Welcome to AntennaSelect™ Volume 60 – March 2022

Welcome to Volume 60 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:**

- **New- Higher Power FML Antennas**
- **Static Discharge Systems and Antennas**
- **Circularly-Polarized Feed for Parabolic Dish Antennas.**

New! Higher-Power FML FM Antennas

We are introducing a higher power version of our FML FM Antenna. The higher power version of the FML Antenna has an input power rating of 1.5 kW, and is available in one or two bay configurations. The RF Input uses a 50 Ω, 7/16 DIN connector.

Gain of a single bay FML antenna is 0.48 (-3.15 dB). The two bay model has a gain of 0.98 (-0.09 dB). Maximum ERP for the one-bay model is 700 Watts, the two-bay model is 1400 Watts.

FML Antennas are fabricated in stainless steel, with all elements TIG welded together. Each bay weighs under 10 lbs, with a load area of one square foot.

Static Discharge Systems and Antennas

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Static discharge systems placed on top of towers lowers the risk of a direct lightning hit. Most of the designs use clusters of stainless steel rods.They vary in length and the number of rods. They are mounted on a support rod and bolted to the tower top. These systems are metallic and when placed near an antenna, (most often an FM antenna), they can de-tune the antenna or cause pattern distortion.

So how far away should the static discharge system be spaced from the top of the top bay of the antenna? At least 1 wavelength away, (approx. 10 feet for FM), is a good starting point. If you have more vertical space available, it's a very good idea to use it.

To see if the static discharge system is affecting the tuning of an existing antenna, sweep the antenna and record the V.S.W.R. across the frequency band swept. Now install the static discharge system and re-sweep the antenna. If there is no change noticed, all is good to go. Do this for a new antenna being put up or when adding static discharge systems to an existing tower.

How many static discharge systems do you need on a tower? Usually one, or sometimes two. We do not make static discharge systems, so contact your supplier of choice and inquire.

As far as detuning of an antenna when adding a second system, the same spacing rules apply. When working with a UHF antenna placing the discharge system directly above the antenna at about 4 feet will greatly diminish detuning as there is very little antenna signal presence from the antenna axially, (directly above or below the axis of the antenna).

Circularly-Polarized Feeds For Parabolic Dish Antennas

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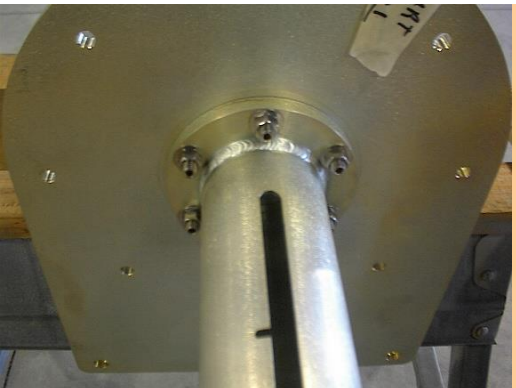
We build a wide range of RF Equipment outside of broadcast Antennas. Pictured below is a circularly-polarized feed for a Parabolic Antenna for the Military. To launch perfect circular polarization, we use a cavity-isolated Helical Feed. This approach has two benefits; First, the bandwidth of the antenna is superb, and second, the side lobe suppression is very stable across the operating frequency band of the Antenna.

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



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