# SAVITRI
## TELECOM SERVICES

# 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-ofthe-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
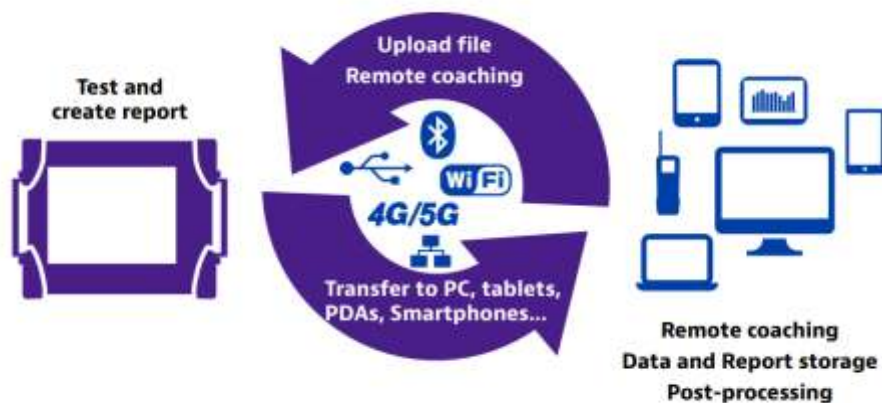
# Designed for Modularity and Connectivity



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

1 10.4 inch touch screen
2 Battery indicator
3 On indicator
4 On/Off
5 Export

## 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 meter1 (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
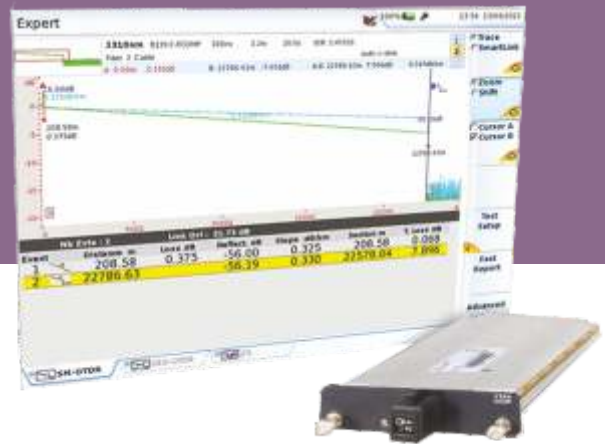
The Viavi Solutions® 8100-Series OTDR EVO family transforms fiber testing. Connect the OTDR EVO family anywhere on the fiber to characterize single-mode and multimode fibers for commissioning, network upgrades, and troubleshooting with the added insurance of workflow optimization and accurate fiber-link 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

**T-BERD/MTS-6000A**

Compact multilayer platform for network installation and maintenance

**T-BERD/MTS-8000 (V2)**

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<br>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 ±sampling resolution ±1.10$^{-5}$ x 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<br>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;<br>1300 ±20 nm;<br>1310 ±20 nm;<br>1550 ±20 nm;<br>1625 ±20 nm | 1310 ±20 nm;<br>1550 ±20 nm;<br>1625 ±20 nm | 1310 ±20 nm;<br>1550 ±20 nm;<br>1625 ±10 nm;<br>1650 +15/–5 nm | 1310 ±20 nm;<br>1550 ±20 nm;<br>1625 +15/–5 nm;<br>1650 ±1 nm |
| Dynamic range[2] | Multimode: 24/24<br>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 µs<br>Single-mode: 3 ns to 20 µs | 5 ns to 20 µs | 2 ns to 20 µs | 2 ns to 20 µs |
| Event dead zone[3] | Multimode: 0.25 m<br>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 µs.
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 module1 | E81162C |
| In-service 1650 nm OTDR module1 | 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 module1 | 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.

www.savitritelecom.com