

AE2100A/AQ

Optical Time Domain Reflectometer

Key Benefits

- Future-proof, all-in-one solution includes optical and cable TV analysis for verifying the installation of FTTx networks
- Lightweight and compact design for easy mobility throughout the network
- Long battery life enables the user to test all day without stopping to charge the test equipment
- Easy learning curve with simple GUI
- FiberPath™ and Auto Test features simplify testing, reducing the need for OTDR trace interpretation
- Validate proper levels for both optical and cable TV installation, minimizing repair truck rolls and increasing customer satisfaction



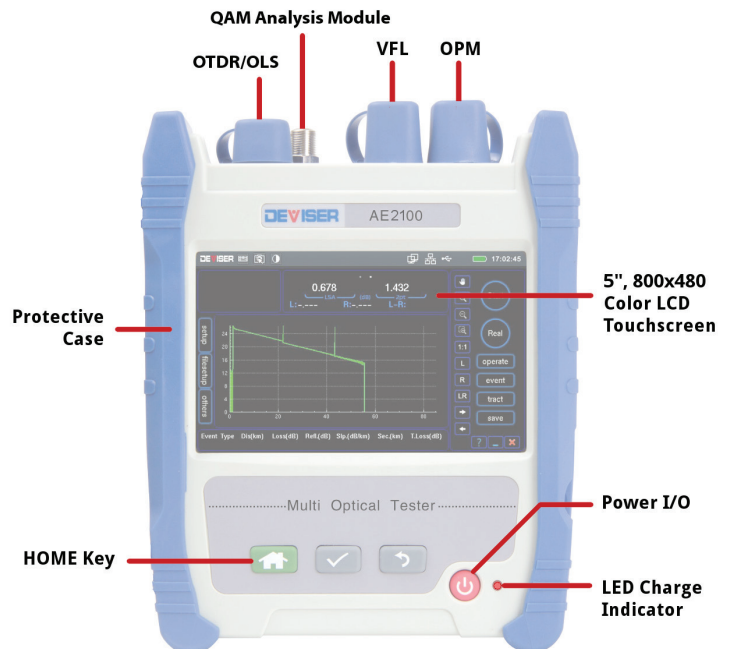
Overview

As the demand for bandwidth continues to soar, with higher-than-ever smartphone and streaming video usage, cable operators must face the challenge of deploying fiber deeper into the network. And because efficiency, speed, accuracy, and reliability metrics are key for increasing workforce productivity, the natural conclusion is simple: communications service providers (CSP) require a high-performance, efficient, yet affordable test instrument.

Brought to you by Deviser Instruments Inc, the AE2100 integrates cable TV analysis and optical testing, including a fiberscope, OTDR, OPM, VFL and LS, future-proofing the investment in test equipment. The AE2100 enables faster, more efficient installations with only a single instrument, producing substantial savings to the CSP.

Key Benefits

- FiberPath™ and Autotest. FiberPath™ analyzes OTDR traces to display a map of the fiber link while identifying possible faults, reducing the need for OTDR trace interpretation
- Digital QAM and analog measurements, plus constellation display, for Cable TV installation verification
- Combines optical and metallic tests: OTDR, VFL, OPM, LS, Cable TV (RF) Test, and Fiberscope
- Fiberscope integration with FiberSpot software for identifying contaminated connector endfaces
- Easy web-based back office integration



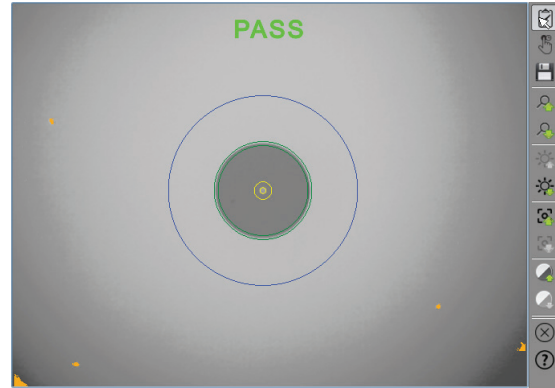
FiberPath™ (by option)

FiberPath simplifies the interpretation of OTDR traces by identifying link elements and displaying the link map in an easy-to-understand format. Experienced and inexperienced technicians alike will appreciate the streamlined display.



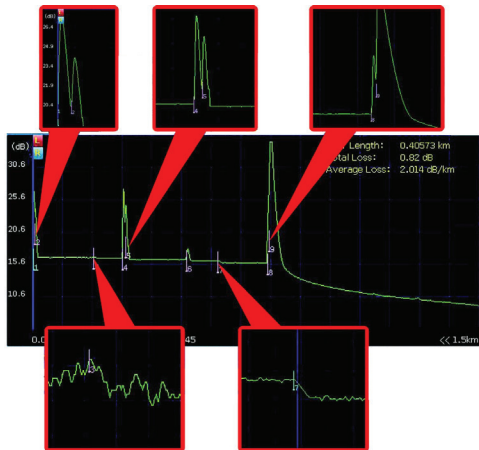
Fiber Inspection Probe (by option)

The majority of performance faults in fiber-optics are caused by contaminated connectors. Keep fiber endfaces and bulkheads free of dirt with the AE2100's built-in fiberscope application and automatic Pass/Fail analysis.



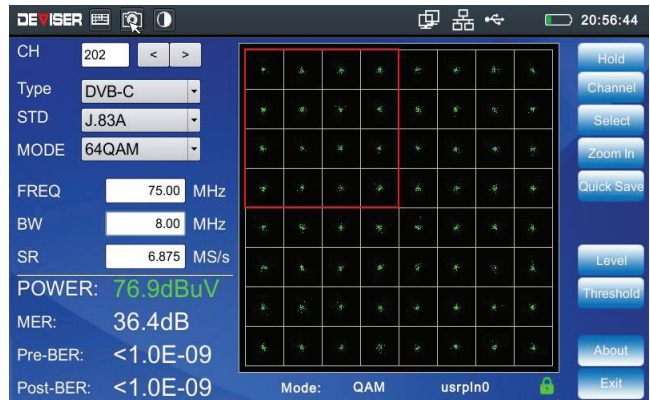
OTDR

The OTDR can identify and locate link impairments, as well as measuring insertion loss by LSA, 2Pt and 4Pt methods. The unit also measures optical return loss (ORL).



Cable TV (RF) Measurements

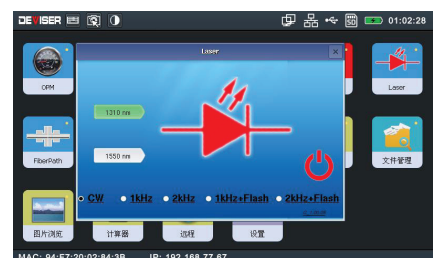
The cable TV measurements included in the AE2100AQ include MER, PRE & Post BER measurements for verifying proper installation of cable TV services.



Optical Measurements

The AE2100 includes a suite of optical measurement tools, including a power meter, laser source, and visual fault locator (VFL). The unit is available in numerous wavelength configurations for ensuring proper levels.

The visual fault locator illuminates bends, splices, and faults in a length of optical fiber, while the light source mode can be used to test OTDR performance and other optical components with no additional tools.



Specifications

OTDR Key Parameters					
Dynamic Range* (typ.)	1310nm ±20nm	≥ 29dB			
	1550nm ±20nm	≥ 27dB			
Deadzone**	Event	≤ 2m			
	Attenuation	≤ 7m			
Pulse Width	3ns, 5ns, 10ns, 30ns, 50ns, 100ns, 200ns, 500ns, 1µs, 2µs, 5µs, 10µs, 20µs				
Measurement Time	5 secs. to 5 mins., real-time				
Refresh Rate	4 times/sec				
Distance					
Range	100m, 400m, 1.5km, 3km, 6km, 12km, 25km, 50km, 100km, 200km				
Sampling Resolution	5cm ~ 12.8m				
Max Sampling Points	256,000				
Group Reflection Rate	1.00000 ~ 2.00000				
Uncertainty (except fiber group reflection)	± (0.75m + 0.005% × Fiber Length + Sampling Resolution)				
Attenuation					
Linearity	0.05 dB/dB				
Threshold	0.01dB				
Resolution	0.001dB				
Reflection Accuracy	±2 dB				
Performance (1)		Performance (2)		Performance (3)	
Measurement mode	Manual; Auto	SOR file format	Bellcore GR 192 v1.1	Dual-Wavelength test	✓
Threshold settings	Manual; Auto	Loss measurement	LSA, 2pt, 4pt	Trace comparison	✓
Custom limit profiles	8	Screenshot	✓	Macro Bend test	✓
Distance offset	✓	Touchscreen keyboard	✓	Real time measurements	✓
Automatic correction	✓	Web browser	✓	FiberPath™ Link Mapper	✓
Online help	✓	Auto-shutdown / sleep	✓	Language support	English, Chinese, Spanish, Portuguese, French, Russian, Italian, German, Korean, Arabic

* Conditions: 25°C ±5°C, 20µs pulse width, avg. time: 3min, SNR = 1.

** Conditions: 25°C ±5°C, 5ns pulse width, non-saturated Event, distance resolution 5cm.

General Specifications		
Display	5" 800x480 TFT LCD touchscreen	
Interface	1x USB 2.0 port; 1GB internal hard drive; 8GB SD card	
Battery	7.4V/5Ah battery, 37 Wh; ~10 hrs on full charge	
Power Consumption	< 2.0 W	
Power Supply	AC	100 ~ 240V, 0.5A, 50 ~ 60Hz
	DC	12V / 2A max
	Power	24W max
Operating Temperature	-14°F to +122°F (-10°C to +50°C)	
Storage Temperature	-40°F to +158°F (-40°C to +70°C)	
Relative Humidity	0 ~ 95%, non-condensation	
Dimensions (LxWxH)	7.0" x 5.7" x 2.1" (179mm x 145mm x 54mm)	
Weight	< 2.2lbs (1kg)	

Options

Optical Power Meter (OPM)		
Measurement Range	-70 ~ +10dBm	-50 ~ +27dBm
Accuracy	± 0.17dB	± 0.23dB
Calibrated Wavelength	1310 / 1490 / 1550 / 1610nm	
Working Wavelength	850 / 980 / 1300 / 1310 / 1490 / 1550 / 1610nm	
Optical Laser Source (OLS)		
Wavelength	1310 / 1550nm	
Output Power	> -11dBm	
Output Frequency	CW / 1kHz / 2kHz / 1kHz + Flash / 2kHz + Flash	
LighTel DI-1000 Fiber Inspection Probe (optional accessory)		
Pass/Fail Auto Test	✓	
Magnification	400x	
Resolution	0.5 μm	
Visible Range	425 μm x 320 μm	
Interface	USB 2.0	
Tips	<ul style="list-style-type: none"> • PT2-U2.5 / APC / M • DI1-CASE-S • PT2-FS / APC / F • CVF-CD 	
Dimensions	175mm ×Φ3500 (probe without cap)	
Light Source	Blue LED	
Operating Temperature	0 ~ 50°C	
Storage Temperature	-20 ~ +70°C	

Digital Cable TV Module (standard on AE2100AQ)		
Frequency	Range	5 ~ 1050 MHz
	Accuracy	± 50×10 ⁻⁶ (20°C ±5°C)
	Bandwidth	280 kHz
Analog TV	Power Level	30 ~ 120dBμV
	Accuracy	±1.5dB
	Chan. Scan	Up to 150 channels
Digital TV	Power Level	30 ~ 110dBμV
	Accuracy	± 2dB
	Symbol Rate	4 ~ 7 MS/s
	MER	39 ± 2dB (typical)
	BER	1E-3 ~ 1E-9 pre/post
Visual Fault Locator (VFL)		
Wavelength	650 ± 10nm	
Output Power	≥ 10mW	
Distance	> 10km	
Safety Standard	IEC 60825-1: 2007	

Model Guide

Model	OPM	VFL	OLS	Digital TV	PC/APC	Fiber Probe	FiberPath™	Remote
AE2100A	N/A	N/A	Standard	N/A	Optional	Optional	Optional	Optional
AE2100AQ	Standard	Standard	Standard	Standard	Optional	Optional	Optional	Optional

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