ANRITSU CORPORATION

MU909014C/C6

MU909015A6/C/C6

µOTDR Module

Release Note

Version 2.32

Thank you for choosing the Anritsu MU909014C/C6/15A6/C/C6 µOTDR Module.

This release note explains the functions updated by firmware version 2.32 for the µOTDR Module.

It also provides notes on known software issues and usage precautions.

This release note deals with the firmware whose model name is described in the following:

MU909014C, MU909014C6,

MU909015A6, MU909015C, MU909015C6

NOTE: Your µOTDR Module has unique firmware version depending on the model type you purchased. If your model name is found in the following, please download the relevant firmware. This document does not cover the firmware for the following models.

MU909014A, MU909014A1, MU909014B, MU909014B1,

MU909015B, MU909015B1

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1. Release Software and Manuals

This upgrade contains the following µOTDR Series software and manuals.

Download File Name	Version
MU909014C/C6/15A6/C/C6 Firmware Version	2.32
Operation Manual	Edition
MU909014A/A1/B/B1/C/C6 MU909015A6/B/B1/C/C6 Operation Manual	19.0

2. Target Models

This firmware supports the following models in the MU909014C/C6/15A6/C/C6.

MU909014C, MU909014C6,

MU909015A6, MU909015C and MU909015C6

3. Version Information

This table shows the firmware version. Confirm the firmware version of your

MU909014C/C6/15A6/C/C6 at the Self Test screen.

Product Name	Version
MU909014C/C6/15A6/C/C6 Firmware Update File	2.32

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4. New Features

Function added and changed by upgrading the firmware version from 2.31 to 2.32.

> ➢ None

Function added and changed by upgrading the firmware version from 2.30 to 2.31.

> ➢ None

Function added and changed by upgrading the firmware version from 2.29 to 2.30.

> ➢ Added selectable pulse width in distance range of 1 to 50 km.
>
> Please refer to the operation manual for combination.

Function added and changed by upgrading the firmware version from 2.28 to 2.29.

> ➢ None

Function added and changed by upgrading the firmware version from 2.27 to 2.28.

> ➢ None

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Function added and changed by upgrading the firmware version from 2.25 to 2.27.

- ➢ Supported the G0306B video inspection probe. G0306B can be used 60 degrees tip.
- ➢ Fiber Visualizer can output multiple VIP images (up to six) in PDF report.

Function added and changed by upgrading the firmware version from 2.24 to 2.25.

- ➢ None

Function added and changed by upgrading the firmware version from 2.23 to 2.24.

- ➢ The starting point (zero-point) of the measured fiber can be set.
  The starting point can be set by event number or distance. To edit the setting, select [3] tab on the Setup screen. (Offset the relative measurement for setting by distance.)
- ➢ A non-reflective event value with the largest loss can be output as Max Splice for summary. "—" is output when no non-reflective event exists.

Function added and changed by upgrading the firmware version from 2.22 to 2.23.

- ➢ The summary of the measurement results can be output in text format from the selected SOR file(s).
  The summary includes below.
  - ・ The header information such as measuring instrument name, time and date, etc.
  - ・ Wavelength and total fiber loss, event number, etc.
  To create a summary, press the Menu key on the Top menu to select Create Summary.
- ➢ The header information can be saved in SOR or XML files.
  Cable ID, Location, Direction, etc. can be input as the header information.
  The Header Input screen is displayed when Header (F2 key) is pressed on the Save screen.
- ➢ When turn Off the power, POWERING DOWN is displayed on the screen.
- ➢ The Event Edit function of Fiber Visualizer allows editing event type(s) regardless of the thresholds on the Analysis Setup screen.
  The reflective, non-reflective, grouped, splitter, and macro bend events can be always changed to any type of splitter event and far-end event.

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Function added and changed by upgrading the firmware version from 2.21 to 2.22.

➢ The following have been made possible by adding the PON configuration settings to the Test Setup screen:

・ Pass/Fail evaluation, by the number of branches in splitter

・ Collective setting of the splitter detection threshold values, by the number of branches, in the Analysis Setup screen.

・ Viewing the number of branches in splitter in the event table

・ Adding the Splitter information to XML file, by the number of branches

➢ Pulse width can be changed automatically when measuring by Full Auto with Fiber Visualizer. Events can be detected more accurately by composing the events detected by each pulse.

➢ Added "ZIP" to Saving Format. SOR files of 2 wavelength measurement can be saved and loaded in a single ZIP file.

➢ Editing Event Type is available while Mode (F2 key): Event Edit is selected on the Events screen of Fiber Visualizer.

➢ Event Loss on the Pass/Fail Setup screen can be set for Reflective event and Non-Reflective event individually.

Function added and changed by upgrading the firmware version from 2.20 to 2.21.

➢ None

Function added and changed by upgrading the firmware version from 2.19 to 2.20.

➢ A folder to save measurement results can be selected for Automatic Saving function.

➢ A file name up to 21 characters can be set for Automatic Saving function.
(Up to 14 characters in Fiber Scope as before)

➢ Some foreign languages are available in Fiber Visualizer.

➢ A Bluetooth device can be recognized automatically when displaying a screen other than the Top menu.

Function added and changed by upgrading the firmware version from 2.18 to 2.19.

➢ None

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Function added and changed by upgrading the firmware version from 2.17 to 2.18.

- ➢ Changed the fonts of Chinese(S).
- ➢ Changed SM PC>45 to SM UPC>45 in the VIP test profile.
- ➢ Changed the VIP report layout below.
    - ・ Removed the individual tables of Probe Model, Tip Type, File Name, and Capture Time, and integrated them into VIP Test Information.
    - ・ Removed Analysis Results from VIP Test Information and added a new table of Analysis Results.
- ➢ Changed the setting range of the Sequence Number in the following screen and tab. The new range is 0 to 9999. Also, changed its default value to 1.
    - ・ The Setup-Auto Save screen (OTDR, Fiber Visualizer, DCFL)
    - ・ The Setup tab (VIP)

Function added and changed by upgrading the firmware version from 2.14 to 2.17.

- ➢ The DCFL function has been added to the Top Menu screen.

    The DCFL function easily locates faults in a drop cable that is used when leading an optical fiber from a telephone pole into the subscriber's home. Only the following models support the DCFL function.

Model	Remarks
MU909014C6-057/-067	Three-wavelength, Light Sourece, PON power meter, Optical Loss Test model
MU909014C6-058/-068	Three-wavelength, Light Sourece, PON power meter, Optical Loss Test model
MU909015C6-057/-067	Three-wavelength, Light Sourece, PON power meter, Optical Loss Test model
MU909015C6-058/-068	Three-wavelength, Light Sourece, PON power meter, Optical Loss Test model
MU909015A6-053/-063	One-wavelength, Light Sourece, PON power meter, Optical Loss Test model
MU909015A6-054/-064	One-wavelength, Light Sourece, PON power meter, Optical Loss Test model

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Function added and changed by upgrading the firmware version from 2.13 to 2.14.

➢ The Fiber Visualizer function has been added to the Top Menu screen.

The Fiber Visualizer function provides splice points and faults in a fiber using graphic icons, for easily locating events in the fiber.

➢ The threshold value for analyzing the splitter can be now set by the number of splits.

The threshold value is automatically set by selecting the number of splits.

➢ The threshold values for analysis and pass/fail evaluation can be now set from the pop-up menu.

For OTDR and Fiber Visualizer, the threshold values can be changed just by selecting **Analysis Setup** or **Pass/Fail Setup** in the pop-up menu.

➢ Inequality signs (>, <) are now not added to Reflectance and ORL calculation results that are less than the threshold values.

Function added and changed by upgrading the firmware version from 2.12 to 2.13.

➢ Made changes to the following defaults:

Auto Back light: 30 sec → 5 min

Auto Power Off: Off → 10 min

Function added and changed by upgrading the firmware version from 2.11 to 2.12.

➢ None

Function added and changed by upgrading the firmware version from 2.10 to 2.11.

➢ None

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Function added and changed by upgrading the firmware version from 1.04 to 2.10.

➢ Pass/fail evaluation of optical fiber end face images has become available on the VIP screen.

End of an optical interconnect can be automatically inspected according to the IEC 61300-3-35 standard. Analysis results can be output in a report format, together with an image, to a PDF file.

➢ Remote control of the mainframe has become available from a control terminal.

For wireless connection, a USB Wi-Fi dongle is required on the mainframe. Also, for wired connection, a USB Ethernet converter is required.

➢ Folder sharing between control terminal and mainframe has become available.

You can also access the shared folders on the PC participating in the domain.

➢ It has become possible to send and receive files via Bluetooth.

Files can be sent, received, and deleted by accessing each other's shared folders from mainframe or control terminal.

➢ Macrobend detection has become available on the OTDR screen.

Macrobend event can be detected by dual-wavelength measurement (1310 nm and 1550 nm).

➢ Dual-wavelength measurement (1310 nm and 1550 nm) has become available on the OTDR screen.

Though the earlier versions required you to manually switch wavelengths, auto wavelength switching during measurement has become available.

➢ It has become possible to select fiber types you want to display on the OTDR screen when setting IOR.

You can display required fiber types only.

➢ The 2-pt Loss (LSA) mode has been added to the OTDR screen.

➢ Password protection of the mainframe has become available at startup.

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Function added and changed by upgrading the firmware version from 1.03 to 1.04.

➢ None

Function added and changed by upgrading the firmware version from 1.02 to 1.03.

➢ None

Function added and changed by upgrading the firmware version from 1.01 to 1.02.

➢ None

Function added and changed by upgrading the firmware version from 1.00 to 1.01.

➢ None

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5. Solved Software Issues

Model Name	Description
MU909014C/C6, MU909015A6/C/C6 Ver. 2.32	➢ Improved the function relating to manufacturing inspection.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.31	➢ Fixed a bug that sometimes unit cannot be saved correctly in ZIP format. ➢ Improved the function relating to manufacturing inspection. ➢
MU909014C/C6, MU909015A6/C/C6 Ver. 2.30	➢ Optimized a Full Auto setting of Fiber Visualizer. ➢ Fixed a bug that the unit is powered off when analyzing on VIP screen. ➢
MU909014C/C6, MU909015A6/C/C6 Ver. 2.29	➢ Fixed a bug that the measurement was not completed on software version 2.28 of MU909015C6-059. ➢
MU909014C/C6, MU909015A6/C/C6 Ver. 2.28	➢ Fixed a bug in which the ORL pass/fail judgment was occasionally incorrect. ➢ Fixed a bug in which the splitter event was not judged pass/fail by OTDR occasionally. ➢ Fixed a bug in which the ORL value was occasionally miscalculated. ➢ Fixed a bug in which the total loss value was occasionally miscalculated. ➢ Optimized a method to calculate the dB/km loss.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.27	➢ Fixed a bug that didn't save VIP settings when the unit was powered off.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.25	➢ Fixed a bug that Italian was not displayed correctly on the Trace Analysis screen. ➢ Fixed a bug that the Total Fiber Loss (Cum.Loss) was miscalculated occasionally when performing measurement with distance range of 10km or under, pulse width of 20ns or under, and resolution of less than 1m. ➢ Fixed a bug that the MT9090A could not be operated occasionally when went back to the top menu during measurement. ➢ Fixed a bug that the measurement result was not judged PASS occasionally even after the pass/fail threshold was changed. ➢ Fixed a bug that the fiber group was not initialized when performing All Defaults on the Test Setup screen.

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Model Name	Description
MU909014C/C6, MU909015A6/C/C6 Ver. 2.24	➢ None.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.23	➢ Fixed the bug that saving ZIP files had an error. ➢ Improved accuracy of detecting far-end events in OTDR measurement.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.22	➢ Fixed the bug that the VFL icon was not displayed on the Setup screen. ➢ Fixed the bug that the dummy fiber was not displayed occasionally when measuring 2 wavelengths. ➢ Fixed the bug that the scroll icon on the right was disabled and the fiber line at the right end was not displayed when selecting the first among three events in Fiber Visualizer. ➢ Fixed the bug that the Summary screen did not appear occasionally even after changing Analysis setup and re-executing Analysis on the Trace View screen of Fiber Visualizer. ➢ Fixed the bug that the events that were actually under the Event Loss threshold on the Analysis Setup screen were detected occasionally. ➢ Distance display on the Events screen became more visible when Color Theme of Fiber Visualizer was set to Night.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.21	➢ Fixed the bug that the screen is white when MT9090A is started by pressing the F1 key.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.20	➢ Fixed the bug that NAN was displayed in the calculation results of all fiber losses. ➢ Changed the increment timing of the sequence start number that is set in the Automatic Saving screen. ➢ Fixed the bug that distance of an event different from the selected one is displayed when changing IOR/BSC by Fiber Visualizer. ➢ Fixed the bug that Fiber Visualizer kept showing the message "Calculation in progress". ➢ Corrected Spanish mistakes. ➢ Fixed the bug that F1 key is disabled when switching languages on the Connection Check screen. ➢ Fixed the bug that the averaging value could not be changed after went back to the Top menu during DCFL measurement.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.19	➢ Fixed the bug that prevented Fiber Visualizer from performing measurement normally when Test Mode was set to Dual WL. ➢ Fixed a bug that the wavelength of F3 key was not displayed normally when Test Mode was set to Dual WL. (model MU909015C-059 only)
MU909014C/C6, MU909015A6/C/C6 Ver. 2.18	➢ Fixed a bug that the characters in PDF report were not output correctly in some languages such as Chinese-Traditional. ➢ Adjusted the size of the range circle for analysis of image captured by G0306A probe, in the VIP screen.

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Model Name	Description
MU909014C/C6, MU909015A6/C/C6 Ver. 2.17	➢ Fixed a bug that the software shuts down after Anritsu logo appears at start-up in rare cases.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.14	➢ Fixed bug that caused this equipment to be connected to a different device when connecting via Bluetooth. ➢ Changed the location to store the password for the Wi-Fi access point so that the user cannot access it. ➢ Fixed bug that could not display an error message when saving an SOR file if there is not enough disk space. ➢ Fixed bug that made the processing load heavy when removing a network device. ➢ Fixed bug that could not normally save a VIP image on the VIP screen. ➢ Fixed bug that changed PASS/FAIL evaluation when switching the language mode from English to Japanese. ➢ Fixed bug that changed the threshold for pass/fail evaluation to an erroneous value when switching the language mode from Japanese to English.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.13	➢ None.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.12	➢ None.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.11	➢ Fixed bug causing a power-down problem when Distance Range, Resolution or Pulse Width was selected on the OTDR screen.
MU909014C/C6, MU909015A6/C/C6 Ver. 2.10	➢ Fixed bug that could not switch the language of on-screen characters sometimes after switching the language. ➢ Fixed bug that could not sometimes write to a USB memory with more than 4 GB storage capacity. ➢ Fixed bug that could not correctly start the module sometimes when the battery power level was approximately 0.
MU909014C/C6, MU909015A6/C/C6 Ver. 1.04	➢ Fixed bug that zeroset is not completed with PON Power Meter. ➢ Fixed bug that zeroset is not completed with Standard Power Meter. ➢ Fixed bug that "Under Range" and "**.*" are switching with Standard Power Meter.
MU909014C/C6, MU909015A6/C/C6 Ver. 1.03	➢ Fixed bug that prevented normal operation, when OTDR measurement is started with MU909015C/C6.
MU909014C/C6, MU909015A6/C/C6 Ver. 1.02	➢ Fixed bug that prevented normal operation, when OTDR measurement is started with MU909014C/C6.
MU909014C/C6, MU909015A6/C/C6 Ver. 1.01	➢ Fixed bug that prevented correct wavelength output at OTDR screen, after switching wavelength and turning the light source ON at light source screen.

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6. Known Problems

Firmware version 2.32 for the MU909014C/C6/15A6/C/C6 contains the following known problems:

Model Name	Description
MU909014C/C6, MU909015A6/C/C6	➢ None

7. Cautions

Read the following terms and conditions carefully before using the MU909014C/C6/15A6/C/C6.

Model Name	Description

MU909014C/C6,
MU909015A6/C/C6
	➢ Some commercially available USB memory may not be supported.
	  Refer to Section 8. Upgrade Precautions for details of USB memory supported by Anritsu.
	➢ BEFORE upgrading the firmware, ALWAYS read the
	  MU909014C/C6/15A6/C/C6 Series Network Master Firmware Upgrade Procedure and the MU909014C/C6/15A6/C/C6 Series Operation Manual.

List of verified compatible USB device.

USB Ethernet Converter	
Planex	UE-100TX-G3
USB Wi-Fi dongle	
BUFFALO	WLI-UC-GNM
I-O DATA	WN-G300U
Logitec	LAN-W150N/U2
	LAN-W300N/U2
Sitecom	WL-329
	WL-345
	WLA-4000
USB Bluetooth dongle	
BUFFALO	BSHSBD04BK
	BSHSBD05BK
	BSHSBD08BK
IOGEAR	GBU421
Logitec	LBT-UAN01C1
Planex	BT-Micro3H2X
	BT-MicroEDR1X
Sanwa Supply	MM-BTUD27
Targus	ACB20EU
Technika	NBA111

8. Upgrade Precautions

Download the newest firmware from the following URL.

➢ http://www.anritsu.com/en-US/Products-Solutions/Products/MU909014C-14C6-15C-1
5C6.aspx

• Anritsu has confirmed compatibility with USB memory from the makers listed in the
following table. If your USB memory is not recognized by the MT9090A, please purchase
one of the supported media types.

Manufacturer	Model/capacity
Sony	POCKET BIT/32MB
Sony	POCKET BIT 512MB Turbo
GREEN HOUSE	PicoDrive/64 MB
TOSHIBA	TransMemory/256 MB
TOSHIBA	TransMemory/512 MB
ADTEC	DATASTICK/64 MB
Princeton	X i a o Jr./64 MB
BUFFALO	RUF2 - E1G - B/512MB
I-O DATA	ToteBag/512MB
Scan Disk	Cruzer Micro with Skins USB Flash Drive/256MB
imation	Flash Drive Mini with swivel cap/256MB
Transcend	JetFlash / 256MB

• NEVER remove the USB memory inserted into the MT9090A while updating, otherwise the
firmware update will fail, leaving the MT9090A unable to restart.

• When updating the firmware, do not press any key on the MT9090A, otherwise the
firmware update may fail, leaving the MT9090A unable to restart.

• When updating the firmware, do not turn off the power to the MT9090A, otherwise the
firmware update will fail, leaving the MT9090A unable to restart.

• When updating the firmware, do not remove the AC adapter plug from the MT9090A,
otherwise the firmware update may fail, leaving the MT9090A unable to restart.

If the firmware update fails and the MT9090A cannot restart, please contact our Anritsu sales
representative.