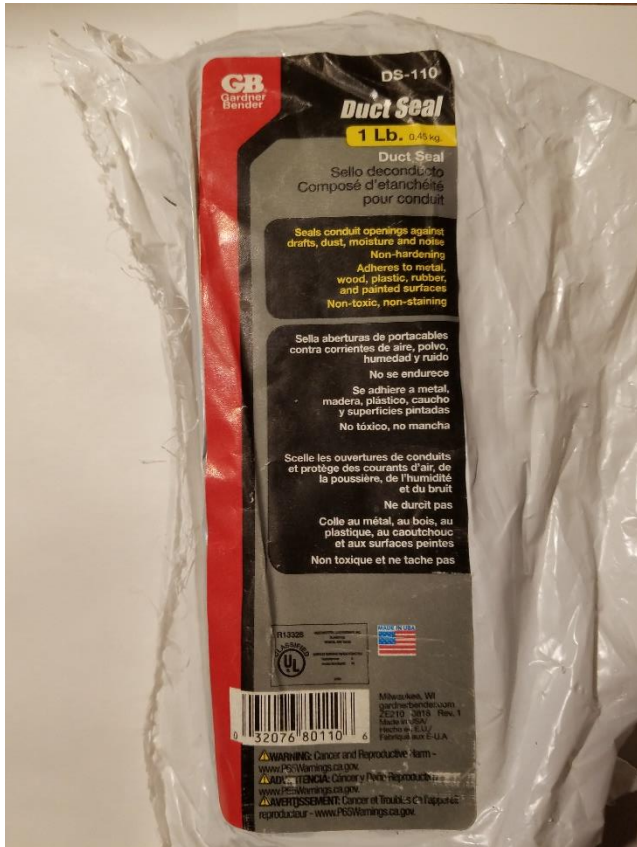
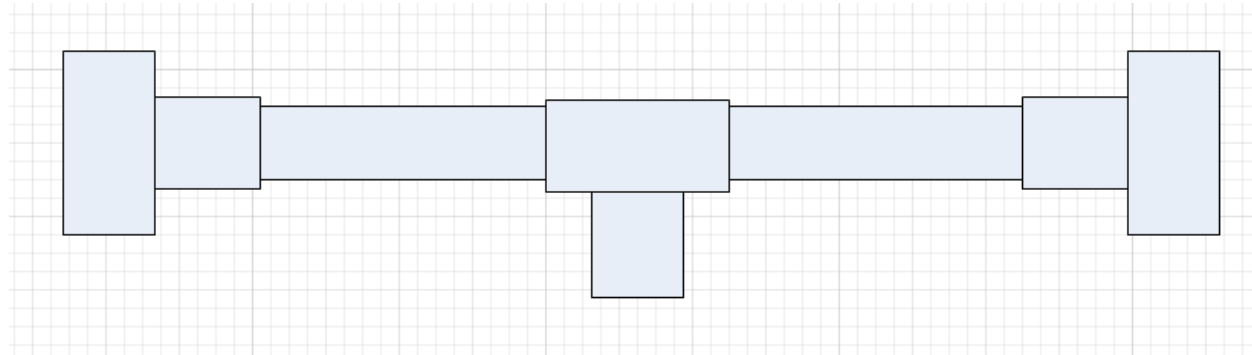


A Simple Mount for the Boris the Spider 1090 MHz and his 978 MHz Cousin Uathrogar antennas

Here is a hardware store mount that requires minimal tools and work. Boris and his Cousin only have to be horizontally separated by a half wavelength at 978 MHz. Let's call that 7" or so minimum. Here's what you need: Three ½" NPT threaded PVC Tees; Two ½" NPT threaded pipe nipples 5" long from the plumbing department; a block of Duct Seal putty from the electrical department; UV resistant spray paint rated for plastic in a color that has high Wife Approval Factor™ or HOA stealth needs. If you go to a reasonably priced hardware store, this assembly should cost about \$15. Here is what this stuff looks like.



To assemble, thread the two nipples into one of the tees along the in-line axis ends. The branch part of the center tee will be your mast connection. Thread the other two tees onto the other ends of the nipples onto the tee branch connection. These will be where Boris and Uathrogar will sit and be held in place with the Duct Seal putty and the feedline will pass through the end tees. Tighten everything up so that it all lays flat and square. It should look like this, and glue is not necessary.



You can make this with the slip joint versions of these common PVC parts too, but I like that these can be re-purposed later for other uses, and you don't have to buy the PVC cement. Plus a bonus – if you only have Boris, you can use the other tee to mount a GPS or Iridium antenna. Many GPS antennas, like mine use ½" NPT mounts for marine and truck fleet applications, so avoid the glue. PVC is not UV stable, so paint this with a UV stable plastic paint like Krylon Fusion spray paint. For a short mast, PVC pipe nipples are available up to 4' long in most hardware stores. For a 10 foot mast, use ½" NPT RGS threaded conduit or steel pipe or even ½" EMT with a compression or clamp adaptor. Short masts can be attached to rooftop sanitary vent pipes with a single stainless steel hose clamp. Do NOT use TyWraps or U-Bolts!

Pass your feedlines through the tees, connect your antennas and tape / Coax Seal or shrink tube the connection to the antennas. Form a blob of the Duct Seal around the connections and press the antennas into the top of the end tees. Duct Seal is waterproof, stays flexible and is highly recommended for sealing wall penetrations too. I use similar pipe nipples through walls that are caulked in with Sika 1a and the cables are wrapped with Duct Seal and forced into the nipples to hold the cable and seal against water and bugs. Unlike just caulking the nipple, Duct Seal is remove-able and even re-useable so you can add or remove feedlines in the future.

If you can find them, UV stable PVC pipe nipples used for outdoor electrical work are available at electrical supply stores. They are light grey and the popular brand name is Carlon. There are no tees available in that plastic though.

If you need to match your mount and mast to your house color, get a spray can of Rustoleum Universal Bonding Primer then you can easily use ordinary house paint and it will stick to the primed PVC.

Ordinary outdoor flood lamp holders are also ½" NPT threaded so they make good wall mounts. These are available in cast metal and UV stabilized PVC with 1 to 3 holes and usually come with rain tight plugs for unused holes. The picture below is a cast aluminum with 3 holes. These covers are mounted with 6-32 machine screws when covering an electrical box, but you can use #6 SS screws if you just want to mount these to a flat wooden surface like an eave fascia board



If you need to add an offset to clear a shingle and drip edge roofline, just add a PVC 90 degree elbow and another pipe nipple.