

Network Master™ Series

MT9090A

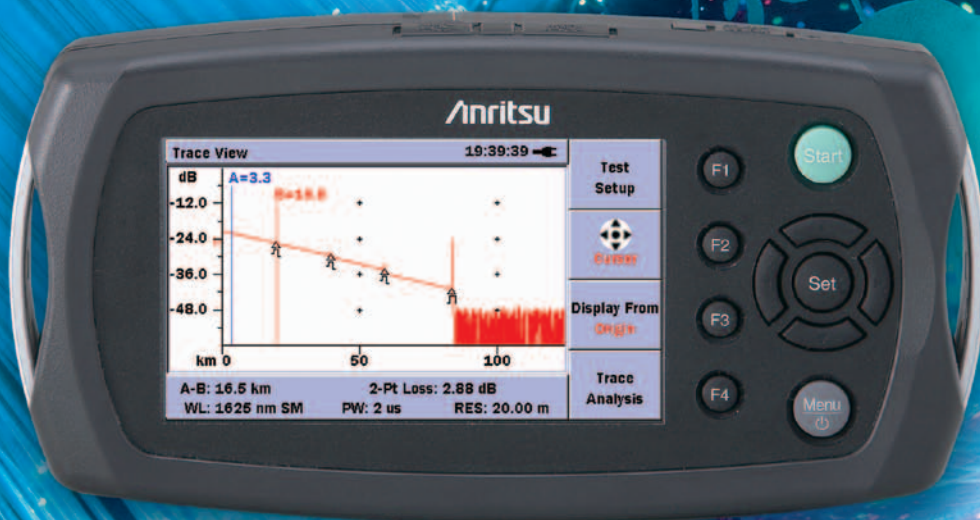
Mainframe

MU909014A/A1/B/B1/C/C6

MU909015A6/B/B1/C/C6

μOTDR Module™

1310 nm/1550 nm for Installation,
1625 nm & 1650 nm for Maintenance,
1310 nm/1550 nm plus 1625 nm or 1650 nm





Field Optical Testing Redefined!

MT9090A with MU909014x/15x Overview

There are many handheld OTDRs on the market that appear to be a good value until they are put into action and the user quickly finds out that they lack the performance needed to install and maintain today's networks.

The new MU909014x/15x μ OTDR Module series for the MT9090A Network Master™ platform from Anritsu finally addresses this need by providing all of the features and performance required for installation and maintenance of optical fibers in a compact, modular test set. The MT9090A represents an unmatched level of value and ease of use, while not compromising performance. Data sampling of 2 centimeters, dead zones of 0.8-meter and dynamic range up to 38 dB ensure accurate and complete fiber evaluation of any network type – premise to access, metro to core...including PON-based FTTx networks featuring up to a 1 × 64 split.

The MT9090A with MU909014x/15x module represents a new era in optical fiber testing!

Key Features

- Tri-wavelength OTDR for both installation and maintenance (1310 nm/1550 nm plus filtered 1650 nm or 1625 nm)
- Built-in PON Power Meter, Loss Test Set and Light Source functions
- High-end OTDR performance in a pocket-size package with unique battery operation
- Full AUTO mode simplifies operation, no OTDR knowledge needed
- Complete PON testing through splitters up to 1 × 64

MU909014x/15x

μ OTDR Module™

1310 nm/1550 nm for Installation,
1625 nm & 1650 nm for Maintenance,
1310 nm/1550 nm plus 1625 nm or 1650 nm



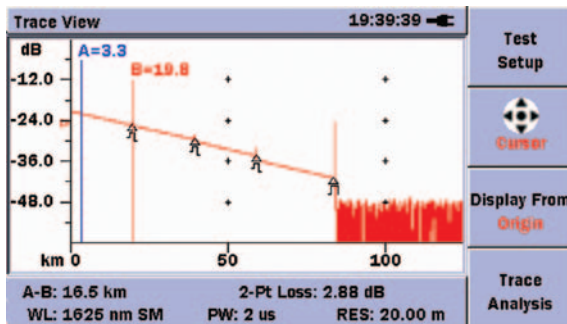
Network Master™ and μ OTDR Module™ are a trademark of Anritsu Corporation.

A Truly Revolutionary OTDR!

Introducing the first handheld OTDR that does not compromise performance – the new μ OTDR from Anritsu. With performance that rivals traditional OTDRs that are four times the size and more than double the price, the Network Master MT9090A μ OTDR has created a new class of test instruments. It features 2 cm resolution for accurate mapping of events, dead zones of 0.8-meter (2.6-feet) and a dynamic range of up to 38 dB – enough to test over 150 km (90+ miles). The MT9090A μ OTDR also takes portability to a new level by being the first handheld OTDR that truly fits in the palm of your hand.

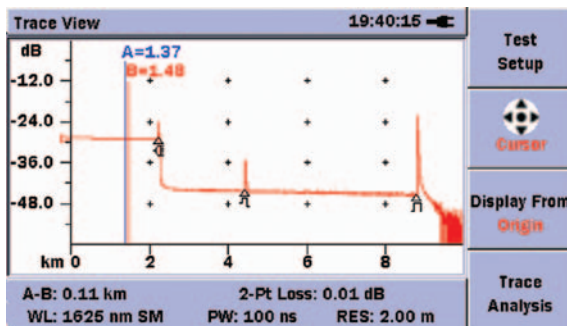
Complete Testing Tool - Premise to Core

With a dynamic range of up to 38 dB, the μ OTDR evolves far beyond the premise/access applications that other handheld OTDRs service. Metro links can be tested with lower pulsewidths which provides greater detail and better resolution while long haul fibers up to 175 km (108 miles) can also be completely evaluated.



FTTx and PON Ready

With splitter-based fiber-to-the-x (FTTx) deployments becoming more popular, the need for test equipment to thoroughly test and maintain them has risen. The μ OTDR series features the ability to test up to a 1 x 64 split completely from end-to-end and with high resolution.



Full Auto Operation

To ensure easy operation and accurate results for all levels of users, the MT9090A μ OTDR can be configured to automatically select all test parameters. The user simply presses the "Start" button and within a few seconds has a complete, easy to read summary of the fiber under test.

0.8-m Dead Zone for Short Fiber Analysis

With 0.8-meter dead zones, the MT9090A is perfect for evaluating central office, FTTx and intra building cables.

Fast Real Time Sweeping

The MT9090A μ OTDR features real-time updates as quickly as 0.25 seconds. This is useful for connector and splice optimizations as well as verifications of parameter selection.

Portable

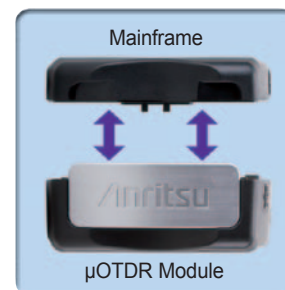
The MT9090A μ OTDR takes portability to a whole new level. With dimensions of just 19 cm x 9.6 cm x 4.8 cm (7.5" x 3.8" x 1.9") and a weight of only 700 g (1.54 lbs.), the μ OTDR is the smallest and lightest OTDR on the market. With its lightweight design and user friendly dimensions, the MT9090A is perfect for the outside plant environment and can easily be managed with one hand. The standard soft case with shoulder strap further increases portability when traveling from the truck to the testing site.

Rugged

With no fans or vents to allow dust and moisture to enter the unit, the MT9090A was designed for the challenging outside plant environment.

Modular Design

The MT9090A features a modular design allowing modules to be easily changed in the field. Users can interchange different OTDR modules or perform other optical network testing such as optical channel analysis with the available CWDM channel analyzer module or 10/100/1000 MB Ethernet testing on optical or electrical links. Operation is quite similar between modules so the user is immediately familiar with operation.



4.3-inch Wide Screen Display for Easy Viewing

The high resolution, full color, 4.3-inch wide screen display is the perfect format for viewing OTDR results. It also provides excellent readability both indoors and outdoors.

Integrated Launch Fiber

To further simplify testing, the MU909014x/15x series is the only handheld OTDR that features an integrated launch cable. A ten meter (30 feet) fiber is built-in so initial fiber connections can be verified without the need for additional patchcords or launch fibers.

Reliable. Capable.

When buying products, you tend to choose ones that are innovative and from established companies. When you need to install and maintain optical networks, this should also apply. With over 50 years of combined OTDR design, Anritsu, which now includes NetTest, delivers the features that matter. Having been in the test and measurement business for a long time, we understand the importance of performance, portability, reliability, easy operation and of course price.



Event Table with User Defined Thresholds

PASS/FAIL thresholds for key acceptance criteria such as splice loss, reflectance and total span loss can be set in the MT9090A allowing technicians to easily assess a fiber's condition. Failing values are clearly highlighted in the event table alerting technicians of potential problems.

Unique Battery Operation

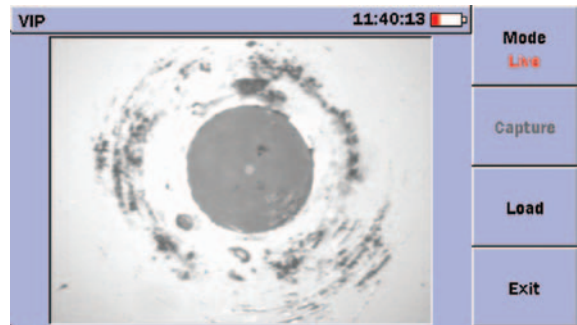
Since AC power is not always available where you need it, especially at fiber pedestals, the MT9090A typically provides 8 hours of testing on a single charge. This coupled with an optional car cigarette lighter cord guarantees the MT9090A is ready when you are. μ OTDR supports widely available NiMH and Alkaline batteries for truly unique battery operation.

Quick Startup

The MT9090A is ready for measurement in under 15 seconds so productive work can start immediately.

Video Inspection Probe Support

When equipped with the optional connector video inspection probe (VIP), the μ OTDR becomes a powerful tool for evaluating connector cleanliness and quality. Connector end faces can be safely viewed and images stored to document all aspects of your network.



Screen Capture Function

Screen shots are sometimes useful for adding to reports so the MT9090A features the ability to save screen shots as Bitmap images.

Functions for FTTx

One μ OTDR module supports FTTx installation and maintenance (PON Power Meter, Loss Test Set, Light Source) in addition to μ OTDR functions. (See page 6 for details.)

Small on price, Not on features!



- 1 4.3-inch high resolution, indoor/outdoor color display
- 2 Dedicated function keys for performing tasks
- 3 Start key for true one-button testing
- 4 Arrow keys for zooming, cursor movement and menu navigation
- 5 Set to select/accept
- 6 Menu key for easy access to set-ups and mass storage
- 7 Visible laser diode*1
- 8 OTDR port*2
- 9 Dual USB ports for quick and easy data transfer

Top View

*1: There are installation restrictions, depending on the model. See the Ordering Information for details.
 *2: The number of ports is different, depending on the model. See the Ordering Information for details.

Installation and Maintenance Simplified

Since the MT9090A is designed for technicians of any level, its hardware and user interface are optimized for simplicity. A customizable testing sequence and “Full Auto” mode automates testing and guides novice users. Specialized maintenance wavelengths are also available to eliminate equipment damage and transmission interruptions.

Installation Simplified

The MU909014x/15x μ OTDR Module series provides easy and accurate verification of fiber installations at 1310 nm & 1550 nm to ensure your network is ready for any transmission type. The user simply connects the fiber, selects “Full Auto” and presses “Start” - all settings are automatically selected to ensure accurate and constant results for any skill level. Upon completion, all key fiber characteristics are displayed within seconds. Experienced users can also “fine tune” all testing parameters and make manual measurements.

- Step 1 – Connect fiber and Power on
- Step 2 – Select “Full Auto” and Press “Start”

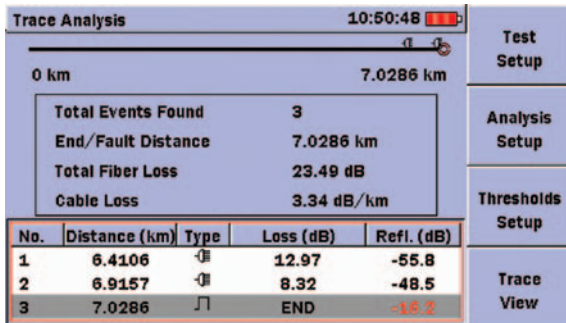
All testing parameters are automatically selected.



*: The screen items depend on the selected module.

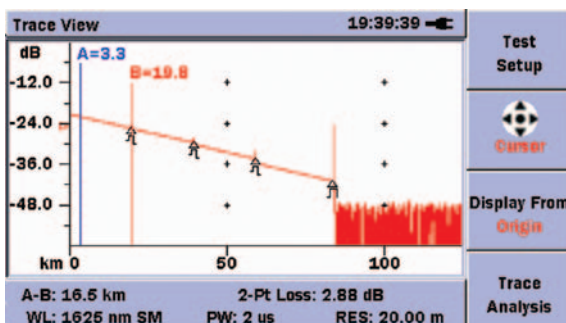
Step 3 – Read Results

Test results including all splices and connectors, as well as total fiber length and loss are shown in an easy to read table.



Step 4 – View Trace

View trace if desired to see the complete fiber trace and make any manual measurements.



Maintenance Simplified

Being able to test active fibers is a key requirement for network maintenance since multiple users often share portions of the network and taking them all out of service is not an option. To address this need, special modules are available in the MT9090A μ OTDR series. 1650 nm is recommended by the ITU-T L.41 for active maintenance since it features 100 nm of isolation from the nearest 1550 nm transmission wavelength. The 1650 nm OTDR also features an integrated filter to block transmissions from damaging the OTDR. 1625 nm is also available and can be used for in-service testing or as an “extra” test to verify installation for stresses such as macrobends.

Network Documentation Simplified

Simple Data Storage

With internal data storage plus support for external USB memory devices, the MT9090A is more than capable. Add to this auto file saving and naming for easy, error-free documenting of your network.

Common OTDR Data Format

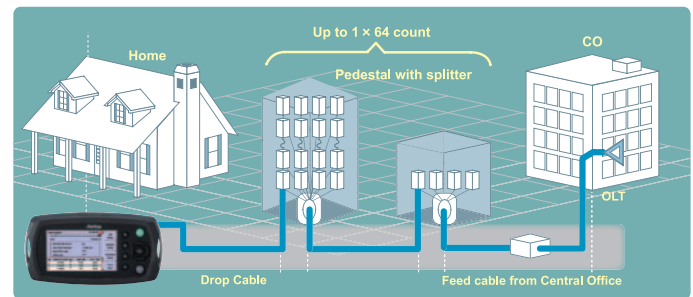
The MT9090A supports the universal Telcordia SR-4731 format making it compatible with not only legacy Anritsu and NetTest products, but with many other vendors data.

Easy “Drag and Drop” File Transfers

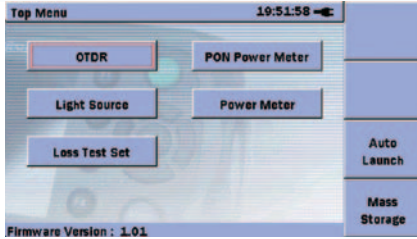
When the MT9090A is connected to a PC via a USB cable, the internal memory can be directly accessed. Data can be selected, dragged and dropped into the PC memory, greatly simplifying file transfers. The MT9090A also supports the use of USB memory sticks.

Free and Simple Software Upgrades

Firmware upgrades are easily performed via USB and available from the Anritsu website for registered users or through Anritsu customer support.



All-in-one FTTx Installation and Maintenance Functions



There are three types of μ OTDR module: single wavelength (1625 nm or 1650 nm) for the FTTx maintenance market including Metro networks, dual wavelength (1310 nm/1550 nm) for the installation market, and triple wavelength for both these markets.

These all-in-one μ OTDR modules support every function required at fiber installation and maintenance, as well as OTDR functions. The PON Power Meter and Power Meter are ideal for loss measurements required for quality measurements and basic fault tests.

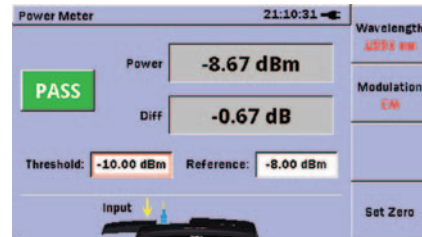
PON Power Meter (1490 nm/1550 nm)

Generally, PON communications use three wavelengths: 1310 nm, 1490 nm, and 1550 nm. Data (1490 nm) and video (1550 nm) signals are sent to subscribers through one optical fiber but a general-purpose optical power meter cannot separate the two wavelengths, making it difficult to locate faults using optical level measurements. The PON Power Meter can identify and measure the two 1490 nm and 1550 nm signals to support PASS/FAIL evaluations based on a set threshold and reference value. Additionally, power measurements and μ OTDR tests are quick and easy without changing the optical fiber because the PON Power Meter port is shared with the μ OTDR function.



Power Meter

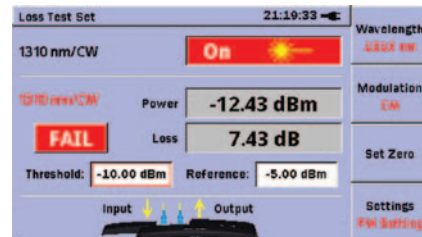
The simple power meter function is ideal for checking optical levels to confirm a fault occurrence using total received power. Setting a threshold and reference value makes PASS/FAIL evaluation easy too. In addition, power measurements and μ OTDR tests are quick and easy without changing the optical fiber, because the Power Meter port is shared with the μ OTDR.



Loss Test Set

Combining the μ OTDR module light source with the Power Meter supports use as a Loss Test Set.

The loss at both 1310 nm and 1550 nm can be measured with one μ OTDR by looping-back the optical fiber. And both modulation (270 Hz, 1 kHz, 2 kHz) and CW signals are supported. Just setting the threshold and reference value makes PASS/FAIL evaluation easy.



Light Source

The μ OTDR module can be used as a light source to identify an optical fiber and measure the loss by connecting an optical fiber identifier and optical power meter at the other end of the fiber. Since all wavelengths are shared by one μ OTDR port, the fiber identification, loss, and μ OTDR measurements can all be performed as a single task without changing the fiber connection. Both modulation (270 Hz, 1 kHz, 2 kHz) and CW signals are supported.



Visible Laser Diode

The optional visible red LD light source makes it easy to spot faults in splices and connectors and well as to manage fibers.



- *: The PON Power Meter, Light Source, Power Meter, Loss Test Set, and Visible Laser Diode functions have different menus, depending on the selected module. See the Ordering Information for details.
- *: The Visible Laser Diode is operated from the μ OTDR and Power Meter menus.
- *: The screen items depend on the selected module.

Specifications

MT9090A Mainframe

Dimensions and Mass	190 (W) × 96 (H) × 48 (D) mm (7.5" × 3.8" × 1.9") (including Mainframe and Module) <700 g (1.54 lbs.) (including Mainframe, Module and Standard battery)
Display	4.3-inch TFT Color LCD (480 × 272 pixels, Transmissive)
Interface	USB 1.1, Type A × 1 (memory), Type B × 1 (USB mass storage)

μOTDR Module Common (MU909014C/C6, MU909015C/C6, MU909014A/A1/B/B1 and MU909015B/B1, MU909015A6)

Fiber Type	10 μm/125 μm SMF (ITU-T G.652)
Optical Connector	FC/SC/DIN adapter are changeable
Distance Range	0.5, 1, 2.5, 5, 10, 25, 50, 75, 125, 250 km (IOR=1.500000)
Pulse Width	5, 10, 20, 50, 100, 200, 500 ns, 1, 2, 5, 10, 20 μs
Linearity	Which ever is greater ±0.05 dB/dB or ±0.1 dB
Return Loss Measurement Accuracy*1	±2 dB
Distance Measurement Accuracy	±1 m ±3 × Measurement distance × 10 ⁻⁵ ±Marker resolution (excluding IOR uncertainty)
Data Storage	Internal memory: 40 MB (<1,000 traces) External (USB Memory): 1GB (<30,000 traces)
IOR Setting	1.3000 to 1.7000 (0.0001 steps)
Units	km, m, kft, ft, mi
Other Functions	Integrated launch fiber: 10 m (30ft) Connection check: Automatic check of OTDR to FUT connection quality Live fiber detect: Verifies presence of communication light in fiber Real time sweep: <1 sec (typ.)
Language	User selectable (English, Simplified Chinese, Traditional Chinese, Korean, Japanese, French, German, Italian, Spanish, Polish, Portuguese, Finnish, Danish, Swedish, Spanish (Latin America) and Russian)
Power Supply	9 V (dc), 100 V (ac) to 240 V (ac), Allowable Input voltage range: 90 V (ac) to 264 V (ac), 50 Hz/60 Hz
Fiber Event Analysis	Automatic, Displayed in table format based on user defined PASS/FAIL thresholds
Loss Measurement Modes	2-point loss, Splice loss, dB/km Loss LSA, ORL, Event
OTDR Trace Format	Telcordia universal (.SOR) issue 2 (SR-4731)
Battery	NiMH (Standard battery), NiMH (AA Type), Alkaline Dry Battery (AA Type)*2 Operating time (Standard battery): 8 hours (typ.)*3, Telcordia GR-196-CORE Issue2, September 2010 Recharging time: <4 hours (typ.)*4
EMC	EN61326-1, EN61000-3-2

MU909014C/C6 and MU909015C/C6 μOTDR Module

Model Name		MU909015C/C6-057	MU909015C/C6-058	MU909014C/C6-057	MU909014C/C6-058
Center Wavelength*5		1310/1550±20 nm*6 1625±15 nm	1310/1550±20 nm*6 1650±15 nm	1310/1550±20 nm*6 1625±15 nm	1310/1550±20 nm*6 1650±15 nm
Dynamic Range*7, *8	PW=20 μs	38 dB/37 dB/35 dB*9, *10	38 dB/37 dB/35 dB*9, *10	32.5 dB/31 dB/32.5 dB*9, *11	32.5 dB/31 dB/32.5 dB*9, *11
	PW=500 ns	27 dB/26 dB/25 dB*9, *10	27 dB/26 dB/24 dB*9, *10	24.5 dB/23 dB/24 dB*9, *11	24.5 dB/23 dB/24 dB*9, *11
Dead Zone*12 (IOR=1.500000)		Fresnel: ≤0.8 m (Typical) Backscatter: ≤4.0 m (1310 nm, Typical), ≤4.5 m (1550/1625/1650 nm, Typical)			
Number of Sampling Points*13		<250,001 pts (Course: <7,501 pts, Medium: <20,001 pts, Fine: <250,001 pts)			
Sampling Resolution		2 cm (min.)			
Testing Modes		OTDR (Full automatic, Manual, Real time), Power Meter, [Video Inspection Probe (Option)] [PON Power Meter, Loss Test Set, Light Source (MU909015C6, MU909014C6)]			
Power Meter		Please refer to the spec "Power Meter"			
PON Power Meter (only for MU909015C6/14C6)		Please refer to the spec "PON Power Meter"			
Light Source (only for MU909015C6/14C6)		Please refer to the spec "Light Source"			
Loss Test Set (only for MU909015C6/14C6)		Please refer to the spec "Loss Test Set"			
Environment		Operating temperature and humidity: -10 to +50°C, <95% (no condensation) Storage temperature and humidity: -30 to +70°C, <95% (no condensation) Vibration: MIL-T-28800E Class 3, Dust and Drip proof: IP51			
Laser Safety*14		IEC Pub 60825-1: 2007 Class 1M, 21CFR1040.10			

MU909014A/A1/B/B1 and MU909015B/B1 μ OTDR Module

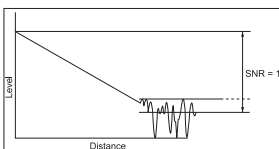
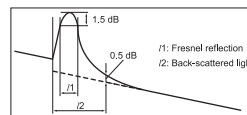
Model name		MU909015B/B1-056	MU909014B/B1-056	MU909014A/A1-053	MU909014A/A1-054
Center Wavelength ^{*5}		1310/1550 \pm 20 nm ^{*6}			1625 \pm 15 nm
Dynamic Range ^{*7, *8}	PW=20 μ s	37 dB/36 dB	32.5 dB/31 dB	32.5 dB ^{*9, *11}	
	PW=500 ns	28 dB/26 dB	24.5 dB/23 dB	24.5 dB ^{*9, *11}	24 dB ^{*9, *11}
Dead Zone ^{*12} (IOR=1.500000)		Fresnel: \leq 1 m Backscatter: \leq 5 m			
Number of Sampling Points ^{*13}		<125,001 pts (Course: <6,251 pts, Medium: <25,001 pts, Fine: <125,001 pts)			
Sampling Resolution		5 cm (min.)			
Testing Modes		OTDR (Full automatic, Manual, Real time), Power Meter, [Visible Fault Locator (Option)], [Video Inspection Probe (Option)]			
Power Meter (only for MU909014B/B1/15B/15B1)		Please refer to the spec "Power Meter"		Not applicable	
Visible Fault Locator (only for MU909014A1/B1/15B1)		Connector: 2.5 mm universal Wavelength: 650 \pm 15 nm (CW, +25°C) Output power: 0 \pm 3 dBm (CW, +25°C) Modulation: CW, 1 Hz			
Environment		Operating temperature and humidity: -5 to +40°C, <80 % (no condensation) Storage temperature and humidity: -20 to +60°C, <80 % (no condensation) Vibration: MIL-T-28800E Class 3, Dust and Drip proof: IP51			
Laser Safety ^{*14}		IEC Pub 60825-1: 2007 Class 1, IEC Pub 60825-1: 2007 Class 1M, IEC Pub 60825-1: 2007 Class 3R (VLD Option), 21CFR1040.10			

MU909015A6 μ OTDR Module

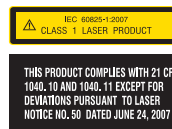
Model Name		MU909015A6-053	MU909015A6-054
Center Wavelength ^{*5}		1625 \pm 15 nm	1650 \pm 15 nm
Dynamic Range ^{*7, *8}	PW=20 μ s	35 dB ^{*9, *10}	
	PW=500 ns	25 dB ^{*9, *10}	24 dB ^{*9, *10}
Dead Zone ^{*12} (IOR=1.500000)		Fresnel: \leq 0.8 m (Typical) Backscatter: \leq 4.5 m (Typical)	
Number of Sampling Points ^{*13}		<250,001 pts (Course: <7,501 pts, Medium: <20,001 pts, Fine: <250,001 pts)	
Sampling Resolution		2 cm (min.)	
Testing Modes		OTDR (Full automatic, Manual, Real time), Power Meter, [Video Inspection Probe (Option)] [PON Power Meter, Light Source]	
Power Meter		Please refer to the spec "Power Meter"	
PON Power Meter		Please refer to the spec "PON Power Meter"	
Light Source		Please refer to the spec "Light Source"	
Environment		Operating temperature and humidity: -10 to +50°C, <95 % (no condensation) Storage temperature and humidity: -30 to +70°C, <95 % (no condensation) Vibration: MIL-T-28800E Class 3, Dust and Drip proof: IP51	
Laser Safety ^{*14}		IEC Pub 60825-1: 2007 Class 1, 21CFR1040.10	

- *1: Design assurance. Distance range: 25 km, Pulse width: 2 μ s, 20 km open the fiber-end. BSC: -78.5 (1310 nm), -81.5 (1550 nm), -82.5 (1625 nm/1650 nm)
- *2: All specifications are guaranteed by standard battery.
- *3: Back light low, Sweeping halted, +25°C
- *4: +10 to +30°C, Power off
- *5: At +25°C, 1 μ s, except charging battery
- *6: Typical value, \pm 25 nm is Guaranteed
- *7: Typical value, Distance range: 125 km, Averaging: 180 sec, SNR=1, +25°C, Except while charging battery, Subtract 1 dB for guarantee
- *8: Dynamic range (one-way back-scattered light)
SNR=1: The level difference between the RMS nose level and the level where near end back-scattering occurs.

- *9: 1490 nm/1550 nm cut filter included (1625 nm or 1650 nm port)
- *10: Specified without background light (1625 nm, 1650 nm)
- *11: In service Signal is -20 dBm (CW) at 1310 nm/1550 nm
- *12: Return Loss 45 dB, +25°C
Fresnel: PW=5 ns, 1.5 dB down from the peak of Fresnel
Backscatter: PW=5 ns, Deviation \pm 0.5 dB



- *13: Either medium and fine density value is selected depends on distance range
- *14: Safety measures for laser products
This option complies with optical safety standards, in Class 1, 1M, 3R of IEC 60825-1; the following descriptive labels are affixed to the product.



Other Functions

Light Source

Models	MU909015C6/14C6, MU909015A6
Wavelength*15	1310/1550±25 nm (MU909015C6/14C6) 1625±25 nm (MU909015C6/14C6-057, MU909015A6-053) 1650±25 nm (MU909015C6/14C6-058, MU909015A6-054)
Fiber Type	10 μm/125 μm SMF (ITU-T G.652)
Output port	Shared with OTDR port
Output power*15, *16	-5±1.5 dBm
Output stability*17	≤0.2 dB
Modes of Operation	CW, 270 Hz, 1 kHz, 2 kHz
Laser Safety	Same as OTDR

Power Meter

Models	MU909015C6/14C6, MU909015A6	MU909015C/14C	MU909015B/B1, MU909014B/B1
Wavelength	1310/1490/1550/1625/1650 nm	1310/1490/1550 nm	1310/1490/1550/1625/1650 nm
Fiber Type	10 μm/125 μm SMF (ITU-T G.652)		
Measurement range*18	-50 to +26 dBm (CW) -40 to +13 dBm (270 Hz, 1 kHz, 2 kHz)	-50 to -5 dBm (CW)	
Measurement port	Shared with OTDR port (1625 nm or 1650 nm OTDR port)	Shared with OTDR port (1310 nm/1550 nm OTDR port)	
Measurement Accuracy*19	±0.5 dB		
Modes of Operation	CW, 270 Hz, 1 kHz, 2 kHz	CW	

PON Power Meter (1490 nm/1550 nm)

Models	MU909015C6/14C6, MU909015A6
Wavelength	1490 nm/1550 nm
Fiber Type	10 μm/125 μm SMF (ITU-T G.652)
Measurement range	-50 to +13 dBm (1490 nm, CW) -50 to +26 dBm (1550 nm, CW)
Measurement port	Shared with OTDR port (1625 nm or 1650 nm)
Measurement Accuracy*20	±0.5 dB
Isolation*21	1490 nm: >35 dB, 1550 nm: >50 dB

Loss Test Set

Models	MU909015C6/14C6
Fiber Type	10 μm/125 μm SMF (ITU-T G.652)
Measurement port	Light Source: Shared with OTDR port (1310 nm/1550 nm OTDR port) Power Meter: Shared with OTDR port (1625 nm or 1650 nm OTDR port)
Light Source	
Wavelength	1310±25 nm, 1550±25 nm
Output Power*15, *16	-5±1.5 dBm (CW, 25°C)
Output stability*17	≤0.2 dB
Modes of Operation	CW, 270 Hz, 1 kHz, 2 kHz
Laser Safety	Same as OTDR
Power Meter	
Wavelength	1310/1490/1550/1625/1650 nm
Measurement range*18	-50 to +26 dBm (CW) -40 to +13 dBm (270 Hz, 1 kHz, 2 kHz)
Measurement Accuracy*19	±0.5 dB
Modes of Operation	CW, 270 Hz, 1 kHz, 2 kHz

*15: At +25°C, CW

*16: Fiber length 2 m, after the warm-up.

*17: Wavelength 1310 nm/1550 nm, CW, ±1°C at one point within -10 to +50°C, deference between the largest value and shortest value for one minute, single mode fiber 2 m, when the optical power meter with return loss of 40 dB or more is used. After the warm-up time (10 minutes) passed.

*18: At 1550 nm

*19: 1310 nm/1490 nm/1550 nm, CW, -20 dBm, 25°C, on master connector fiber (FC) use, after zero offset execution.

*20: 1490 nm/1550 nm, CW, -20 dBm, +25°C, on master connector fiber (FC) use, after zero offset execution.

*21: Design assurance.

Ordering information

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

The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

1) Select Mainframe

Model/Order No.	Description
MT9090A	Mainframe (with color LCD)

2) Select Base Module

Model/Order No.	Description
MU909014A*1	μOTDR (Single wavelength, 30 dB class OTDR)
MU909014A1*1	μOTDR (Single wavelength, 30 dB class OTDR with VLD)
MU909015A6*2	μOTDR (Single wavelength, 35 dB class OTDR with PM, PON-PM and LS)
MU909014B*1	μOTDR (2-wavelength, 30 dB class OTDR)
MU909014B1*1	μOTDR (2-wavelength, 30 dB class OTDR with VLD)
MU909015B*1	μOTDR (2-wavelength, 35 dB class OTDR)
MU909015B1*1	μOTDR (2-wavelength, 35 dB class OTDR with VLD)
MU909014C*3	μOTDR (3-wavelength, 30 dB class OTDR)
MU909014C6*3	μOTDR (3-wavelength, 30 dB class OTDR with PM, PON-PM, LTS and LS)
MU909015C*3	μOTDR (3-wavelength, 35 dB class OTDR)
MU909015C6*3	μOTDR (3-wavelength, 35 dB class OTDR with PM, PON-PM, LTS and LS)

*1: One μOTDR port (any of 1310 nm/1550 nm, 1625 nm, 1650 nm) and visible light source (option) (Fig. 1)

*2: One μOTDR port (1625 nm or 1650 nm) (Fig. 2)

*3: Two μOTDR ports (1310 nm/1550 nm, and 1625 nm or 1650 nm) (Fig. 3)



Fig. 1



Fig. 2



Fig. 3

3) Select Module, Connector Interface and Testing Options

Includes operation manual, quick reference guide, battery pack, AC charger/adaptor, standard soft case and strap.

Model/Order No.	Description	PM*1	PON-PM*2	LTS*3	LS*4	VLD*5
Installation and Maintenance Models						
MU909014C-057	μOTDR (1310/1550/1625 nm, 32.5/31/32.5 dB, UPC)	✓				
MU909014C-058	μOTDR (1310/1550/1650 nm, 32.5/31/32.5 dB, UPC)	✓				
MU909015C-057	μOTDR (1310/1550/1625 nm, 38/37/35 dB, UPC)	✓				
MU909015C-058	μOTDR (1310/1550/1650 nm, 38/37/35 dB, UPC)	✓				
MU909014C6-057	μOTDR (1310/1550/1625 nm, 32.5/31/32.5 dB, UPC)	✓	✓	✓	✓	
MU909014C6-058	μOTDR (1310/1550/1650 nm, 32.5/31/32.5 dB, UPC)	✓	✓	✓	✓	
MU909015C6-057	μOTDR (1310/1550/1625 nm, 38/37/35 dB, UPC)	✓	✓	✓	✓	
MU909015C6-058	μOTDR (1310/1550/1650 nm, 38/37/35 dB, UPC)	✓	✓	✓	✓	
General Purpose Models						
MU909014B-056	μOTDR (1310/1550 nm, 32.5/31 dB, UPC)	✓				
MU909014B1-056	μOTDR (1310/1550 nm, 32.5/31 dB, UPC)	✓				✓
MU909015B-056	μOTDR (1310/1550 nm, 37/36 dB, UPC)	✓				
MU909015B1-056	μOTDR (1310/1550 nm, 37/36 dB, UPC)	✓				✓
Maintenance Models						
MU909014A-053	μOTDR (1625 nm, 32.5 dB, UPC)					
MU909014A1-053	μOTDR (1625 nm, 32.5 dB, UPC)					✓
MU909014A-054	μOTDR (1650 nm, 32.5 dB, UPC)					
MU909014A1-054	μOTDR (1650 nm, 32.5 dB, UPC)					✓
MU909015A6-053	μOTDR (1625 nm, 35 dB, UPC)	✓	✓		✓	
MU909015A6-054	μOTDR (1650 nm, 35 dB, UPC)	✓	✓		✓	

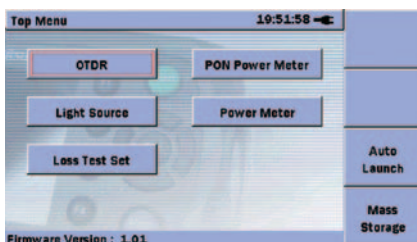
*1: PM (Power Meter) function shared with μOTDR port.

*2: PON-PM (PON Power Meter) shared with 1625 or 1650-nm μOTDR port. Identifies and measures 1490 and 1550-nm wavelengths.

*3: LTS (Loss Test Set) function for measuring 1310/1550-nm wavelengths. Light source shared with 1310/1550-nm μOTDR port. Power meter shared with 1625 or 1650-nm μOTDR port.

*4: LS (Stabilized Light Source) shared with OTDR for each wavelength.

*5: VLD (Visible Laser Diode) function with visible light source port operated from OTDR or Power Meter.



Top Menu differs with selected module

4) Select Connector Adapter

One adapter included at no charge – must be added as a separate line item.

Model/Order No.	Description
MU909014A/B/C-037 MU909015A/B/C-037	FC Connector (UPC: Models -053, 054, 056, 057 and -058)
MU909014A/B/C-039 MU909015A/B/C-039	DIN 47256 Connector (UPC: Models -053, 054, 056, 057 and -058)
MU909014A/B/C-040 MU909015A/B/C-040	SC Connector (UPC: Models -053, 054, 056, 057 and -058)

5) Select Accessories

Must be added as separate line items.

Model/Order No.	Description
Z1580A*1	Protector & Soft Case
B0663A*2	Protector
G0203A	AC Adapter (for Replacement)
G0202A	NiMH battery pack (for Replacement)
B0602A	Deluxe Soft Case (for MT9090A)
B0601B	Standard Soft Case
B0600B	Hard Case (for MT9090A)
Z1023A	Strap
J1402A	Car Plug Cord
J1530A	SC Plug-in Converter (UPC(P)-APC(J))
J1531A	SC Plug-in Converter (APC(P)-UPC(J))
J1532A	FC Plug-in Converter (UPC(P)-APC(J))
J1533A	FC Plug-in Converter (APC(P)-UPC(J))
J1534A	LC-SC Plug-in Converter (for SM, SC(P)-LC(J))
J1535A	LC-SC Plug-in Converter (for MM, SC(P)-LC(J))
W3585AE	MU909014C/C6, MU909015A6/C/C6 Quick Reference Guide (English, Printed)
W3415AE	MT9090A/MU909014x/15x Quick Reference Guide (English, Printed)
W3586AE	MU909014C/C6, MU909015A6/C/C6 Operation Manual (English, Printed)
W3416AE	MT9090A/MU909014x/15x Operation Manual (English, Printed)
Z1579A	MU909014C/C6, MU909015A6/C/C6 Operation Manual (English and Japanese, Electronic (CD-R))
Z1547A	MU909014x/15x Operation Manual (English and Japanese, Electronic (CD-R))
G0293A	Video Inspection Probe Lite
OPTION-545VIP	Connector Inspection Microscope
Networks	PC Emulation Software for Data Analysis and Reporting

*1: The protector (B0663A) and standard soft case (B0601B) from a set. The protector includes a shoulder strap.

*2: The shoulder strap can be used to hang the instrument around the neck while working.

6) Replacement Adaptors

Must be added as separate line items.

Model/Order No.	Description
J0617B	FC (UPC: Models -053, -054, -056, -057, -058)
J0618E	DIN (UPC: Models -053, -054, -056, -057, -058)
J0619B	Replaceable Optical Connector SC (UPC: Models -053, -054, -056, -057, -058)



B0601B Standard Soft Case

This standard accessory accommodates the mainframe with fitted protector.



B0602A Deluxe Soft Case

Full Network Master operation without removal from the case. Provides excellent protection for use in harsh conditions. This does not accommodate the mainframe if the protector is fitted.



B0600B Hard Case

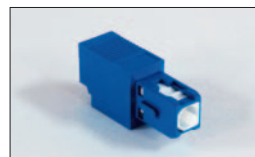
This accommodates two mainframes (with or without fitted protector), accessories (light source or power meter, backup battery, fiber cleaner, etc.).



Mainframe with Protector

B0663A Protector

The mainframe with fitted protector.



J1530A to J1535A

Plug-in Converter
(The photo shows the J1534A)

MT9090 Series Network Master

MU909011A Fault Locator Module

Compact fault locator instrument for an easy and accurate verification of drop cable installation.

MU909020A OCA Module

Compact CWDM channel analyzer to verify power levels, drift and channel presence of CWDM networks.

MU909060A GigE Module

Dedicated field test solution for installation and troubleshooting Ethernet links in the access network.



CMA5000a Multi-Layer Network Test Platform

A wide selection of test modules including Gigabit Ethernet and 10 Gbps Ethernet.



CMA5 Series

For Optical Fiber Installation and Maintenance.



MT9083 Series

ACCESS Master Mini-OTDR

All-in-one test tool for fiber construction and maintenance.



CMA 3000

All-in-one Field Tester

Test of many interfaces including Ethernet



Anritsu

Specifications are subject to change without notice.

• United States

Anritsu Company

1155 East Collins Blvd., Suite 100, Richardson,
TX 75081, U.S.A.
Toll Free: 1-800-267-4878
Phone: +1-972-644-1777
Fax: +1-972-671-1877

• Canada

Anritsu Electronics Ltd.

700 Silver Seven Road, Suite 120, Kanata,
Ontario K2V 1C3, Canada
Phone: +1-613-591-2003
Fax: +1-613-591-1006

• Brazil

Anritsu Eletrônica Ltda.

Praça Amadeu Amaral, 27 - 1 Andar
01327-010 - Bela Vista - São Paulo - SP - Brazil
Phone: +55-11-3283-2511
Fax: +55-11-3288-6940

• Mexico

Anritsu Company, S.A. de C.V.

Av. Ejército Nacional No. 579 Piso 9, Col. Granada
11520 México, D.F., México
Phone: +52-55-1101-2370
Fax: +52-55-5254-3147

• United Kingdom

Anritsu EMEA Ltd.

200 Capability Green, Luton, Bedfordshire, LU1 3LU, U.K.
Phone: +44-1582-433200
Fax: +44-1582-731303

• France

Anritsu S.A.

12 avenue du Québec, Bâtiment Iris 1- Silic 612,
91140 VILLEBON SUR YVETTE, France
Phone: +33-1-60-92-15-50
Fax: +33-1-64-46-10-65

• Germany

Anritsu GmbH

Nemetschek Haus, Konrad-Zuse-Platz 1
81829 München, Germany
Phone: +49-89-442308-0
Fax: +49-89-442308-55

• Italy

Anritsu S.r.l.

Via Elio Vittorini 129, 00144 Roma, Italy
Phone: +39-6-509-9711
Fax: +39-6-502-2425

• Sweden

Anritsu AB

Borgarfjordsgatan 13A, 164 40 KISTA, Sweden
Phone: +46-8-534-707-00
Fax: +46-8-534-707-30

• Finland

Anritsu AB

Teknobulevardi 3-5, FI-01530 VANTAA, Finland
Phone: +358-20-741-8100
Fax: +358-20-741-8111

• Denmark

Anritsu A/S (Service Assurance)

Anritsu AB (Test & Measurement)

Kay Fiskers Plads 9, 2300 Copenhagen S, Denmark
Phone: +45-7211-2200
Fax: +45-7211-2210

• Russia

Anritsu EMEA Ltd.

Representation Office in Russia

Tverskaya str. 16/2, bld. 1, 7th floor.
Russia, 125009, Moscow
Phone: +7-495-363-1694
Fax: +7-495-935-8962

• United Arab Emirates

Anritsu EMEA Ltd.

Dubai Liaison Office

P O Box 500413 - Dubai Internet City
Al Thuraya Building, Tower 1, Suit 701, 7th Floor
Dubai, United Arab Emirates
Phone: +971-4-3670352
Fax: +971-4-3688460

• Singapore

Anritsu Pte. Ltd.

60 Alexandra Terrace, #02-08, The Comtech (Lobby A)
Singapore 118502
Phone: +65-6282-2400
Fax: +65-6282-2533

• India

Anritsu Pte. Ltd.

India Branch Office

2nd & 3rd Floor, #837/1, Binnamangla 1st Stage,
Indiranagar, 100ft Road, Bangalore - 560038, India
Phone: +91-80-4058-1300
Fax: +91-80-4058-1301

• P.R. China (Shanghai)

Anritsu (China) Co., Ltd.

Room 1715, Tower A CITY CENTER of Shanghai,
No.100 Zunyi Road, Chang Ning District,
Shanghai 200051, P.R. China
Phone: +86-21-6237-0898
Fax: +86-21-6237-0899

• P.R. China (Hong Kong)

Anritsu Company Ltd.

Unit 1006-7, 10/F., Greenfield Tower, Concordia Plaza,
No. 1 Science Museum Road, Tsim Sha Tsui East,
Kowloon, Hong Kong, P.R. China
Phone: +852-2301-4980
Fax: +852-2301-3545

• Japan

Anritsu Corporation

8-5, Tamura-cho, Atsugi-shi, Kanagawa, 243-0016 Japan
Phone: +81-46-296-1221
Fax: +81-46-296-1238

• Korea

Anritsu Corporation, Ltd.

502, 5FL H-Square N B/D, 681
Sampyeong-dong, Bundang-gu, Seongnam-si,
Gyeonggi-do, 463-400 Korea
Phone: +82-31-696-7750
Fax: +82-31-696-7751

• Australia

Anritsu Pty. Ltd.

Unit 21/270 Ferntree Gully Road, Notting Hill,
Victoria 3168, Australia
Phone: +61-3-9558-8177
Fax: +61-3-9558-8255

• Taiwan

Anritsu Company Inc.

7F, No. 316, Sec. 1, NeiHu Rd., Taipei 114, Taiwan
Phone: +886-2-8751-1816
Fax: +886-2-8751-1817