



Antenna Inputs With Voltage Caution

All of the Hi-Z Array systems use voltage over coax to supply operating power for their Hi-Z amps. The power is injected into the Antenna connectors on the controllers using normal inductors suitable for the purpose. It is certainly possible to damage these internal inductors if an intentional or unintentional shorted circuit is applied to any of the array controllers antenna input connectors. This causes a large DC current to flow in the inductors and depending on the current rating of the system power supply used will most certainly cause damage to those internal inductors used to inject the DC voltage.

An unfortunate result of the application of a short circuit to the antenna connectors is an invisible damage to the inductors. Surprising or not, they lose some or all of their inductance which then shunts incoming signals to ground causing the array to not work to its full potential. The most noticeable thing caused by this is the loss of front to back ratio. Secondly pattern distortion resulting in excess received noise.

This makes it ultra important to check all cables used in the system for any defects in assembly before connecting them to the controller. It is most useful to both physically inspect the inside of the F connectors and electrically test them with an Ohmmeter between the center conductor and the outer shield. There should be well above 100Kohm impedances tested on all open cables.

Whenever working with the antenna inputs, one should simply disconnect the power link provided on the controllers from the "Coax Power In" terminal. This removes the DC power supplied to these inductor injection circuits removing the possibility of damage.

One easy test to make if you suspect any damage to the controller is to apply a test signal directly into the array. This can easily be done with the Hi-Z Signal Source. Using the High mode on the signal source connected directly to each field installed antenna you should see the same signal level for each antenna when measured at the receiver. Any antenna with a low signal then should be retested by

removing the “Coax Power In” link on the controller and applying the Signal Source directly into the controller antenna inputs using the LOW mode. All controller Antenna inputs should read the same level at the receiver **Except for the Triangle array. The triangle array has a built in signal imbalance of 6 dB or 0.5. Contact Hi-Z if you need more assistance or repairs to a damaged unit. contact@hizantennas.com**