Quick Card – DSP TDR Recommended Settings and Best Practices

VIAVI Solutions

The following document will show what settings should be used and overall best practices to get the best results in testing.

DSP TDR Recommended Initial Settings

1. VOP – Must be set to cable manufacturers specification for each cable type

2. Read Distance – Adjusts number of data points to collect for each given distance. Always set to a greater value than suspected cable distance to be tested. Required to show end of cable length.

3. Auto Range – Allows for automatic setting of the stop distance to show the end of the cable under test. Setting is found in Function menu and should be enabled before test is started.

5. AVG – Sets number of complete samples to compare before updating screen image. Setting range is 1-100. Recommended initial setting is 20 for most applications.

TDR Best Practices

- It is not recommended to run a TDR test through a splitter. TDRs do not have the ability to show multiple cables on the screen.
- Before connecting the TDR, verify test lead length. It can be useful to set the Magenta marker at the distance of the test lead where the test lead distance can then be subtracted from the overall length of the cable.

- On first test with TDR, look for the total length of cable to verify distances match system prints and/or confirm correct cable.
- Placing a short (connecting center conductor to shield) at the far end of the cable can help to verify correct piece and correct length.
- Qualify events for any known network element locations such as taps or splices, before attempting repairs.
- Any event that is unexpected or not desirable should be looked at in greater detail. These could be additional network elements such as splices or additional taps.
- To more quickly navigate to an event, highlight the event number in the events list and select it. This will move the teal colored marker to the event and will center the event on the display.
- Once events are identified, save the TDR data log. This can be very helpful if documentation is required and can be recalled to verify a repair was successful.
- Running a TDR test from both ends of a cable can help determine if there are multiple cuts in a span. This can also reduce the efforts digging out a cable to make repairs or help in a cable replacement decision.
- Not all cable follows the design path and can be longer / shorter than maps show. Use a TDR to verify cable lengths so system maps can be updated.
- When troubleshooting an outage, time can be saved by using the TDR at the upstream amplifier to test from amplifier to amplifier. This reduces the need to test at every tap.
- To reduce troubleshooting time, it is not always necessary to disconnect cables from connectors. Removing the amplifier module, tap plate, or splitter board allows for the use of clips or adapters that connect directly to seizure assemblies.
- Setting the vertical gain (V.Zoom) so that the largest event fills the screen will give maximum vertical resolution.
- To validate event size and distance, review the events list to get event number, return loss and distance.