

T-BERD/MTS-8000 Scalable Multitest Platform

One solution that expands to more than 40 tests

Keep ahead of the telecommunications technology curve

The VIAVI Solutions T-BERD®/MTS-8000 V2 is the versatile test solution for modern and next-generation network deployments.

Built to support current and ultra-high-speed transmission network testing needs, the T-BERD/MTS-8000 V2 embeds the latest state-of-the-art technology for those planning long-term investments and offers simply the best-in-test solution.



KEY BENEFITS

- Multitest platform to accelerate deployment and maintenance of ultrahigh-speed networks
- Increased scalability with more than 40 applications and hundreds of test configurations
- Stay connected wherever you are with 4G/5G, WiFi, Bluetooth, or Ethernet
- Seamless workflow with automated test sequences and on-the-go post-processing

KEY FEATURES

- Modular test platform
- High-speed PowerPC processor with 100 GB SATA hard disk
- High-visibility touch-screen display
- Automated fiber connector inspection with IEC pass/fail analysis
- Built-in optical options including power meter, VFL, and talk set

APPLICATIONS

- Perform physical layer fiber characterization for high-speed CWDM/DWDM transmission networks
- Activate and commission next-generation transport and datacom services

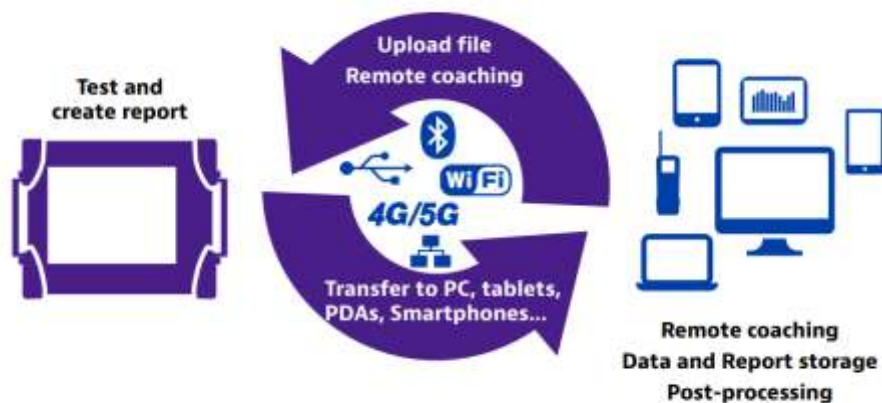
A full set of applications and utilities optimizes field-testing efficiency

The T-BERD/MTS-8000 V2 empowers technicians with an installation and maintenance platform that uniquely combines physical, optical, and transport/Ethernet testing capabilities.



Stay connected wherever you are

The T-BERD/MTS-8000 V2 integrates various communication capabilities for remote access from anywhere, enabling data and setup uploads/downloads, remote coaching, and report delivery



Designed for Modularity and Connectivity



- ① 10.4 inch touch screen
- ② Battery indicator
- ③ On indicator
- ④ On/Off
- ⑤ Export
- ⑥ Home page
- ⑦ File menu
- ⑧ Setup menu
- ⑨ Results page
- ⑩ Loud speaker
- ⑪ Start/Stop
- ⑫ Script
- ⑬ Testing indicator
- ⑭ Direction and validation keys
- ⑮ Menu keys
- ⑯ WiFi option
- ⑰ Bluetooth option
- ⑱ Removable hard disk
- ⑲ AC/DC input
- ⑳ Optical talk set option
- ㉑ Optical power meter option
- ㉒ VFL option
- ㉓ 1 GE port
- ㉔ Three USB 2.0 ports
- ㉕ Mini USB 2.0 ports
- ㉖ Headset jack

Scalable multitest platform meets network requirements

With its stackable design, the T-BERD/MTS 8000 V2 provides the most scalable advanced solution for all of your optical testing needs. It is completely field-upgradeable to address both current and future testing requirements



SPECIFICATIONS

Platform	
Display	10.4-inches TFT color touch screen Resolution: 800 x 600
I/O interfaces	3 x USB 2.0 ports 1 x mini-USB 2.0 port RJ45 LAN 10/100/1000 Mbps Built-in Bluetooth (optional) Built-in WiFi 802.11 b/g/n (optional)
Internal memory	2 GB (128 MB for storage)
Batteries	Two rechargeable Li-ion (total of 200 W.h)
Power supplies	
Standard	AC/DC adapter, input 100–250 V, 50–60 Hz, output 24 VDC, 6.25 A max., Electrical safety: EN60950 compliant
High power	AC/DC adapter, input 100–250 V, 50–60 Hz, output 21 VDC, 10.5 A max., Electrical safety: EN60950 compliant
Size with battery pack (W x H x D)	326 x 267x 93 mm (12.8 x 10.5 x 3.6 in)
Weight with 2 batteries	4.280 kg (9.44 lbs)
Temperature	
Operating	–20 to +50°C (–4 to 122°F)
Storage	–20 to +60°C (–4 to 140°F)
Relative humidity	0 to 95% non condensing
Built-in power meter ¹ (optional)	
Calibrated wavelengths	850, 1310, 1490, 1550, 1625, 1650 nm
Wavelength range	800 to 1650 nm in 1 nm steps
Accuracy ²	± 0.2 dB
Measurement range ³	+5 to –50 dBm
Maximum resolution	0.01 dB/0.01 nW
Connector type	Universal push/pull (UPP)
Visual fault locator (VFL) (optional)	
Wavelength	650 nm
Emission mode	CW, 1 Hz
Laser class	Class 2 as per standards EN60825-1 and FDA21 CFR Part 1040.10
Optical talk set (optional)	
Dynamic range	45 dB (typical)

1. At 25°C after 20 minutes stabilization time and after zero setting

2. At calibrated wavelength (except 1650 nm)

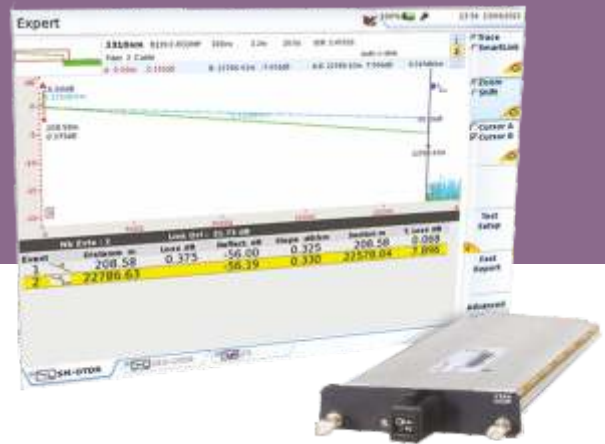
3. –45 dBm from 800 to 1250 nm

ORDERING INFORMATION

Description	Part Number
T-BERD/MTS-8000 V2 Scalable Multitest platform for standard use Includes 100 GB hard disk, 2 standard batteries and 150 W standard power supply	ETB8000E/EM8000E
T-BERD/MTS-8000 V2 Scalable Multitest platform for high-power use Includes 100 GB hard disk, 2 high-power batteries, power supply (150, 220 or 300 W to be specified)	ETB8000EHP/EM8000EHP
2 plug-in receptacles for optical modules	E8100, E8100E
Dual-module carrier for MSAM, MSAM v2	C8300
Built-in optical power meter and VFL with 2.5 mm UPP connectors	E80EPMVFL
Built-in talk set (adapter to be configured), optical power meter and VFL (2.5 mm UPP connectors)	E80ETSPMVFL
WiFi option	E80EWIFI
Standard Li ion battery	E80ELIION
High-power Li ion battery	E80ELIIONHP
Additional kickstand for multi-module configurations	E80KSTAND
Soft carrying case handling the platform and a combination of modules of 12 cm/4.75 in depth	E80SCASE2
Hard carrying case for T-BERD/MTS-8000 platform	E80HCASE1

8100-Series OTDR EVO Modules

For T-BERD/MTS-6000A
and -8000 platforms



The Viavi Solutions® 8100-Series OTDR EVO family transforms fiber testing. Connect the OTDR EVO family anywhere on the fiber to characterize single-mode and multimode fibers for commissioning, network upgrades, and troubleshooting with the added insurance of workflow optimization and accurate fiber-link fingerprinting.

The OTDR EVO family's optical performance combined with the T-BERD/MTS platform's complete suite of testing features ensures that testing jobs are performed right—the first time.

Standard testing features include:

- Automatic macrobend detection
- Summary results table with pass/fail analysis
- Bidirectional OTDR analysis
- FastReport onboard report generation



Compact multilayer platform for network installation and maintenance



Scalable platform for multilayer and multiple-protocol testing

KEY BENEFITS

- Industry-leading dead zone performance for full element event characterization on fiber links 2 m apart
- Includes an integrated power meter, light source, and OTDR in a one-port tool for added flexibility
- Instantaneous, automatic traffic detection avoids risking live signal interference or optical transmitter damage during an OTDR test
- Eliminates OTDR interpretation errors with Smart Link Mapper (SLM) without compromising on test time
- Reduces event loss measurement uncertainty and improves measurement repeatability

KEY FEATURES

- Up to 50 dB dynamic range
- Integrated CW light source and broadband power meter (single-mode wavelengths)
- PON-optimized to test through a 1x128 splitter
- Single connector port for 1310, 1550, and inservice 1650 nm wavelengths
- FiberComplete™ version available for automated bidirectional OTDR, IL, and ORL measurements
- Built-in encircled flux multimode source compliant with IEC 61280-1-4 and TIA-526-14-B

APPLICATIONS

- Metro and ultra-long-haul fiber network characterization
- Advanced FTTH PON network qualification and troubleshooting
- Upgrading core fiber networks to 40 and 100 G
- Remotely monitoring fiber while in or out of service
- Advanced Tier-2 certification for enterprise and data center networks

SPECIFICATIONS (TYPICAL AT 25°C)

General	
Weight	approx. 500 g (1.1 lb)
Dimensions (W x H x D)	213 x 124 x 32 mm (8.38 x 4.88 x 1.26 in)
Laser safety class (21 CFR)	Class 1
Distance units	Kilometer, meter, feet, and miles
Group index range	1.30000 to 1.70000 in 0.00001 steps
Number of data points	Up to 256,000 data points
Distance Measurements	
Mode	Automatic or dual cursor
Display range	Single-mode: 0.1 – 320 km Multimode: 0.05 – 10 km
Display resolution	1 cm
Cursor resolution	From 1 cm
Sampling resolution	From 4 cm
Accuracy	Single-mode: ± 0.75 m \pm sampling resolution $\pm 1.10^5 \times$ distance (excluding group index uncertainties)

ATTENUATION MEASUREMENTS	
Mode	Automatic, manual, 2-point, 5-point, and LSA
Display resolution	0.001 dB
Linearity	Single-mode: ± 0.03 dB/dB Multimode: ± 0.05 dB/dB
Threshold	0.01 to 4.99 dB in 0.01 dB steps
Reflectance/ORL Measurements	
Mode	Automatic or manual
Reflectance accuracy	± 2 dB
Display resolution	0.01 dB
Threshold	-11 to -99 dB in 1 dB steps

OTDR Modules	8100A	8100B	8100C	8100D
Central wavelength ¹	850 ± 10 /-30 nm; 1300 ± 20 nm; 1310 ± 20 nm; 1550 ± 20 nm; 1625 ± 20 nm	1310 ± 20 nm; 1550 ± 20 nm; 1625 ± 20 nm	1310 ± 20 nm; 1550 ± 20 nm; 1625 ± 10 nm; 1650 ± 15 /-5 nm	1310 ± 20 nm; 1550 ± 20 nm; 1625 ± 15 /-5 nm; 1650 ± 1 nm
Dynamic range ²	Multimode: 24/24 Single-mode: 40/40/40 dB	41/40/40 dB	47.5/47/47.5/46 dB	50/50/50/48 dB
Pulse width	Multimode: 1 ns to 20 μ s Single-mode: 3 ns to 20 μ s	5 ns to 20 μ s	2 ns to 20 μ s	2 ns to 20 μ s
Event dead zone ³	Multimode: 0.25 m Single-mode: 0.60 m	0.65 m	0.5 m ⁹	0.5 m
Attenuation dead zone ⁴	2 m	2 m	2 m	2.5 m
Splitter attenuation dead zone	25 m after a 15 dB splitter loss (single-mode only)	25 m after a 15 dB splitter loss	25 m after a 15 dB splitter loss/60 m after a 18 dB splitter loss	15 m after a 15 dB splitter loss
Power meter				
Calibrated wavelengths ⁵	N/A	1310/1490/1550/1625 nm	1310/1490/1550/1625 nm	1310/1490/1550/1625 nm
Power range		-3 to -55 dBm	-3 to -55 dBm	-5 to -55 dBm
Accuracy ⁶		± 0.5 dB at -30 dBm	± 0.5 dB at -30 dBm	± 0.5 dB at -30 dBm
Continuous wave light source ⁷				
Wavelengths	850/1300/1310/1550/1625 nm	1310/1550/1625 nm	1310/1490/1550/1625 nm	1310/1550/1625 nm
Output power	0 dBm	-3.5 dBm	-3.5 dBm	0 dBm
Stability	± 0.2 dB @25°C over 1 hr	± 0.1 dB at 25°C over 1 hr	± 0.1 dB at 25°C over 1 hr	± 0.1 dB at 25°C over 1 hr
Operating modes ⁸	CW (single-mode only), 270 Hz, 330 Hz, 1 kHz, 2 kHz, Twintest	CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz, TWINtest	CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz, TWINtest	270 Hz, 330 Hz, 1 kHz, 2 kHz, TWINtest

1. Laser at 25°C and measured at 10 μ s.

2. The one-way difference between the extrapolated backscattering level at the start of the fiber and the RMS (SNR=1) noise level, after 3 minutes averaging using the largest pulse width.

3. Measured at ± 1.5 dB below the peak of an unsaturated reflective event using the shortest pulse width.

4. Measured ± 0.5 dB from the linear regression using an FC/UPC reflectance and the shortest pulse width.

5. 1625 nm is not available on the 8138C-65 version.

6. At calibrated wavelengths.

7. At calibrated wavelengths; multimode source (850 nm) is compliant to the IEC 61280-1-4 standard related to the encircled flux.

8. Subtract 3 dB when in modulation mode (270 Hz/330 Hz/1 kHz/2 KHz).

ORDERING INFORMATION

Description	Part Number
8100A Modules	
850/1300/1310/1550 nm OTDR module	E8146A
850/1300/1310/1550/1625 nm OTDR module	E8156A
8100B Modules	
1310/1550 nm OTDR module	E8126B
1310/1550/1625 nm OTDR module	E8136B
8100C Modules	
1550 nm OTDR module ¹	E8115C
In-service 1625 nm OTDR module ¹	E81162C
In-service 1650 nm OTDR module ¹	E81165C
1310/1550 nm OTDR module	E8126C
1310/1550/1625 nm OTDR module	E8136C
1310/1490/1550 nm OTDR module	E8139C
1310/1550 and in-service 1650 nm OTDR module	E8138C-65

8100D Modules	Part Number
1550 nm OTDR module ¹	E8115D
In-service 1625 nm OTDR module ¹	E81162D
In-service 1650 nm OTDR module ¹	E81165D
1310/1550 nm OTDR module	E8126D
1550/1625 nm OTDR module ¹	E8129D-62
1310/1550/1625 nm OTDR module	E8136D
Universal Optical Connectors	
Straight connectors	EUNIPCFC, EUNIPCSC, EUNIPCST, EUNIPCDIN
8° angled connectors	EUNIAPCFC, EUNIAPCSC, EUNIAPCDIN

1. Source and power meter not available on these versions.