

AE1000 FTTx Multi-Function Meter

Key Benefits

- Future-proof, all-in-one solution includes optical, cable TV analysis, and metallic testing for verifying the installation of FTTx, RFoG and RF PON 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 simplifies testing and reduces the need for OTDR trace interpretation
- Validate proper levels for both optical and cable TV installation, minimizing repair truck rolls and increasing customer satisfaction



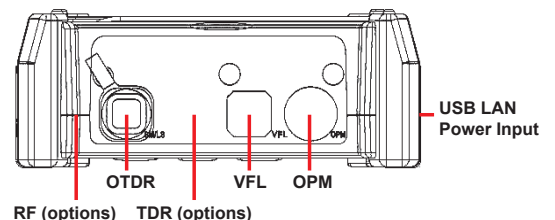
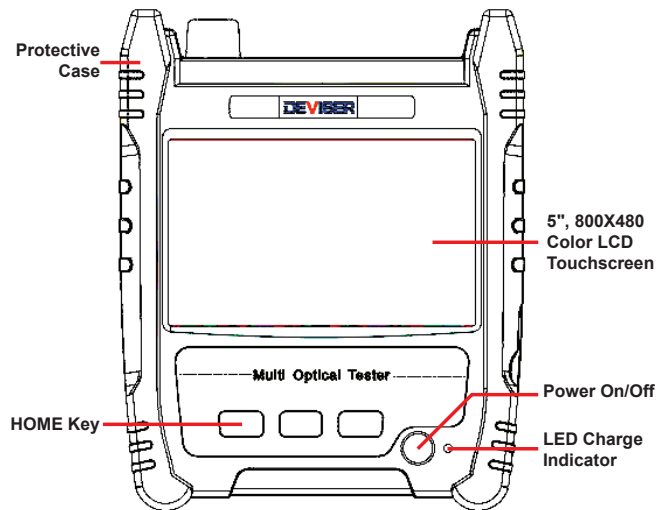
Overview

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 equipment for installing future networks such as FTTx, RFoG and RF PON.

Brought to you by Deviser Instruments Inc, the AE1000 integrates cable TV analysis, metallic TDR testing and optical testing, including a fiberscope, OTDR, OPM, VFL and LS, future-proofing the investment in test equipment. The AE1000 enables faster, more efficient installations with only a single instrument, producing substantial savings to the CSP.

Key Features

- OTDR performance specifications with up to 3 wavelengths, perfect for FTTx, RFoG and RF PON installation
- FiberPath™ and Autotest: FiberPath™ analyzes the OTDR traces to clearly display the map of the fiber link and identifies possible faults, reducing the need for OTDR trace interpretation
- Digital QAM and analog measurements and constellation display for Cable TV installation verification
- Combines optical and metallic tests: OTDR, VFL, OPM, LS, Cable TV (RF) Test, TDR, and Fiberscope
- Fiberscope integration with FiberSpot software for identifying dirty spots of fiber connectors
- Easy Web-Based back office integration



FiberPath™

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 simplified display.



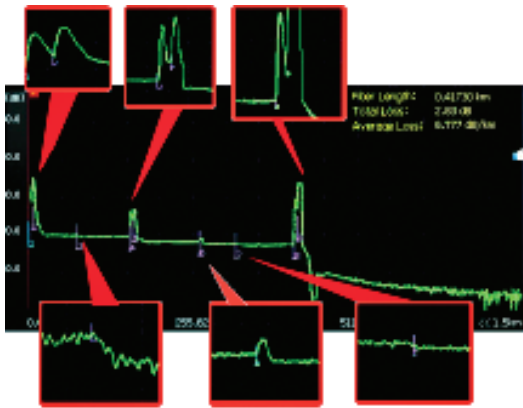
Fiber Inspection Probe

The majority of performance faults in fiber-optics are caused by contaminated connectors. Keep fiber endfaces and bulkheads free of dirt with the AE1000's built-in fiberscope application and automatic Pass/Fail analysis.



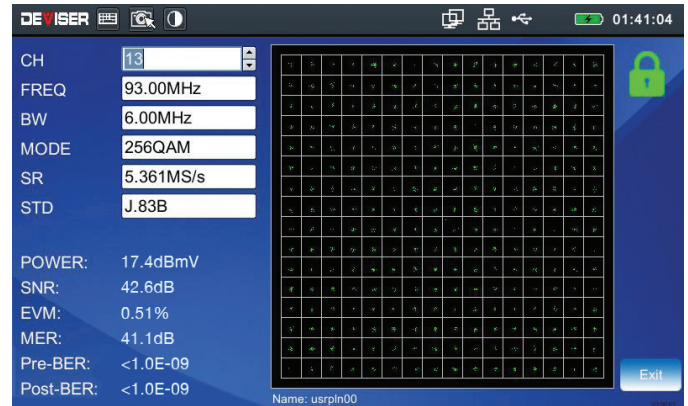
OTDR

The AE1000's high-performing OTDR supports up to three wavelengths and is the ideal solution for testing the fiber in RFoG and FTTx applications. The OTDR can identify and locate link impairments and measure the 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 AE1000 include MER, PRE & Post BER measurements and BER statistics for verifying proper installation of cable TV services.



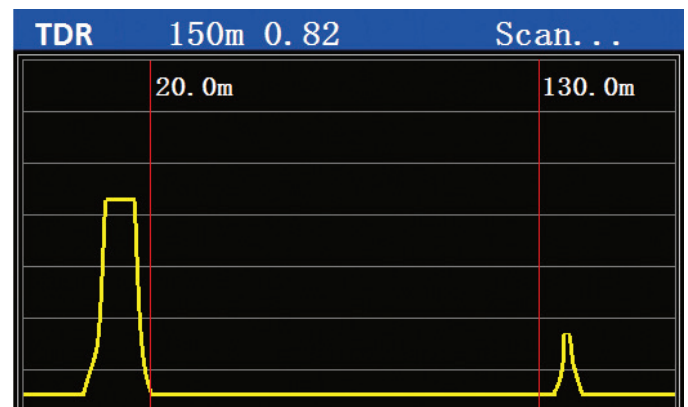
Optical Measurements

The AE1000 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 in networks such as RFoG and FTTx.



TDR Measurements

The TDR can easily identify and locate possible impairments, helping to gauge the quality of coaxial cable used in a Cable TV network.



Specifications

AE1000 Model		A	B	C	D	S-1625	S-1650	S-1490	P-1625	P-1650	P-1490
OTDR Key Parameters											
Dynamic Range* (typical)	1310nm ±20nm	≥ 29dB	≥ 33dB	≥ 36dB	≥ 36dB	-	-	-	≥ 34dB	≥ 34dB	≥ 34dB
	1550nm ±20nm	≥ 27dB	≥ 31dB	≥ 34dB	≥ 34dB	-	-	-	≥ 32dB	≥ 32dB	≥ 32dB
	1625nm ±20nm	-	-	-	-	≥ 35dB	-	-	≥ 32dB	-	-
	1650nm ±20nm	-	-	-	-	-	≥ 35dB	-	-	≥ 32dB	-
	1490nm ±20nm	-	-	-	-	-	-	≥ 35dB	-	-	≥ 32dB
Deadzone** (minimum value)	Event	≤ 2m	≤ 1.5m	≤ 0.8m							
	Attenuation	≤ 7m	≤ 6m	≤ 4m							
OTDR Key Parameters											
Pulse Width		3ns, 5ns, 10ns, 30ns, 50ns, 100ns, 200ns, 500ns, 1μs, 2μs, 5μs, 10μs, 20μ									
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 for fiber group reflection)		±(0.75m+0.005% × Fiber Length + Sampling Res.)		±(0.75m+0.001%×Fiber Length + Sampling Resolution)							
OTDR Key Parameters											
Linearity		0.05 dB/dB		0.03 dB/dB							
Attenuation Threshold		0.01dB									
Attenuation Resolution		0.001dB									
Reflection Accuracy		±2 dB									
Performance (1)		Performance (2)			Performance (3)						
Measurement Mode	Manual, Auto	SOR File Format	Bellcore GR 196 V1.1	Dual Wavelength Meas.				Yes			
Threshold Settings	Manual, Auto	Loss Measurement	LSA, 2Pt and 4Pt	Trace Comparison				Yes			
User-Defined Threshold Profiles	8	Screen Capture	Yes	Macro Bend Meas.				Yes			
Distance Offset Setting	Yes	Soft Keyboard	Yes	Real-Time Meas.				Yes			
Automatic Correction	Yes	Web Browser	Yes	FiberPath™ Link Mapper				Yes			
Online Help	Yes	Auto Shutdown & Hibernation	Yes	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.

Options

Optical Power Meter (OPM)					
Meas. Range	-70 ~ +10dBm	-50 ~ +27dBm	-60 ~ +3dBm		
Accuracy	±0.17dB		±0.23dB		
Calibrated Wavelength	1310 / 1550 / 1490 / 1610nm			850 / 1300nm	
Working Wavelength	850 ~ 1700nm				
Optical Laser Source (OLS)					
AE1000 Model	A/B	C/D	P-1625	P-1650	P-1490
Wavelength (nm)	1310/1550		1310/1550/1625	1310/1550/1650	1310/1490/1550
Output Power	> -11dBm		> -4dBm		
Output Freq	CW / 1kHz / 2kHz / 1kHz+Flash / 2kHz+Flash				
Visual Fault Locator (VFL)					
Wavelength (nm)	650 ±10				
Output Power	≥ 10mW				
Distance	> 10km				
Safety Standard	IEC 60825-1: 2007				
Fiber Inspection Probe					
Scope Model	DS-100		DI-1000		
Pass/Fail	No		Yes		
Magnification	250X				
Resolution	0.5µm		0.5µm		
Visible Range	400µm x 310µm		425µm x 320µm		
Interface	USB 2.0/1.1		USB 2.0		
Focus	Manual		Manual		
Tips	2.5mm PC-M; SC-PC-F; 1.25mm PC-M; LC-PC-F; 2.5mm APC-M; FC-APC-F		PT2-U2.5/APC/M; PT2-FS/APC/F; DI1-CASE-S; CVF-CD		
Digital Cable TV Module					
Frequency	Range	5 MHz ~ 1050 MHz			
	Accuracy	±50×10 ⁻⁶ (20°C ±5°C)			
	Bandwidth	280kHz			
Analog TV	Power Level	30 ~ 120dBµV			
	Accuracy	±1.5dB			
	Chan. Scan	Up to 150 channels			
Digital TV	Power Level	30 ~ 110dBµV			
	Accuracy	±2.0dB			
	Symbol Rate	4 ~ 7 MS/s			
	MER	39dB (typical) ±2.0dB			
	BER	1E-3 ~ 1E-9 Pre/Post			

AE1000 Specifications (continued)

TDR Module		
Interface	50Ω or 75Ω coaxial	
Range	5m ~ 1600m	
Accuracy	±1% of distance	
Resolution	<1% of distance	
Other Options		
FiberPath	OTDR Link Mapper	
Fiber Cleaning Pen	200 uses	
Remote Control	SYNCOR PC software	
Test Interfaces		
PC	Standard	
APC Optional	Optional	
Standard Connector	FC	
Optional Connectors	SC/PC, SC/APC, ST, LC	
Environmental & Maintenance		
Display	5" 800x480 TFT touchscreen	
Interface	1x USB 2.0; 1GB internal hard drive; 8GB SD card	
Battery	7.4V/5Ah battery, 37Wh; ~10 hours	
Visual Fault Locator (VFL)	10mW	
Power Consumption	< 2.0 W	
Power Supply	AC	100-240V 0.5A 50~60 Hz
	DC	12V/2A Max.
	Power	24W Max.
Dimensions (LxWxH)	7.0" x 5.7" x 2.1" (179mm x 144.7mm x 54mm)	
Weight	< 2.2 lbs (1kg)	
Operating Temp.	-14°F to +122°F (-10°C to +50°C)	
Storage Temp	-40°F to +158°F (-40°C to +70°C)	
Relative Humidity	0% to 95%, non-condensation	

Ordering Information

FTTx Application									
Feature	OPM	VFL	OLS	1625nm	1650nm	PC/APC	Probe	FiberPath	Remote
AE1000A	Standard	Standard	Standard	N/A	N/A	Selectable	Optional	Optional	Optional
AE1000B	Standard	Standard	Standard	N/A	N/A	Selectable	Optional	Optional	Optional
AE1000C	Standard	Standard	Standard	N/A	N/A	Selectable	Optional	Standard	Optional
AE1000P	Standard	Standard	Standard	Selectable	Selectable	Selectable	Optional	Standard	Optional
RFoG Application									
Feature	OPM, VFL, OLS, FiberPath, Remote			1625nm	1650nm	PC/APC	Probe	Digital TV	TDR
AE1000D	Standard			N/A	N/A	Selectable	Optional	Standard	Optional
AE1000S	Standard			Selectable	Selectable	Selectable	Optional	Standard	Optional

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