

ACCESS MASTER™ MT9080 Series

1.31/1.55/1.65 μm (SM)



All-New Field Measuring Instrument Integrating Functions Required for FTTx Optical Fiber Installation and Maintenance in One Unit

NEW



- SM 1310 nm/1550 nm/1650 nm OTDR for optical fiber installation and maintenance
- Functions and performance supporting FTTx (FTTB, FTTC, FTTH, PON)
- Short dead zone of 1 m (event)
- Light source and optical power meter function provided as standard
- Effective Performance and Functions for Installation and Maintenance of Optical Fibers

• Easily identifies failure location with enhanced maintenance function

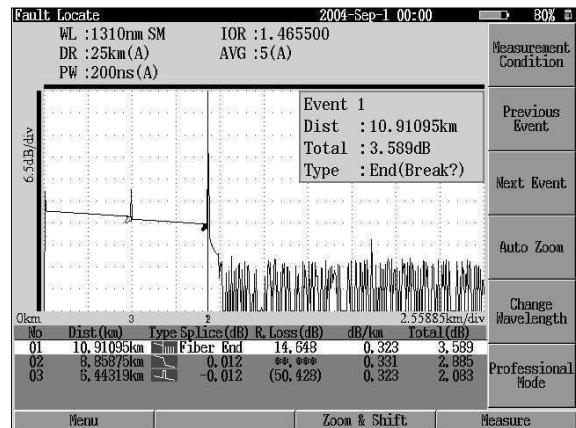
If a failure occurs, the failure location should be identified immediately and recovery should be made as soon as possible. The MT9080 Series ACCESS Master offers a fault failure locate mode for identifying the failure location easily.

A pulse test is automatically started by pressing the measurement button, and the failure location is displayed enlarged on the screen.

User-friendly operation & all-in-one

• Simple operation from the top menu

The top menu shown below appears when the MT9080 Series ACCESS Master is activated. You can return to this screen any time by pressing the top menu button (panel key) even if the measurement window is displayed in the selection area. Necessary test items for the user can therefore be executed smoothly.



- Provides light source and optical power meter functions as standard, as well as optionally available visible light source

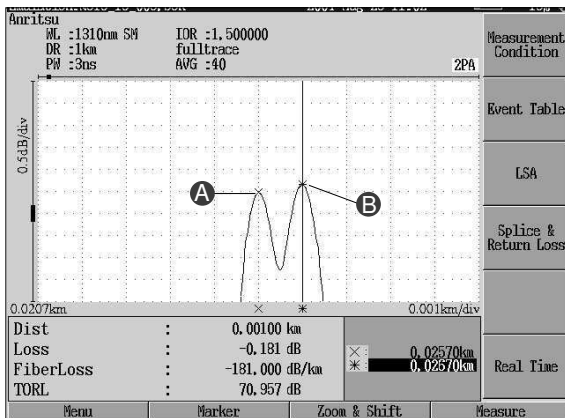
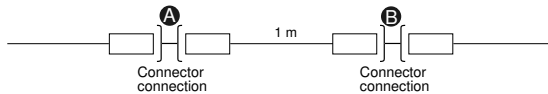
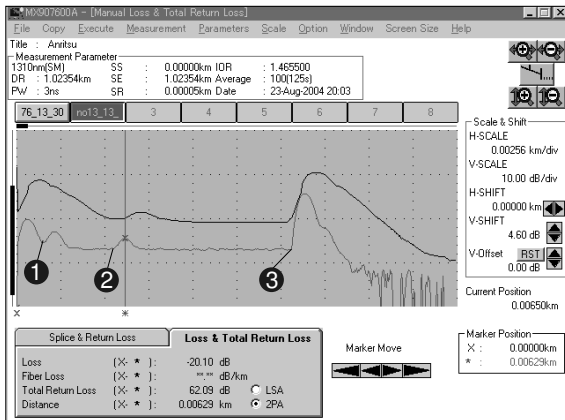
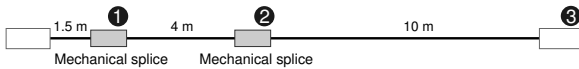
The concept of the MT9080 Series ACCESS Master is to support the functions required for optical fiber installation and maintenance as standard. The MT9080 Series ACCESS Master comes equipped with a light source for fiber identification and an optical power meter function as standard. Together with the optional visible light source, optical fiber installation and maintenance are supported with only one MT9080 Series unit.

Short dead zone

- Short dead zone of 1 m (event)
Effective for FTTx

The MT9080 Series ACCESS Master has achieved an event dead zone of 1 m and a high sampling resolution of 5 cm, so the connection status in a building and the failure location, which were hard to analyze, can be analyzed and identified.

This OTDR is small but has a high performance.



Compact, lightweight, and convenient functions

- Compactness, lightweight (2.2 kg), and non-HDD

One of the requirements for field measuring instruments is that they can be carried into any field location such as the top of a telephone pole or in a manhole; in other words, they must be able to be used in any measurement location. The MT9080 Series ACCESS Master is smaller and lighter than the traditional MW9076 Series. The user can concentrate on measurement without worrying about the measurement location. Further, the MT9080 Series ACCESS Master is a non-hard-disk measuring instrument, so the system is not started from the hard disk. Stable operation is thus ensured regardless of shock and vibration. Since this compact unit can be brought into any field location, the MT9080 Series ACCESS Master can accommodate sudden problems and support installation and maintenance of optical fibers to the customer's satisfaction. The MT9080 Series ACCESS Master is handy and convenient in the field.

- Dynamic range supporting FTTx

The MT9080 Series ACCESS Master realizes a dynamic range performance for installation and maintenance of optical fibers up to approximately 50 km.

- High-speed starting for 15 or less seconds

The MT9080 Series ACCESS Master has realized high-speed starting. It is 15 or less seconds until a top menu is displayed from a power supply injection. Therefore, it puts into work, without waiting.

- Telcordia format (SR-4731) supported

The Telcordia format (SR-4731), the common format for OTDRs, is supported.

- More than 1,000 waveforms recordable in the internal memory; more than 30,000 waveforms recordable with an additional USB memory*1

The MT9080 Series ACCESS Master can record files of more than 1,000 waveforms in the internal memory. If a USB memory is inserted into the USB port, files of more than 30,000 waveforms*1 can be recorded.

*1: When a 512 MB USB memory is used.

- Communication light check

If the fiber being tested contains communication light, the OTDR cannot perform measurement successfully. Also, the pulse light from the OTDR may damage the receiver of a system such as WDM or PON that performs transmission and reception through one fiber.

The MT9080 Series ACCESS Master executes a communication light check before emitting a pulse, and displays the check result on the screen. This function is provided to ensure normal measurement and protect communication system.

- Waveform comparison function

Measurement data is compared with the saved data by reading it. If measurement data is compared with the data provided when the optical fiber was installed, this function can be used to check aging and identify the failure location in the event of a failure.

- Warning level setting function

Events of loss and reflection at or above the set level are highlighted in the event table. At a glance, whether the line is acceptable can be identified when connection loss at each point is evaluated in installation or maintenance of the optical fiber.

- Emulation software MX907600A

This PC software is used to analyze and edit the recorded data on a Windows-based PC in the office. A report can also be created.

Specifications

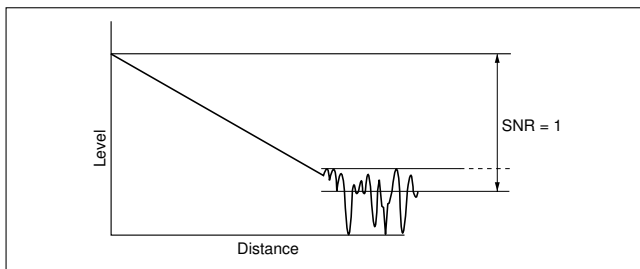
• ACCESS Master (main frame)

Model	MT9080A	MT9080B	MT9080C	MT9080D	MT9080E	MT9080F
Wavelength	1310 ±30 nm*1	1550 ±30 nm*1	1645 to 1655 nm*1,*2	1310/1550 ±30 nm*1	1550 ±30 nm/ 1645 to 1655 nm*1,*2	1310/1550 ±30 nm/ 1645 to 1655 nm*1,*2
Measurable optical fiber	10/125 μm single-mode optical fiber (ITU-T G.652)					
Optical connector	FC, SC, DIN, HMS-10/A, ST, LC (replaceable, PC type); FC, SC (APC type)					
Distance range	0.5, 1, 2.5, 5, 10, 25, 50 km					
Pulse width	3 ns, 20 ns, 50 ns, 100 ns, 200 ns, 500 ns, 1 μs, 2 μs					
Dynamic range*3,*4,*5 (S/N = 1)	26.5 dB (1.31 μm)	25 dB (1.55 μm)	22 dB (1.65 μm)	26 dB (1.31 μm) 24.5 dB (1.55 μm)	24.5 dB (1.55 μm) 22 dB (1.65 μm)	25.5 dB (1.31 μm) 24 dB (1.55 μm) 22 dB (1.65 μm)
Dead zone*6 (back-scattered light) (IOR = 1.500000)	≤7.5 m (1.31 μm)	≤8.5 m (1.55 μm)	≤11 m (1.65 μm)	≤7.5 m (1.31 μm) ≤8.5 m (1.55 μm)	≤8.5 m (1.55 μm) ≤11 m (1.65 μm)	≤7.5 m (1.31 μm) ≤8.5 m (1.55 μm) ≤11 m (1.65 μm)
Dead zone*7 (Fresnel reflection) (IOR = 1.500000)	≤1 m ≤0.8 m (Typ.)					
Marker resolution (IOR = 1.500000)	0.05 to 100 m					
Sampling resolution (IOR = 1.500000)	0.05 to 10 m					
Sampling points	Normal: 5001 High density: 20001 or 25001*8					
Y-axis scale	0.05, 0.125, 0.25, 0.5, 1.25, 2.5, 5, 6.5 dB/div					
IOR settings	1.000000 to 1.999999 (0.000001 steps)					
Distance measurement accuracy	±1 m ±3 x measurement distance x 10 ⁻⁵ ±marker resolution (excluding uncertainty caused by fiber IOR)					
Loss measurement accuracy (linearity)	±0.05 dB/dB or ±0.1 dB (whichever is greater)					
Return loss measurement accuracy	±2 dB					
Automatic measurement*9	Fault locate: Events judged as a failure are displayed sequentially from the first possible event. The distance of the possible event point, Total loss or Splice loss, and event type are displayed at the upper right of the wavelength display screen. Measurement items: Total loss, Total return loss or Average loss Each event distance, Connection loss, Return loss or Reflection amount, Total return loss or Average loss (displays in table format) Threshold values Connection loss: 0.01 to 9.99 dB (0.01 dB steps), Return loss: 20.0 to 60.0 dB (0.1 dB steps), Fiber-end: 1 to 99 dB (1 dB steps) Number of detected events: Up to 99 Automatic setting: Distance range, Pulse width, Averaging count (time) Connection check: Automatic check of front panel connector connection quality Communication light check: Check for presence of communication light in optical fiber to be measured (≥-40 dBm)					
Manual measurement	Measurement items: Transmission loss and distance between 2 points, Loss per unit length between 2 points, Connection loss, Return loss or difference of levels Real-time sweep: 0.2 second or less (sampling mode: Normal)					
Light source for identification tester	Applicable fiber: SM fiber (ITU-T G.652), PC type Optical connector: Shared with OTDR (same port) Light emission element: FP-LD Central wavelength*10: 1310 ±30 nm (MT9080A/D/F), 1550 ±30 nm (MT9080B/D/E/F), 1650 ±5 nm (MT9080C/E/F) Optical output power*11: -8 dBm or more Optical output waveform: 270 Hz/1 kHz/2 kHz (Modulation light is square wave) Modulated frequency: 270 Hz/1 kHz/2 kHz ±1.5% Warm-up time: 10 minutes (after turning optical output On) Laser safety specification: 21CFR Class 1, IEC 60825-1 Class 1					
Optical power meter	Applicable fiber: SM fiber (ITU-T G.652) Wavelength setting: MT9080A/B/D (1310/1550 nm port): 1310/1550/1625/1650 nm, MT9080C/E/F (1310/1550 nm port): 1310/1550/1625 nm, MT9080C/E/F (1650 nm port): 1650 nm Optical connector: Shared with OTDR Optical power: -50 to -5 dBm (peak power) Absolute maximum rated input: +10 dBm Measurement accuracy: ±6.5% (-20 dBm, CW light, 23°C ±2°C, after executing zero offset, Wavelength 1550 nm)					
Other functions	Waveform storage: SR-4731 Horizontal offset setting (zero cursor setting) Internal memory Language display: English/Japanese switchable by system configuration Power-saving setting function Backlight off: Disable/1 to 99 min., Shutdown: Disable/1 to 99 min. Waveform comparing function Calendar clock Distance unit set: km, kf, mi, f, m Title input: Up to 32 characters Remaining battery power display, Auto dummy fiber setting function, Continuous light emitting function, Buzzer setting					

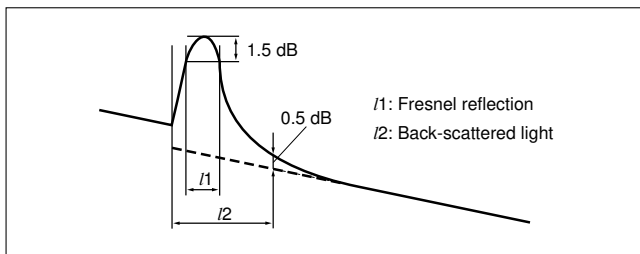
Continued on next page

Model	MT9080A	MT9080B	MT9080C	MT9080D	MT9080E	MT9080F
Display	6.2 inch monochrome LCD (Option 04, 640 x 480 dots, with backlight, semi-transparent)					
Interface	USB 1.1 Type A x 1 (memory), Type B x 1 (USB mass storage class): The internal memory of the MT9080 Series product can be read/written as a PC disk drive by connecting with the PC via a USB cable.)					
Laser safety specification	21CFR Class 1, IEC 60825-1 Class 1					
Power supply	12 Vdc, Allowable input voltage range: 10.8 to 15 Vdc 100 to 240 Vac, Allowable input voltage range: 90 to 264 V, 50/60 Hz (Specific AC adapter is used.) Battery pack: DR15SBA can be used.					
Power	≤20 W (when charged), Standard 5 W (With backlight Off, sweeping halted)					
Battery operating time*12	Continuous operation time: 4 h (typical value)					
Battery charging time*13	≤3 h					
Dimensions and mass	254 (W) x 162 (H) x 61 (D) mm (main body only), ≤2 kg (only main frame), ≤2.2 kg (DR15SBA battery pack included) 277 (W) x 199 (H) x 80 (D) mm [main body + protector + protective cover (without hand strap and shoulder strap)], ≤2.9 kg [main body + battery pack + VLD + protector (without protective cover)]					
Environmental condition	Operating temperature and humidity: 0° to +40°C, ≤85% (no condensation), During battery charge: 0° to +30°C (power OFF), Storage temperature and humidity: -20° to +60°C, ≤85% Vibration: Conforming to MIL-T-28800E Class 3, Pulse shock: MIL-T-28800E, Move shock: MIL-T-28800E Style C (20.3 cm corner, surface total 14 times shocks, Power OFF), Vamp: IEC 63-2-29, JIS C 0042					
EMC	EN61326: 1997/A2: 2001 (Class A), EN61000-3-2: 2000 (Class A), EN61326: 1997/A2: 2001 (Annex A)					
LVD	EN61010-1: 2001 (Pollution Degree 2)					

- *1 At 25°C, pulse width: 1 μs
- *2 Wavelength range for 20 dB lower than the peak value. Peak value +15 dB or less.
- *3 At 25°C, pulse width: 2 μs, Distance range: 50 km, Average: 180 sec.
- *4 Dynamic range (one-way back-scattered light), SNR = 1: The level difference between the RMS noise level and the level where near end back-scattering occurs.



- *5 At 1.65 μm: With backlight, 1.55 μm -19 dBm CW light
- *6 At 25°C, pulse width: 20 ns, Return loss: 40 dB, Deviation: ±0.5 dB (Refer to the figure below.)
- *7 At 25°C, pulse width: 3 ns (Refer to the figure below.)



- *8 Either value is automatically selected in each mode, depending on the distance range.
- *9 The automatic measurement is an auxiliary function to facilitate measurement operations, and does not assure any detected results. As there may be a case of miss detection, be sure to check waveform data as well for final judgement of measured results.
- *10 +25°C, 270 Hz
- *11 25°C, SM fiber 2 m, Modulation light: 270 Hz, Averaged power with 50% duty. Operating temperature range for 1.65 μm: 0° to +35°C
- *12 Backlight Off, Sweeping halted, at 25°C
- *13 With power Off, Temperature range: 0° to +30°C

• Battery pack: DR15SBA

Battery	Ni-MH secondary battery
Voltage, capacity	10.8 Vdc, 2100 mAh
Dimensions and mass	145 (W) x 52.8 (H) x 19.3 (D) mm, 305 g typ.
Operating temperature	Charging: 0° to +45°C Discharging: -20° to +50°C Storage: -20° to +35°C

• AC adapter: SA165A-1250V-3

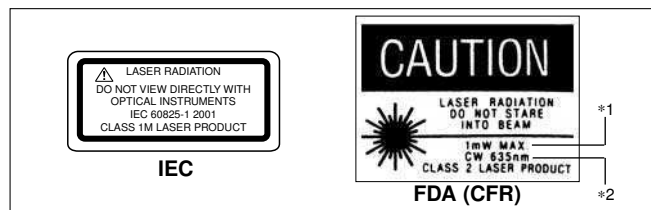
Rated AC input	100 to 240 Vac, 50/60 Hz
Rated DC output	12 Vdc, 3 A
Dimensions and mass	122 (W) x 60 (H) x 34 (D) mm, 305 ±5 g
Environmental conditions	Operating temperature: 0° to +40°C, 20 to 80% R.H. Storage temperature: -20° to +80°C, 10 to 95% R.H.

• Visible LD (Option 02)

Central wavelength	635 nm ±15 nm (at 25°C)
Optical output	-3 ±1.5 dBm
Output optical fiber	10/125 μm, SM (ITU-T G.652)
Optical connector	FC, SC, ST, DIN, HMS-10/A, LC
Optical safety	IEC60825-1 Class 1M, 21CFR Class 2
Environmental conditions	Operating temperature and humidity: 0° to +35°C, ≤85% (no condensation)

Safety measures for laser products

This option complies with optical safety standards in Class 1M of the IEC 60825-1 and the FDA (21CFR1040.10, USA) in Class 2; the following descriptive labels are affixed to the product (FDA label is only affixed to product for export to the USA).



The maximum output is indicated under *1, and the wavelength under *2. Caution: Do not look directly into the laser beam.

Ordering information

Please specify model/order number, name, and quantity when ordering.

Model/Order No.	Name
	ACCESS Master (main frame)
MT9080A	SMF 1.31 μm
MT9080B	SMF 1.55 μm
MT9080C	SMF 1.65 μm
MT9080D	SMF 1.31/1.55 μm
MT9080E	SMF 1.55/1.65 μm
MT9080F	SMF 1.31/1.55/1.65 μm
	Standard accessories
W2487AE	MT9080 Series operation manual (CD): 1 copy
SA165A-1250V-3	AC adapter: 1 pc
DR15SBA	Battery pack: 1 pc
	Software
MX907600A	OTDR Emulation Software
	Options*1
MT9080[]-02	Visible LD (Factory option)
MT9080[]-04*2	Monochrome LCD
MT9080[]-09*2	English language display
MT9080[]-10	Protector (Factory option)
MT9080[]-25*3	FC-APC connector (Factory option)
MT9080[]-26*3	SC-APCconnector (Factory option)
MT9080[]-33*3	LC connector
MT9080[]-37*3	FC connector
MT9080[]-38*3	ST connector
MT9080[]-39*3	DIN connector
MT9080[]-40*3	SC connector
MT9080[]-43*3	HMS-10/A connector
	Application parts
Z0740	Battery charger (For DR15SBA)
B0547*4	Soft carrying case
B0548*5	Soft transit case
B0549	Hard carrying case
B0550*6	Front cover (For option 10)
DR15SBA	Battery pack
J1270	Replaceable optical LC connector
J0617B	Replaceable optical FC connector
J0618D	Replaceable optical ST connector
J0618E	Replaceable optical DIN connector
J0618F	Replaceable optical HMS-10/A connector
J0619B	Replaceable optical SC connector
J0057	Optical adapter FC type
J0635[]*7	Optical fiber cord with FC-PC at both ends (SM, with FC-PC at both ends)
W2462AE	MT9080 Series operation manual (print)
Z0282	Ferrule cleaner
Z0283	Ferrule cleaning tape (6 pcs/set)
Z0284	Adapter cleaner (Stick type, 200 pcs/set)

*1: Installed in MT9080A/B/C/D/E/F

*2: Please be sure to specify

*3: Specify the optical connector

*4: It can't be used when it equips with a projector (option 10)

*5: Attache case type [440 (W) x 310 (H) x 110 (D) mm]

*6: Only front cover for option 10

*7: Specify the optical fiber length as A, B or C (A: 1 m, B: 2 m, C: 3 m)