



TREND NETWORKS R240-QIP Fibermaster Basic Fibre Optic Testing Kit User Guide

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TREND NETWORKS R240-QIP Fibermaster Basic Fibre Optic Testing Kit



FiberMASTER OTDR

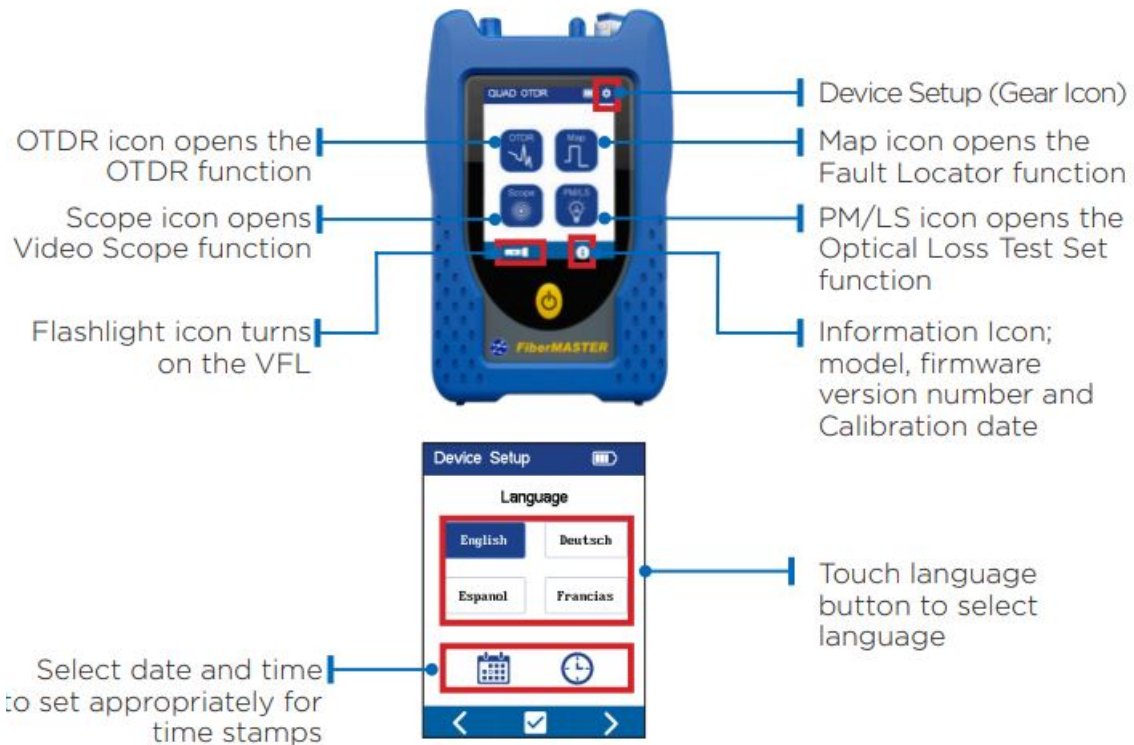


- The TREND FiberMASTER range provides powerful performance in a small package. A simplified user interface is easy for beginners yet has full manual and custom setups for experienced users.
- Tier 2 OTDR certification fast and accurate with instant-on, zero boot times and selections for TIA/ISO/IEEE/CENELEC standards to eliminate setup errors.
- Match a light source with an OTDR to perform end-to-end testing on multimode or single-mode cable using the included power meter.

- The PON OTDR features ultra-high dynamic range to measure 1:32 splitters for installation testing and troubleshooting.

Getting started with the FiberMASTER

Press and hold the power button for one second to power on the FiberMASTER. The home screen will be displayed and the icons will show available functions, battery level and if a VFL is available. It also allows access to the device setup screen and information about the device through the information icon.



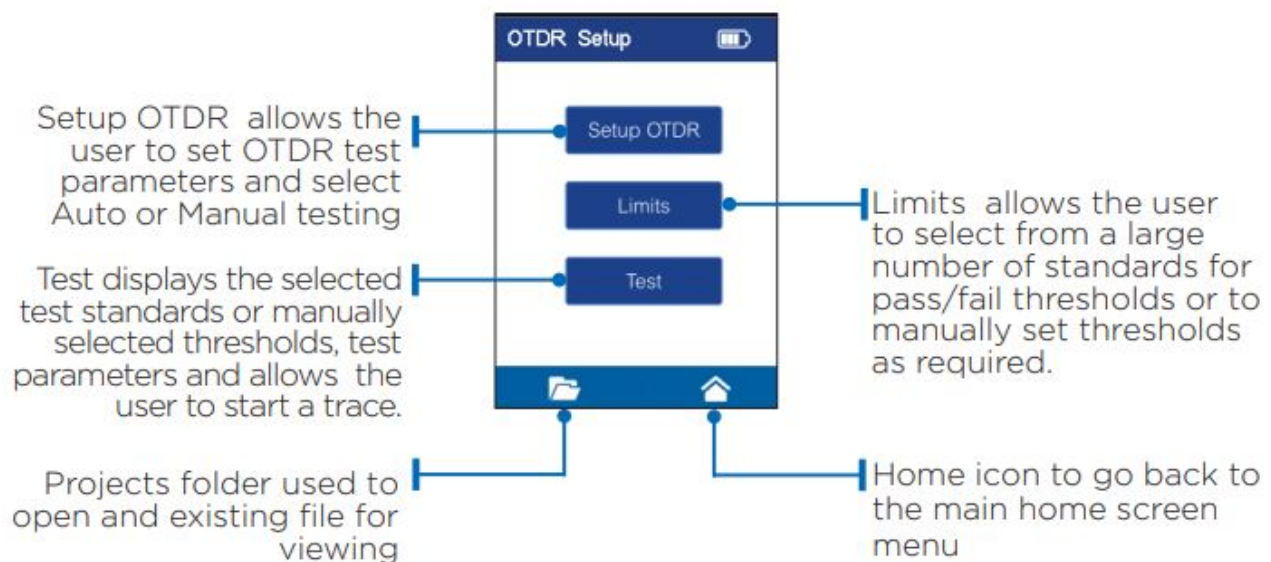
There are one or two available OTDR ports. Dual Wave OTDRs will have one port, Quad Wave OTDRs will have a SM and a MM port (2 ports) and the PON OTDR will have a 1310/1550nm port and an active 1625nm port (2 ports). Determine the appropriate port and connect the fiber under test.

Serial Number



Setting Test Parameters

Once in the OTDR function the OTDR Setup screen will be displayed.



Setup OTDR Screens

The Setup OTDR Screens walk through the basic setup for auto mode testing and manual mode testing. The left/previous arrow, returns to the previous page and the right/next arrow, advances to the next page. The check box in the bottom middle returns to the main OTDR Setup page.

- Use these check boxes to set the launch or tail cable on or off. Select the edit icons to input the length of the launch and tail cables as appropriate. These may also be set to auto, in which case the OTDR will establish the first event as the end of the launch cable and the second to last event (the event before the end event) as the beginning of the tail cable.

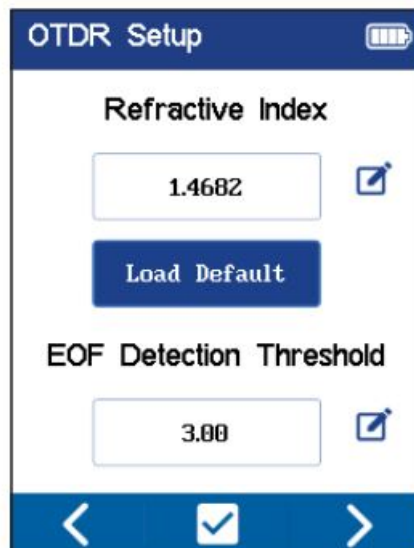
The screenshot shows the "OTDR Setup" screen with the following elements:

- Launch Cable**: A checkbox is unchecked, followed by "100m" and an edit icon (pencil).
- Tail Cable**: A checkbox is unchecked, followed by "100m" and an edit icon (pencil).
- Instructions**: "Enter lengths of launch and tail cables to evaluate first and last connector. Lengths will not be included in measurement."
- Navigation**: At the bottom, there are three icons: a left arrow, a checkmark, and a right arrow.

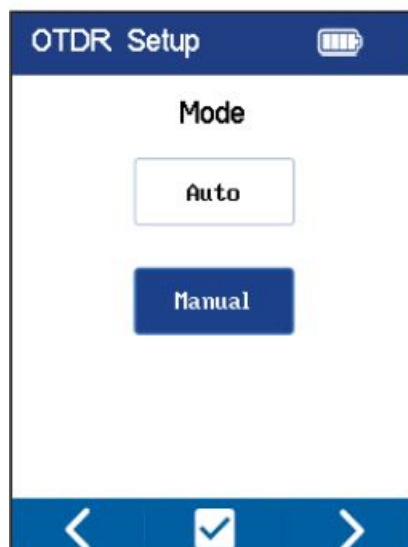
- Select one or both wavelengths in either multimode or single-mode.



- Set the Refractive Index if known. Select Load Default if the index of refraction (IOR) and/or helix factor are unknown. Set the End Of Fiber (EOF) Detection Threshold.



- Enough information has now been entered to conduct an Auto Test. If Auto is selected, the averaging time, range and pulse width will be automatically set based on analysis conducted by the OTDR. Select Manual and those parameters automatically set in Auto Mode will be available for adjustment.



For the purposes of this quick start guide please select Auto followed by the check box at the bottom of the screen.

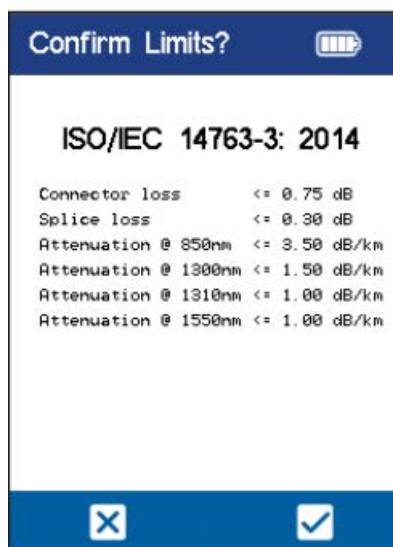
Setting Limits for Pass/Fail

Standard Limits are pre-set limits/thresholds against which the traces are measured for pass/fail analysis to certify network links.

- Standard limits will be highlighted, There are 5 pages of pre-set limits/thresholds to which the test will be measured to determine Pass/Fail. The first page lists cabling standards and pages 2-5 lists application standards. Manual allows for setting user defined Pass/Fail thresholds



- If a standard set of limits is selected, when the check box at the bottom of the display is touched, a page confirming those standards will be shown, such as this sample page.



Manual limits may be selected on the OTDR Limits page. The following two pages of limits will be displayed to set limits/thresholds.

Once all settings have been established, touch the check mark at the bottom of the page.

Standard	Manual
<input checked="" type="checkbox"/> Connector Max	0.50 dB
<input checked="" type="checkbox"/> Splice Max	0.50 dB
<input checked="" type="checkbox"/> System ORL	37.0 dB
<input type="checkbox"/> 850 Max Attn.	3.00 dB/Km
<input type="checkbox"/> 1300 Max Attn.	0.30 dB/Km
<input type="checkbox"/> 1310 Max Attn.	0.30 dB/Km
<input type="checkbox"/> 1550 Max Attn.	0.30 dB/Km

Load Defaults sets the default limit values that would be industry standard for each measured item.

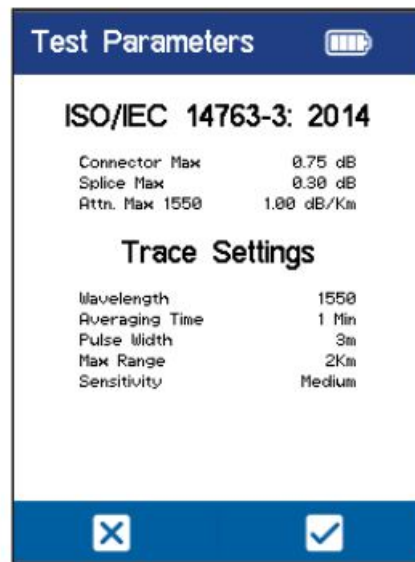
Standard	Manual
<input type="checkbox"/> 1625 Max Attn.	0.30 dB/Km
<input type="checkbox"/> 850 Link Budget	5.00 dB
<input type="checkbox"/> 1300 Link Budget	5.00 dB
<input checked="" type="checkbox"/> 1310 Link Budget	5.00 dB
<input type="checkbox"/> 1550 Link Budget	5.00 dB
<input type="checkbox"/> 1625 Link Budget	5.00 dB

Load Defaults

Note: The Limits and test thresholds will be displayed for review prior to taking a test.

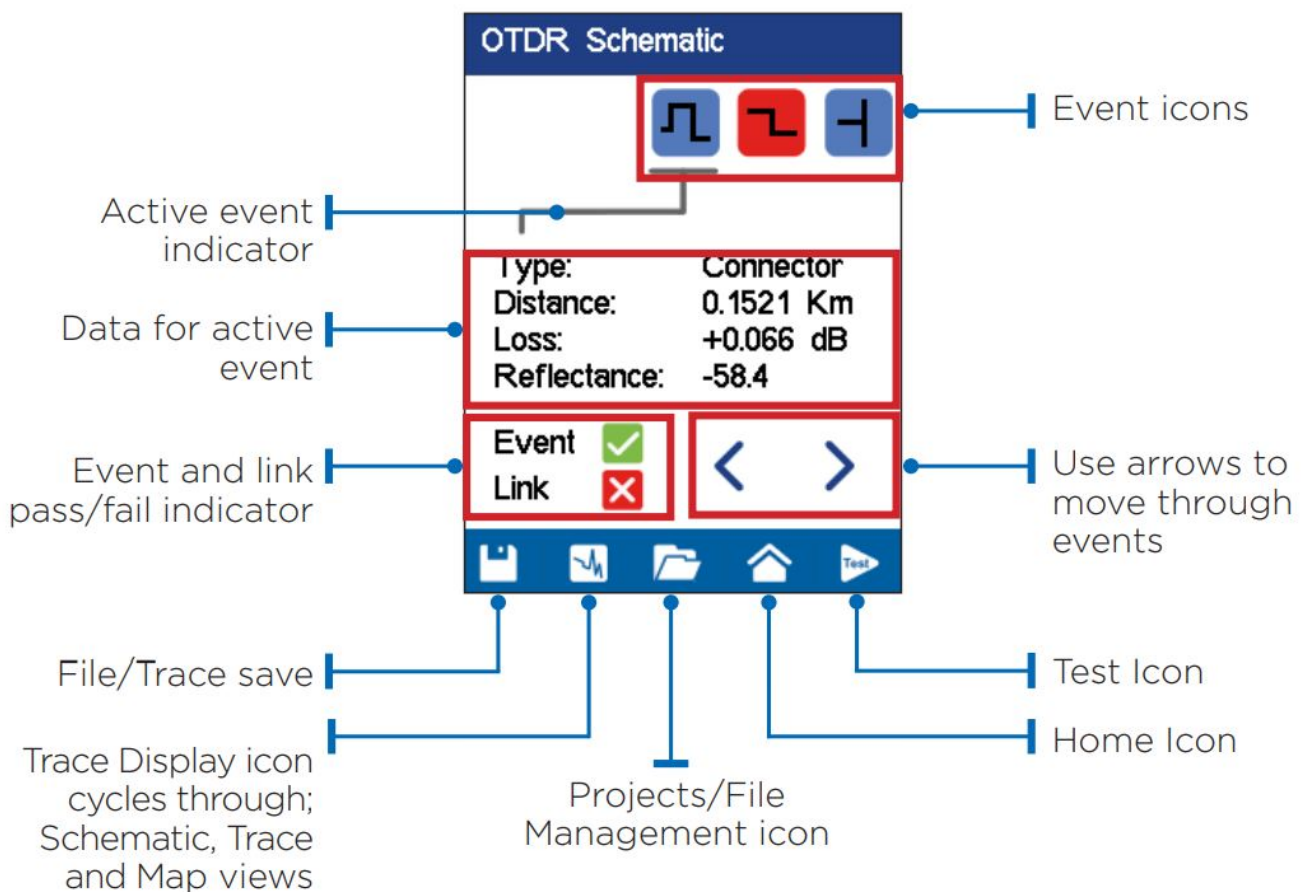
Conducting a Test

Take a trace by selecting the Test button on the OTDR Setup screen. Once the Test button is selected, the Test Parameter screen below will be displayed. This screen displays the limits/thresholds that have been selected for pass/fail analysis and the parameters set for the trace.

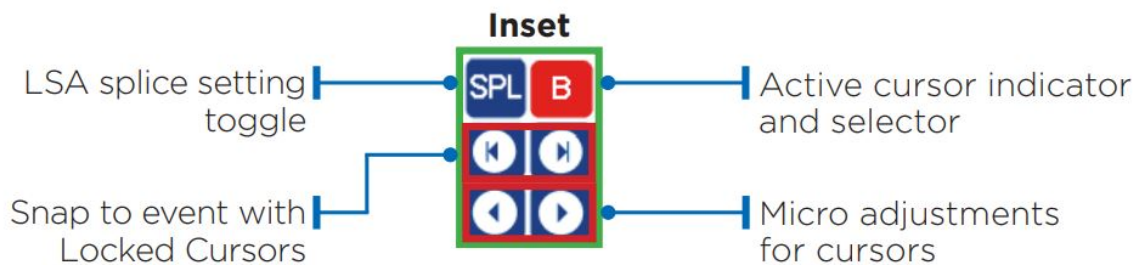
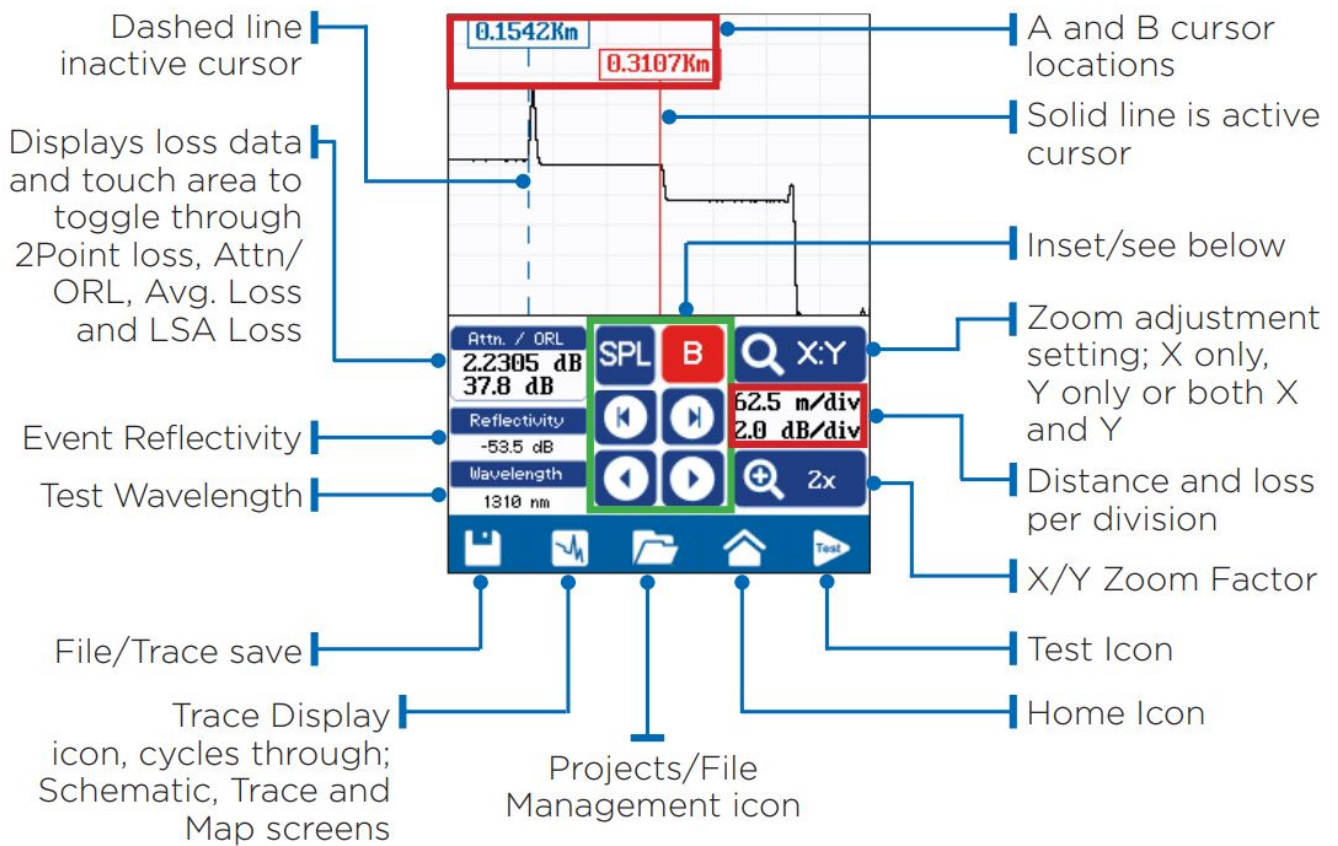


If the settings are correct, select the check box to start the test. A scanning status bar will be displayed, followed by a finding event message.

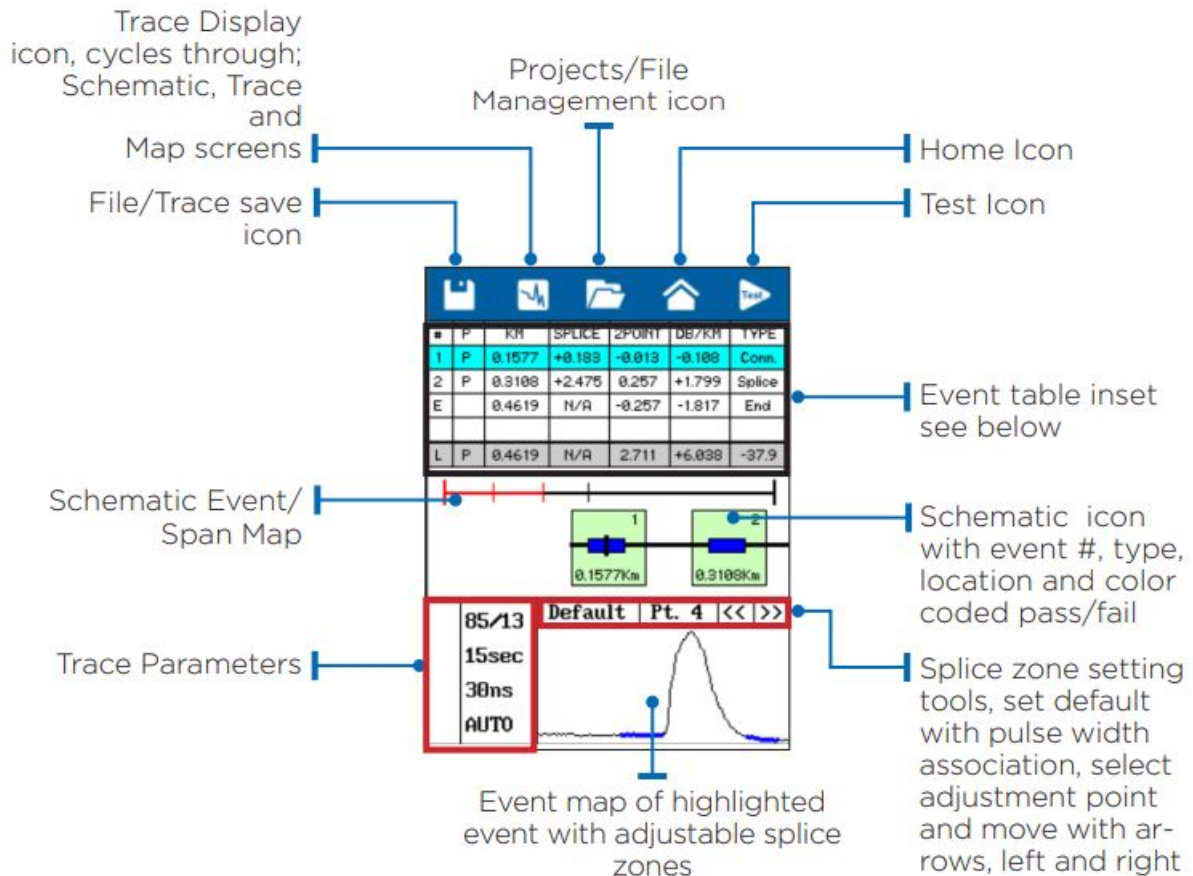
OTDR Schematic Screen will be displayed once the test is complete.



OTDR Trace Screen use Trace Display icon to cycle to the trace screen view.



OTDR Map Screen use Trace Display icon to cycle to the view.



Event Table

Event Location	Event Loss in dB	Loss Between Previous and Current Events	dB Per/Km Between Events
Pass/Fail			
Event Number			
EOF Event Information			
Link Information			

#	P	KM	SPLICE	2POINT	DB/KM	TYPE
1	P	0.1577	+0.183	-0.013	-0.108	Conn.
2	P	0.3108	+2.475	0.257	+1.799	Splice
E		0.4619	N/A	-0.257	-1.817	End
L	P	0.4619	N/A	2.711	+6.038	-37.9

Event Type or Reflectance Value

System ORL

Link Loss

Link dB Per/Km

Getting started with the Video Inspection Scope

To operate the video scope, touch the Scope icon on the Home Screen.

If a probe is not connected already, connect the Video Inspection Probe R240-VIP to the video probe port on the top of the OTDR.

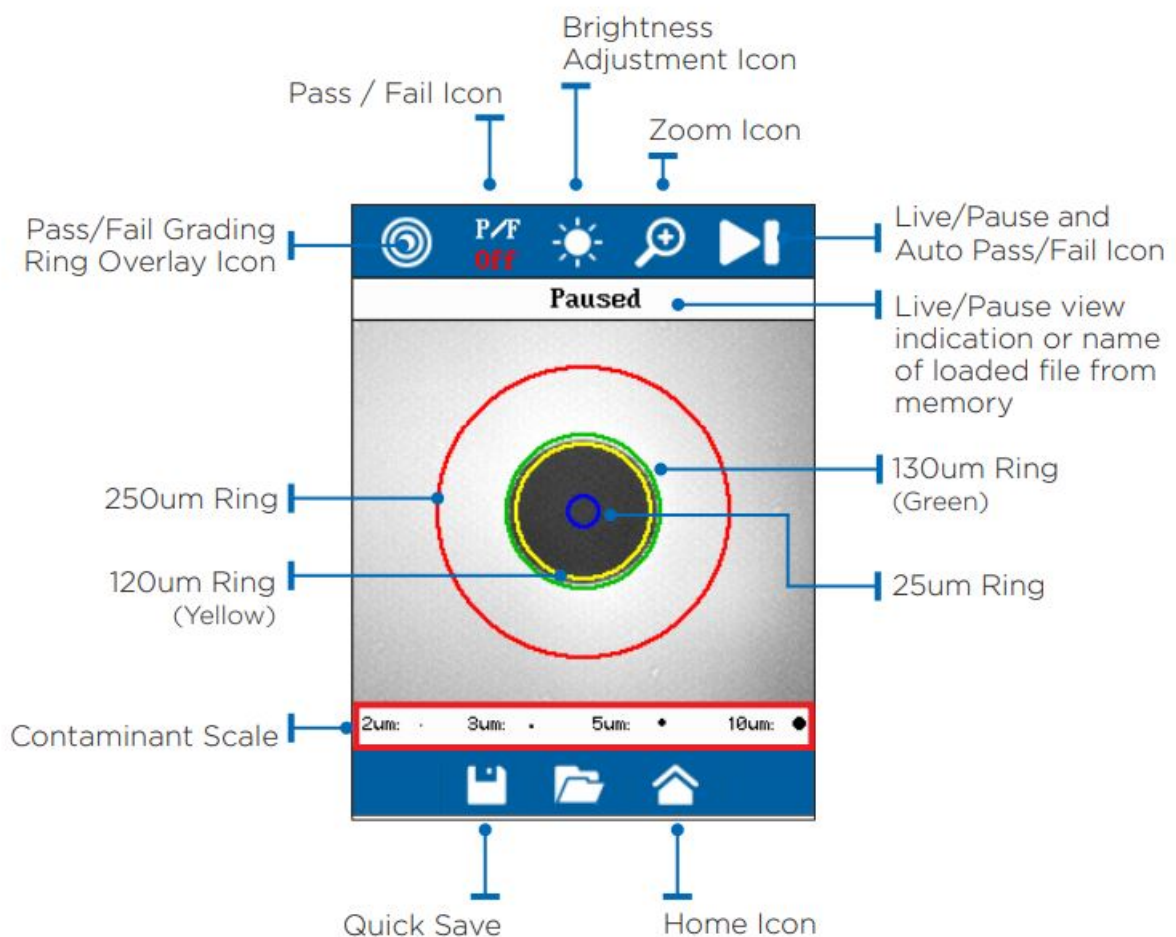


Place the proper tip on VIP



To remove a tip from the probe, grasp the probe tip and unscrew the tip retention nut. As oriented in the picture; rotate left to loosen and right to tighten the retention nut on the probe tip. Pull the tip straight up from the probe. To place a tip on the probe, ensure the lens is clean, slide the tip on to the end of the probe and tighten the tip retention nut. Do not over tighten the retention nut.

Video Scope Screen



View Connector and Auto Test

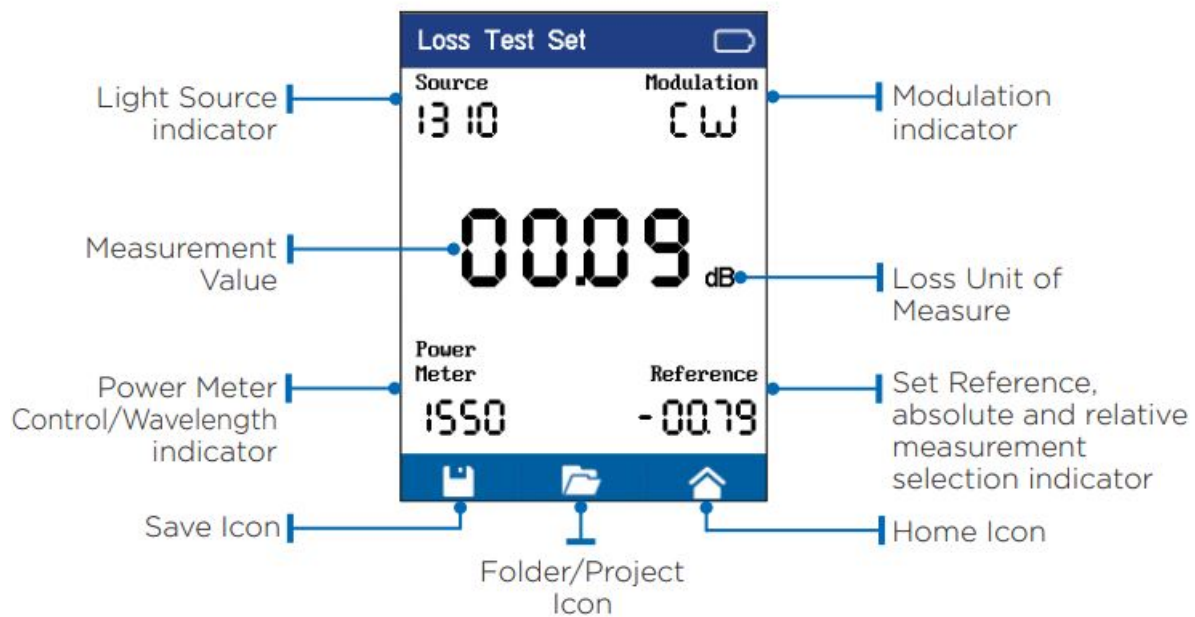
- With appropriate universal tip installed, insert connector into tip.
- Hold connector into the probe tip and rotate focus ring until image is sharp.
- Once focused touch the center of connector to snap it to the center of the screen.
- Set Pass/Fail Icon to Auto.

- Select the Live/Pause icon and allow unit to perform test.
- The result will be displayed in the bottom right of the displayed.

Getting started with Loss Test Set

From the Home Screen select the PM/LS icon to open the Loss Test Set.

Power Meter/Light Source Screen



Power Meter/Light Source Connections



Basic Single Cord PM/LS Operation

Touch the Source indicator to show the light source wavelengths available and select the desired wavelength for the test. Allow the light source 2-3 minutes to warm up and stabilize.



Touch the Modulation indicator to open the modulation options and set the modulation to CW for continuous wave.



Touch the Power Meter indicator to show the power meter wavelengths available and select the appropriate wavelength for the test.



Note: This step may be skipped as the power meter will set itself to the appropriate wavelength, if it is being used with a compatible source.

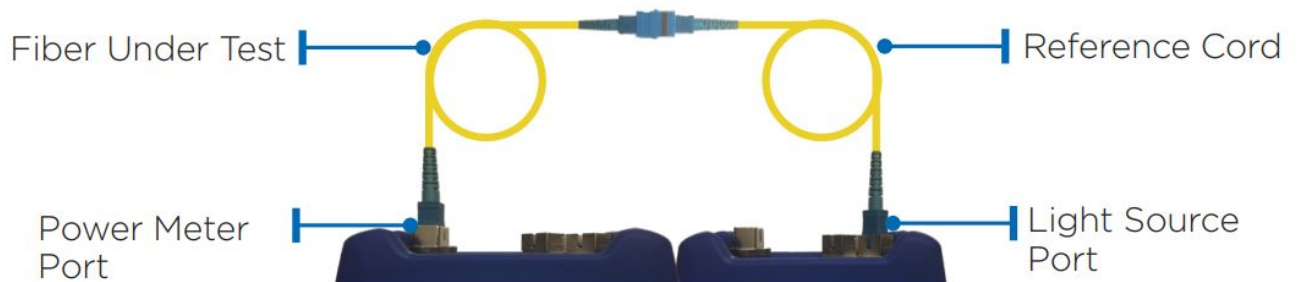


Plug one end of a reference cord into the light source and the other end into the power meter as shown below.

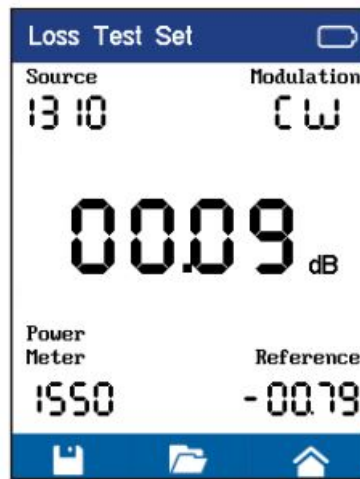


Touch reference indicator in the bottom right of the display and select, Set Reference to zero out the reference cord.

Disconnect the fiber from the PM port and connect it to a mating sleeve, and connect the cable/cord under test between the mating sleeve and the power meter port, as shown below.



The value in dB, in the center of the display is the loss of the cable under test.



Note: This Example shows two OTDRs with PM and using the optical ports as CW sources for the light source. When using stand alone PM and LS, the PM will only have a single power meter port and the light source will have one or two ports depending on whether it is a dual or quad wave light source.

Documents / Resources



[TREND NETWORKS R240-QIP Fibermaster Basic Fibre Optic Testing Kit](#) [pdf] User Guide
R240-QIP Fibermaster Basic Fibre Optic Testing Kit, R240-QIP, Fibermaster Basic Fibre Optic Testing Kit

References

- [freenet BUSINESS - Einfach.Sicher.Digitalisieren.](#)
- [TREND Networks - Data Cable Testers, Certifiers & Verifiers. CCTV & PoE](#)