Welcome to AntennaSelect™ Volume 59– January 2022

Welcome to Volume 59 of our newsletter, AntennaSelect™. Every two months we will be giving you an "under the radome" look at antenna and RF Technology. If there are subjects you would like to see covered, please let us know what you would like to see by emailing us at: info@micronetixx.com

In this issue:

Future Issues Of AntennaSelect™!

MICRONETIXX COMMUNICATIONS

Starting now, issues of AntennaSelect™ will be sent out every two months on odd month dates. Once they are issued, they are also posted to our website, www.micronettixxantennas.com We encourage our readers to contact us about what subjects they would like to see covered in future articles. All of our back issues of AntennaSelect™ may also be found on our web site. Since we are a multi-faceted physics-based company, we cover a broad area of product knowledge. With over a century of RF design time under our hats we have seen a lot, built a lot, and tested a lot

VHF Highband Antennas Are How Big? See One!

MICRONETIXX COMMUNICATIONS

We just finished up a highband VHF DTV side mount antenna. Below is a peek of what it looks like. This is a 6 bay side mounted model, with a cardioid pattern. We use stainless steel brackets to mount this and all of our antennas to the support structure. This picture was taken after final test.

The antenna is built in two sections, and bolts together in the middle. The radome system wraps around the front two-thirds of the antenna, covering the vertical polarizer elements. Bay count? 6 And with each bay being 65 inches long, the length of the antenna comes out to about 33 feet. The antenna uses a 3-1/8” EIA input , so the input power rating is 25 kW.

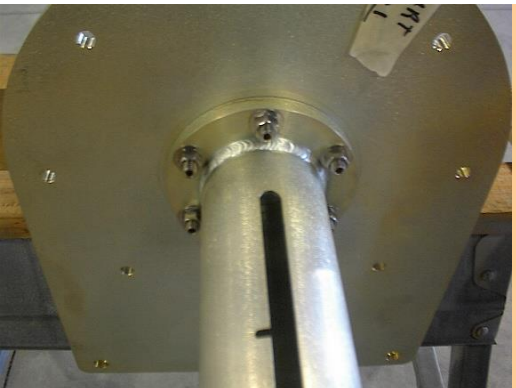
Lightning! Learn Some Of The Problems

The biggest scourge lurking around transmitter sites is lightning. It is fast! It is high power, and where it strikes is nobody's guess sometimes. In short it's a ton of energy going from point A, (most likely from clouds to earth ground), in milliseconds. In our industry we push our antennas up 200 to 2000 feet above ground, almost teasing for a quick strike of lightning

You would think that a steel tower would be a perfect conductor to ground For the most part it is. However lightning can strike individual components on the tower and cause substantial damage

Lightning is a very fast pulse of energy. When a tower component is struck by lightning, the tower component may not be at a DC ground potential. Fast rise-time voltage pulses from the strike can excite even higher voltages and currents. The component on the tower may "look" like a DC ground or short-circuit to an ohm meter. A fast strike may cause the component to look inductive – yes a steel rod or the outer conductor of a transmission line. More voltage, more destruction! We will have a number of articles in AntennaSelect™ this year on lightning. Stay tuned for some high voltage reading.

Be on the lookout for the next volume of AntennaSelect coming out in March.



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