

CATV Quick Start Guide

Agilent Technologies

8712ET/ES and 8714ET/ES

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This quick start guide provides basic instructions on how to make measurements that test the quality of coaxial cables. Refer to the *Option 100 Fault Location and Structural Return Loss Measurement User's Guide Supplement* for more detailed information. Also, please refer to your analyzer's *User's Guide* for safety, warranty, and assistance information.

NOTE

This quick start guide assumes the use of an 8712ET or 8714ET. If you are using an 8712ES or 8714ES, some key presses and displays will be slightly different.

To Make a Fault Location Measurement

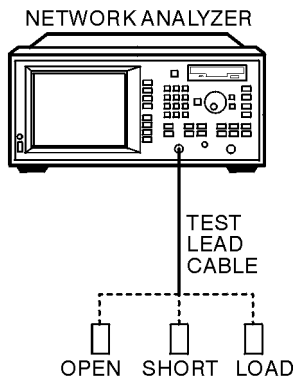
1. Choose the measurement parameters or recall an instrument state.

PRESET **BEGIN** **Cable** **Fault Location**

Start Distance **(XX)** **(ENTER)** **Stop Distance** **(XX)** **(ENTER)**

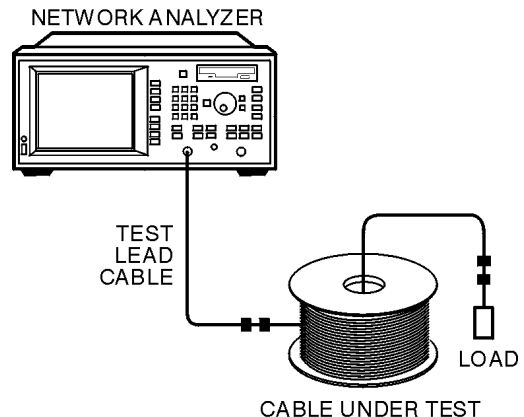
2. Calibrate the analyzer.

CAL **Full Band Cal**



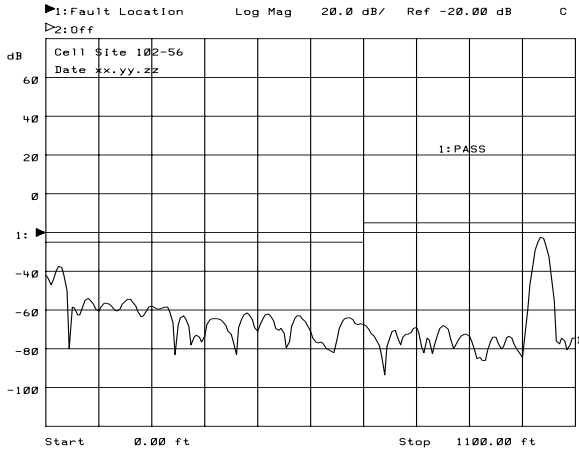
qp62et

3. Connect the equipment.



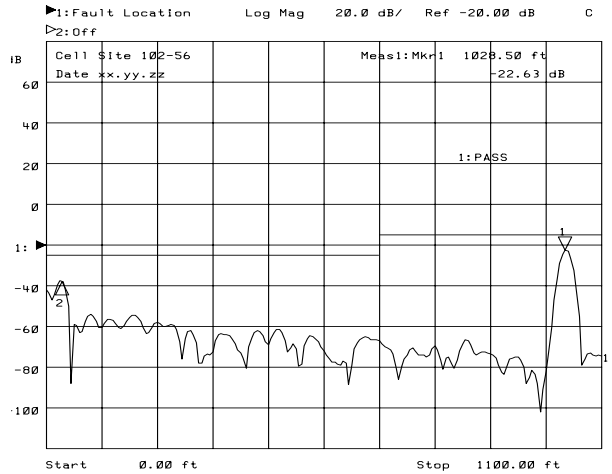
qp61es

4. View the fault location results.



5. Interpret the measurement / save results.

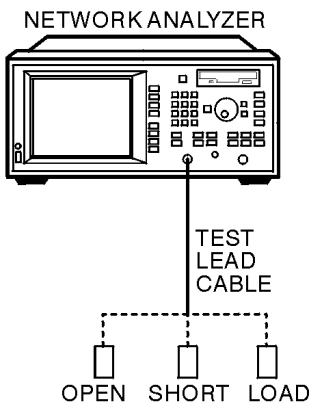
Mkr → Max



To Make an SRL Measurement

1. Select SRL measurement function.

2. Calibrate the analyzer.

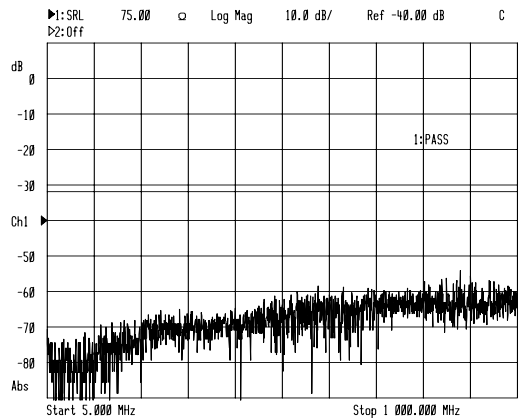


qp62et

Leave load connected.

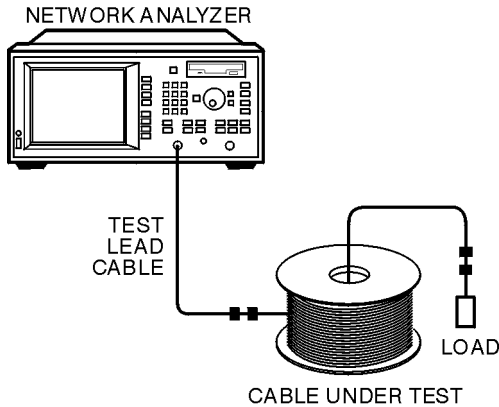
3. Verify the calibration.

Directivity is good if trace is below -50 dB.



Wiggle (move) the test-lead cable. The test-lead cable is good if the trace remains stable.

4. Connect the equipment.

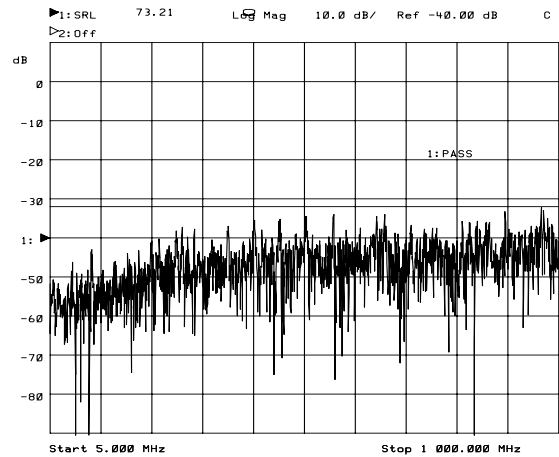


qp61es

5. Measure the connector.

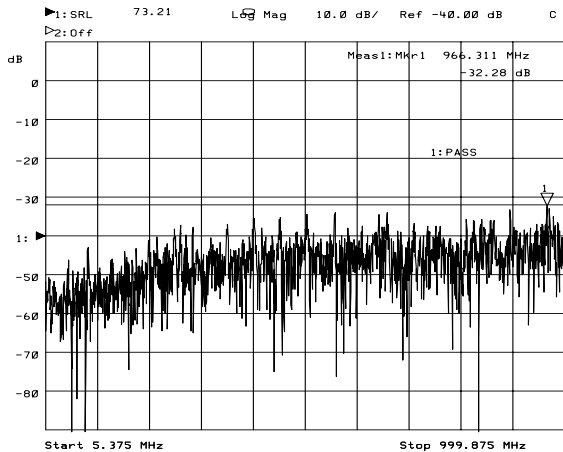
BEGIN Cable SRL Connector Model

Measure Connector



6. Scan the cable.

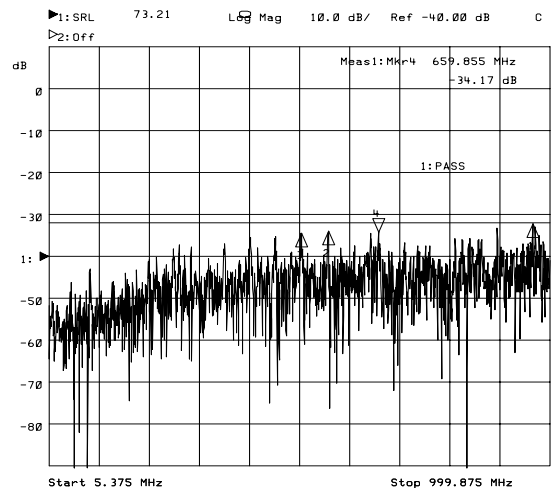
BEGIN Cable SRL SRL Cable Scan



7. Interpret the measurement / save results.

MARKER Marker Search Max Search

Mkr -> Max



SAVE RECALL Define Save Data ON

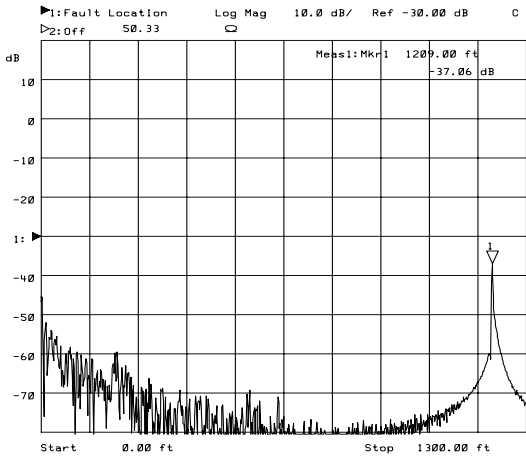
Prior Menu Save State

If Measurement Results Were Poor

The following results indicate some specific problems you may encounter. The 2nd and 3rd problem/solution are displayed using the “connector fault” feature. Refer to your *Option 100 User’s Guide Supplement* for more information.

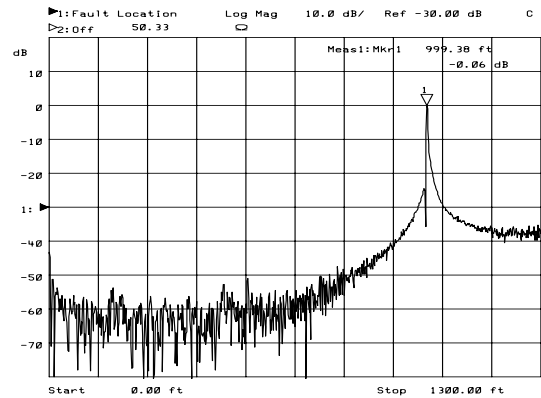
Problem 1

The measured amplitude and distance of a 1000 ft. cable are wrong. (Cable is not terminated in this example.)



Solution 1

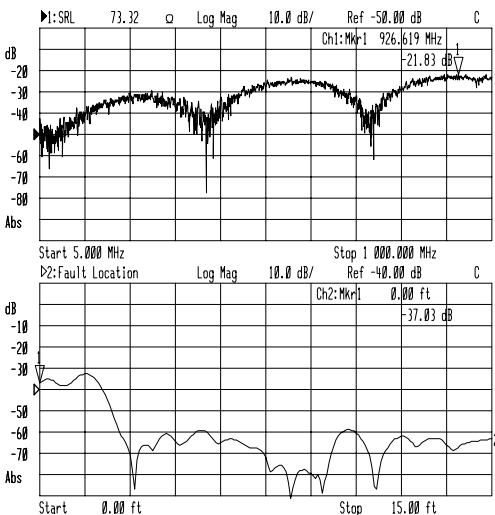
Change the “velocity factor” and “cable loss” values to the values specified by the cable manufacturer.



BEGIN Cable Fault Location **CAL**
 Velocity Factor Cable Loss

Problem/Solution 2

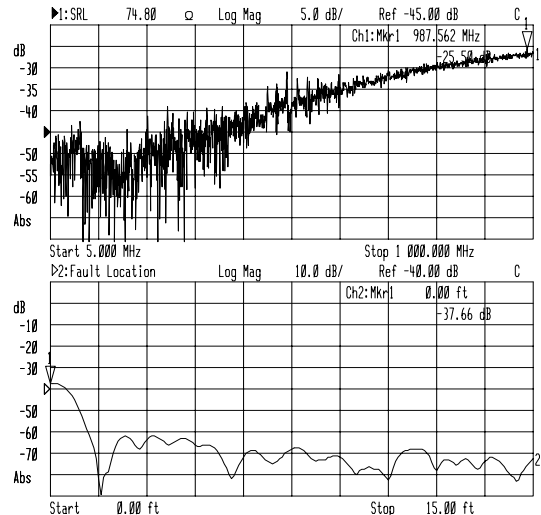
The cable is bent near the connector (indicated by the 2nd bump in the “connector fault” response).



Solution: Remove the bend.

Problem/Solution 3

The cable connector is failing or the cable is poorly prepared. Connector compensation fails to improve response.



Solution: Clean or replace the connector.