

# Distance to Fault Measurements - Q&A's

## 1. Question: What does a Lightning Arrestor on a DTF Sweep?

a. It will look like a fault at the location of the lightning arrestor. Similar to a bad or loose connector or kink in the cable. The VSWR or Return Loss will be high in that location.

## 2. Question: What are steps for loading Setup files into the unit?

a. The best way is to create a setup file on your SiteHawk. You can then copy this saved file to other SiteHawk's.

## 3. Question: How would you go about testing a mixed cable system?

### For example LMR400 going 25ft up a tower, then switching to LDF5 for another 200ft?

a. The recommendation is to enter the cable information for the predominant cable in your system. In this case the 200 ft of LDF5.

## 4. Question: What is the effect that adapters introduce to your measurements?

a. If they are precision adapters there might not be much affect. If they are low quality, you will see a difference in the sweep.

## 5. Question: How do couplers show on the sweep?

a. At the coupler the analyzer will show a lumped sum of the impedances past the coupler and you can't see past a split with an FDR. For DAS systems, we always advise the technician to take the feedline apart at the coupler and drop a load on the end of the line at that point, measure, reconnect and move to the other side of the coupler and keep moving that way.

## 6. Question: When you change the start and stop distance, do you have to re-calibrate each time?

a. Yes, it is recommended to recalibrate.

## 7. Question: How do we adjust the measurement setup if we have different types of cables in the system (different VF)?

a. The recommendation is to enter the cable information for the predominant cable in your system.

## 8. Question: In your system diagram, you showed 2 sections of LDF-5-50 which has a set Vf - what happens if the coax pigtail on the magnetic antenna has a different VF?

a. The recommendation is to enter the cable information for the predominant cable in your system. The Vf for the coax pigtail can affect the distance if the Vf is not the same.

## 9. Question: Does the cable list type take into account the loss of the cable at my center frequency?

a. The cables programmed in the CableList are programmed using the 1GHz frequency.

## 10. Question: You have 66ft LDF5-50 then 20 ft unknown cable at antenna. How does the machine take that unknown into calculation?

a. The recommendation is to enter the cable information for the predominant cable in your system. The Vf for the coax pigtail can affect the distance if the Vf is not the same.

## 11. Question: 4G and 5G use CPRI interfaces. What is Bird's solution to measure over CPRI so technicians don't have to climb up the tower?

a. At this time, we do not have a solution for CPRI interfaces.

## 12. Question: Can I sweep for water in the transmission line?

a. Water getting into the dielectric feed line acts like the inner wall of the outer conductor and effectively changes the dimension and the impedance. Water creates a difficult problem to diagnose. Often, during the

day as sunlight hits the cable, the water vaporizes, and the problem goes away. As the line cools during the night, the water condenses and will pool at the lowest point in a system. Water will also change the dielectric constant of the material between the inner and outer conductors.

**13. Question: If someone took measurements with a Site Master from Anritsu can our customer compare those traces in our Site Hawk?**

a. The Sitemaster files may not be compatible with the SiteHawk so probably not.

**14. Question: What is the procedure for sweeping a DAS install.**

a. A DAS system has many antennas connected to a splitter. The individual cables must be disconnected from the splitter and swept individually.