South Receive Site Antenna Replacement

It was a dark and stormy night. Well, it was an incredibly foggy morning, on March 16, 2012. Laryn, K8TVZ showed up at the south receive site with the new Andrew antenna. This site contains the south receiver for the K8DAA 2 meter repeater, and it also has the APRS node “HOLAND”. Over the years, the coverage of this site has dribbled down to nothing.

This is the fog. Somewhere in there is our defective antenna.

This is a zoomed in picture of our defective antenna.

Laryn, K8TVZ with the replacement, commercial grade antenna.

Tower crew out on the ledge, taking down the defective antenna.

Yes, he has his tie-off safety lanyard on!

The new antenna on its way up.

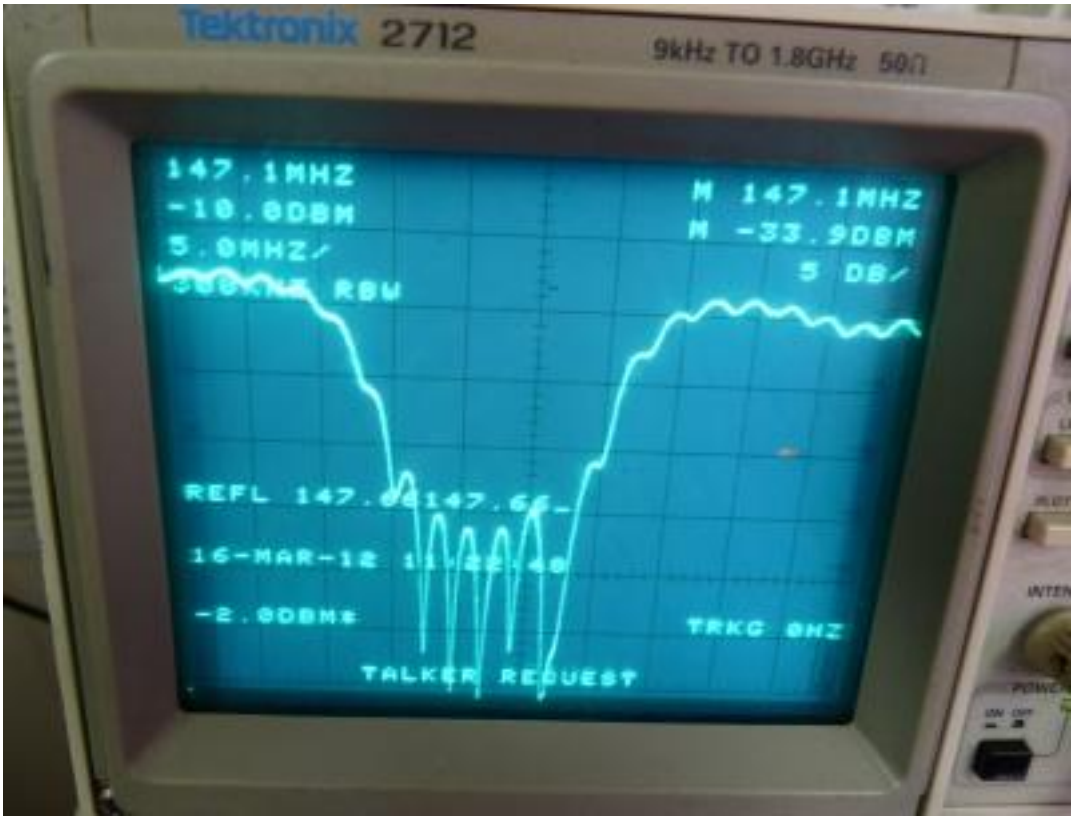
Ground crew pulling the antenna up.

Tower crew bolting in the antenna.

Explanation. This is a spectrum analyzer hooked up to a return loss bridge. This is a picture of the bridge with no load, a reference of -13.6 DBm on 2 meters.

This is a picture of the feed line terminated with a 50 ohm load. A measurement of -40.6, a return loss of 27 db, or a VSWR of 1.09:1

This is a picture of the feedline unterminated. It shows a reading of -16.1 DBm, which is the feed line loss, times two , from -13.6. This comes to 2.5 divided by 2, or 1.25 Db for the line, which is very good.



This is the new antenna, showing a return loss of 20.3 DB, (33.9 minus 13.6 reference).

This is the same as a VSWR of 1.21 to 1.

A tight shot of the new antenna, shot on a sunny day!

A picture of the south receive site.

So the new antenna is in place. Laryn and I measured a 24 Db increase in signal level to the feed point at the ground, using the 147.06 and 147.16 repeaters for references. The APRS node is now hearing Wisconsin stations.

Once again, thank you to Laryn for the work on this site. It hears very well now.

Tom Bosscher K8TB April 1, 2012