Agilent
Cable Fault Location Personality for the ESA-E Series Spectrum Analyzers Option 225

Product Overview

Adding the cable fault location personality and a tracking generator (option 1DN or 1DP) turns your general purpose ESA-E series spectrum analyzer into a cable fault detection tool. Quickly deter-mining the location of a cable fault can save you hours of fault isolation time.

Measurement methodology

The personality takes a reflection measurement and performs an FFT over the reflected trace. Results are viewed as fault magnitude vs. distance on the display. You can also manually perform return loss measurements.

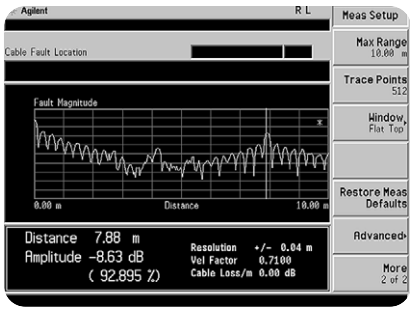

Figure 1. Easily locate distance of fault with the marker

Easy to set setup

A dialog box guides you through the calibration procedure. Follow-ing step by step procedures from a series of onscreen pop-up windows ensures that the measurement is set up properly. Instructions include test setup block diagrams to assist you in system setup.

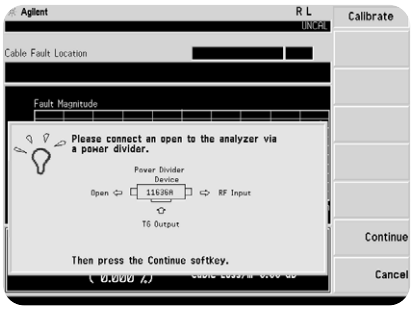

Figure 2. Dialog box guides you through calibration

Several user definable parameters

Industry standard cables can be selected or you can define the cable manually. The personality includes many cable parameters that you can define. The first parameter is the velocity factor, which indicates the velocity of propagation of the signal in the cable that is being measured. Another parameter is cable loss, which is known loss per meter of the cable.

Results are adjusted to take this loss into account, entering the maximum range of the cable under test provides an easy way to automatically set the start and stop frequencies of the measurement for optimum resolution over the distance of interest. Finally, you can choose which type of FFT windowing function is used by adjusting the window type. Window-ing types include rectangular, flat top, gaussian, or Hanning.

This personality also incorporates a user-editable and predefined list of cables, which can be used to quickly choose the cable type under test. Measurement results will take into account properties of the selected cable and includes velocity factor and cable loss.

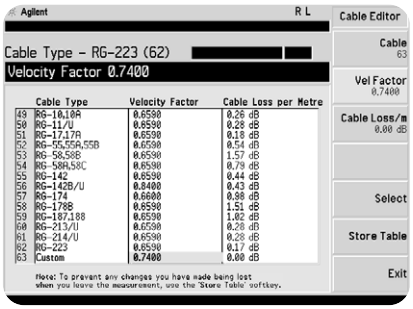

Figure 3. Several industry standard cables to choose from, or define your own

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Accessory kit

The distance to fault accessory kit (option B7K) includes all of the necessary connectors and cables to perform distance to fault and return loss measurements. The accessory kit includes and RF bridge, power divider, coaxial terminator, short, cables and attenuators.

Required configuration

ESA-E series spectrum analyzer

Option 225 Cable fault location personality

Option 1DN 3 GHz tracking generator (1.5 GHz for the E4411B)

Also recommended

Option B7K Distance to fault accessory kit

Option ordering information

To add options to a product, use the following ordering scheme:

Model: E44xxB
(xx = 01, 02, 04, 05 or 07)

Model options: E44xxB-Option 1
E44xxB-Option 2

Additional information

For additional information about the ESA-E series spectrum analyzer, please refer to:

ESA- E series Brochure
5968-3278E
ESA-E Series Data Sheet
5968-3412E
Portable spectrum analyzer Selection Guide
5968-3413E

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