

Anritsu Advancing beyond

Network Master™ Series

Network Master Pro MT1040A

400G (QSFP-DD) Multirate Module	MU104014B
400G (OSFP) Multirate Module	MU104015A
100G Multirate Module	MU104011A/MU100011A
10G Multirate Module	MU100010A1
OTDR Module	MU100020A/MU100021A/MU100022A/MU100023A



Contents

The MT1040A is configured as a combination of various measurement modules.
It is designed to support a combination of selected measurement modules and options with the main unit.

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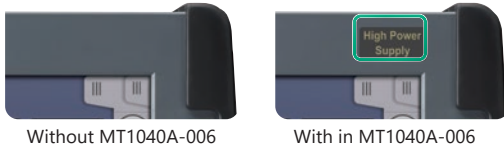
Network Master Pro MT1040A Main Frame

Network Master Pro MT1040A: Main Frame

The Network Master Pro MT1040A is a multiplatform designed for field testing that is configured using a combination of transport and optical. The Main Frame controls the test modules which can be changed freely to any custom configuration matching the users testing requirements.

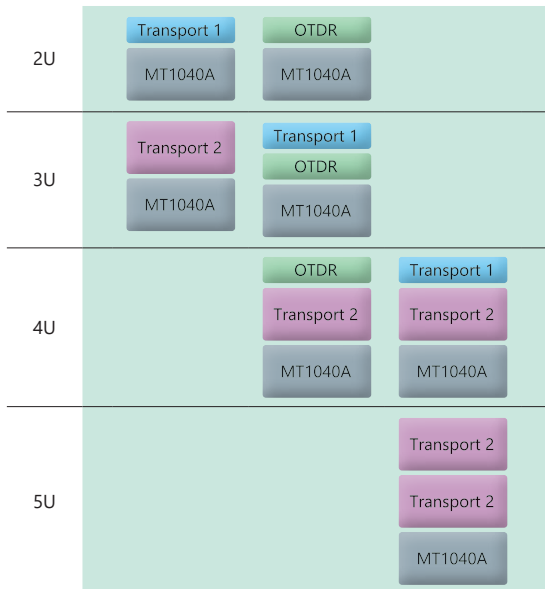


*1: The presence of the MT1040A-006 option can be recognized at the top right of the front panel. To retrofit it, please contact sales representative.



*2: One line cord is attached to the area to shipment.
 *3: Composed of B0720A, B0730A, B0731A, B0740A and B0741A.

Module Configuration



MT1040A Main Unit

Model/Order No.	Name
MT1040A	Network Master Pro
Standard Accessories	
MT1040A-006	High Power Supply*1: 1 pc
	Line Cord*2: 1 pc
B0745A	Softcase: 1 pc
B0771A*3	MT1040A Rear Panel kit: 1 pc
G0418A	AC Adaptor: 1 pc
G0423A	Li-ion Battery: 2 pcs
W4039AE	Quick Reference Guide: 1 pc
Z1746A	Stylus: 1 pc
Z2077A	Utilities ROM: 1 pc
Z2082A	Handle: 1 pc

Software Option*4

Model/Order No.	Name
MT1040A-003*5	Connectivity for WLAN/Bluetooth
MT1040A-011	Site Over Remote Access Connect

Option for Two Transport Modules*6

Model/Order No.	Name
MT1040A-020	Activate for 400G Dual/100G Quad Option
Standard Accessories	
G0419A	AC Adapter (400 W)

*4: These options can be retrofitted.

The Model/Order No. of retrofit options is "-3**".

Example

MT1040A-003 Connectivity for WLAN/Bluetooth becomes MT1040A-303 Connectivity for WLAN/Bluetooth Retrofit.

When retrofitting an option, please either specify one of the following media along with the relevant option, or Web download.

Z1849A: DVD-ROM for Retrofit Options

Z1850A: USB Stick for Retrofit Options

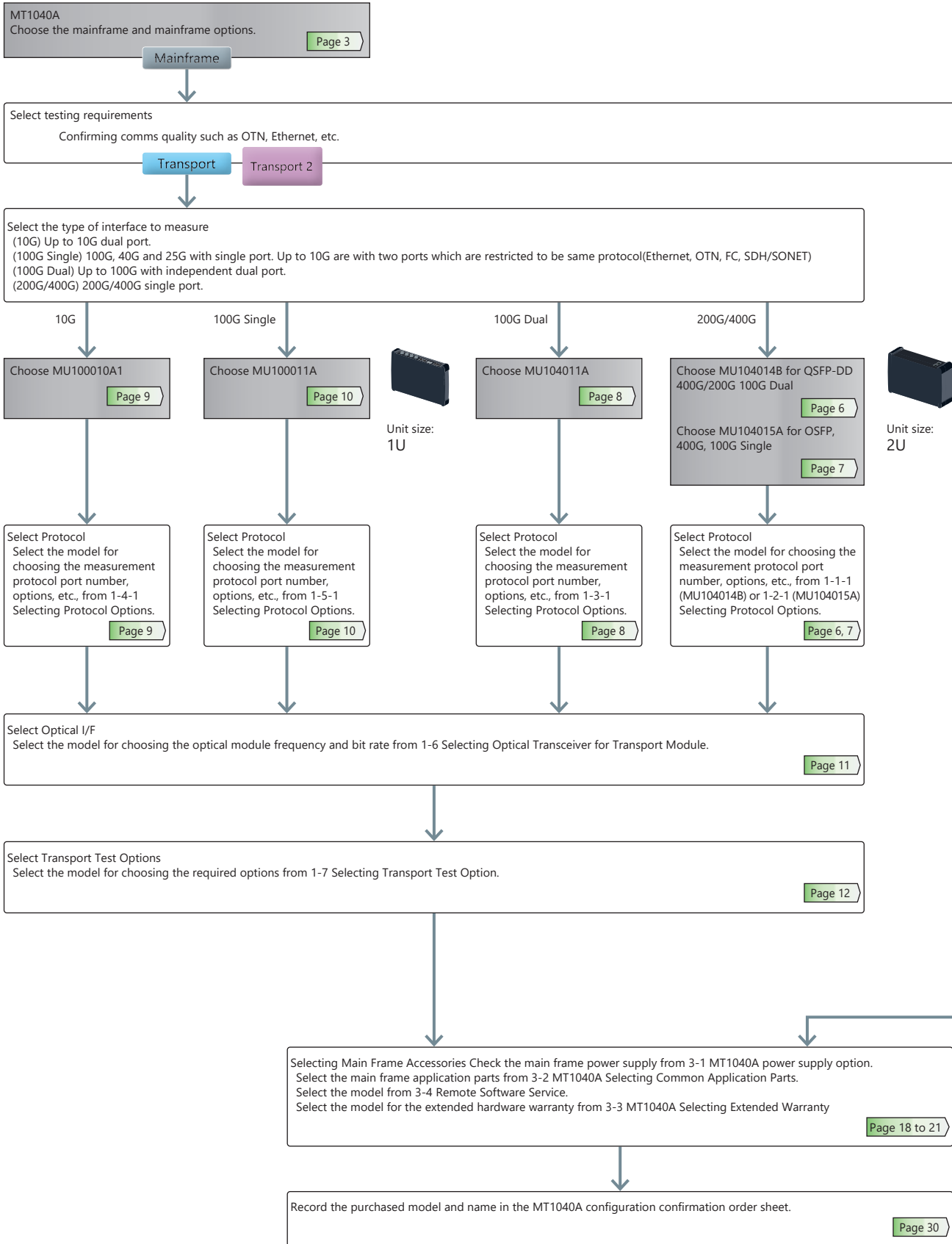
*5: WLAN is available for certified countries and regions including USA, Japan and EU countries. Please visit the Anritsu web site for updated information.

*6: Can be added to main unit in which MT1040A-006 already installed. However, battery operation is not possible when installing two transponder modules together.

- Transport 2 400G (QSFP-DD) Multirate Module MU104014B
400G (OSFP) Multirate Module MU104015A
100G Multirate Module MU104011A
- Transport 1 10G Multirate Module MU100010A1
100G Multirate Module MU100011A
- OTDR 1310/1550 nm SMF MU100020A
1310/1550/850/1300 nm SMF/MMF MU100021A
1310/1550/1625 nm SMF MU100022A
1310/1550/1650 nm SMF MU100023A

New Purchase Flowchart

Use this flowchart to select options when purchasing a new MT1040A.



Checking optical fiber breaks and quality

OTDR

Select the type of optical fiber to measure
Single Model only
Both Single and Multimode fiber

Single Model only

Both Single and Multimode fiber

Wavelength select

2 Wavelength
(1310/1550 nm)

3 Wavelength
(1310/1550/
1625 nm)

3 Wavelength
(1310/1550/
1650 nm)

Choose MU100020A

Page 13

Choose MU100022A

Page 15

Choose MU100023A

Page 16

Choose MU100021A

Page 14

Select Dynamic Range
Select the model with the
required test wavelength and
dynamic range from 2-1-1
Selecting Dynamic Range.

Page 13

Select Dynamic Range
Select the model with the
required test wavelength and
dynamic range from 2-3-1
Selecting Dynamic Range.

Page 15

Select Dynamic Range
Select the model with the
required test wavelength and
dynamic range from 2-4-1
Selecting Dynamic Range.

Page 16

Select Dynamic Range
Select the model with the
required test wavelength and
dynamic range from 2-2-1
Selecting Dynamic Range.

Page 14

Select Connector
Select the model with the
required connector type from
2-1-2 Selecting Polish Type/
Connector Adapter.

Page 13

Select Connector
Select the model with the
required connector type from
2-3-2 Selecting Polish Type/
Connector Adapter.

Page 15

Select Connector
Select the model with the
required connector type from
2-4-2 Selecting Polish Type/
Connector Adapter.

Page 16

Select Connector
Select the model with the
required connector type from
2-2-2 Selecting Polish Type/
Connector Adapter.

Page 14

With/Without Visible Light Source
Select the model with built-in
visible light source if required
from 2-1-3 Selecting Visible
Light Source Option.

Page 13

With/Without Visible Light Source
Select the model with built-in
visible light source if required
from 2-3-3 Selecting Visible
Light Source Option.

Page 15

With/Without Visible Light Source
Select the model with built-in
visible light source if required
from 2-4-3 Selecting Visible
Light Source Option.

Page 16

With/Without Visible Light Source
Select the model with built-in
visible light source if required
from 2-2-3 Selecting Visible
Light Source Option.

Page 14

Selecting OTDR Test Options
Select the models with the option choices from 2-5-1 OTDR Module Conversion Connector Adapters,
2-5-2 Optical Fiber Conversion Adapters, and 2-5-3 Others.

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Unit size:
1U

Transport Module

1-1 400G (QSFP-DD) Multirate Module MU104014B



The 400G (QSFP-DD) Multirate Module MU104014B supports communications network technologies from 10 Mbps to 100 Gbps with dual ports and from 200 Gbps to 400 Gbps with single port. It has the functions and performance required for network I&M tests. In addition, optional test protocols can be selected and added. This excellent expandability helps cut initial capital costs and supports introduction of new functions matching the work schedule.

1-1-1 Selecting Protocol Options

The protocol options are software options for transport technologies supporting each bit rate. At least one Channel option must be selected from the following list.

MU104014B	Bit Rate	10G or less	16G or 25G	40G or 100G		200G or 400G
Transport Technology	No. of Measurement Ports*1	2 (Dual Channel)	2 (Dual Channel)	1 (Single Channel)	2 (Dual Channel)	1 (Single Channel)
Ethernet						
IPv4/IPv6, Y.1564, IEEE 1588 v2, RFC 2544, BER, Multistream, OAM, SyncE, MPLS, MPLS-TP, Multistage VLAN, PBB, Ping/Traceroute, In-band Control, Auto discovery, Reflector		MU104014B-012 Ethernet up to 25G Dual Channel		MU104014B-013 Ethernet 40G Single Channel	MU104014B-014 Ethernet 40G Dual Channel	MU104014B-031 Ethernet 200G Single Channel
Pass-through (10G), Channel Stat (10G)		MU104014B-012 Ethernet up to 25G Dual Channel	—	—	—	—
TCP Throughput Test (RFC 6349, iPerf, 10G)		MU104014B-020 TCP Throughput*2	—	—	—	—
100ZR		—	—	MU104014B-006*3 100G Pluggable Coherent		—
400GBASE-XDR4 N-Port BERT		—	—	—	—	MU104014B-034 4×100G N Port BERT
Open ZR+ Multi Client BERT		—	—	—	—	MU104014B-036 Open ZR+ Multi Client BERT
eCPRI/RoE (IEEE1914.3)						
IPv4/IPv6, BER, VLAN, SyncE, IEEE 1588 v2, E-OAM		MU104014B-012 Ethernet up to 25G Dual Channel		MU104014B-013 Ethernet 40G Single Channel	MU104014B-014 Ethernet 40G Dual Channel	—
				MU104014B-015 Ethernet 100G Single Channel	MU104014B-016 Ethernet 100G Dual Channel	—
OTN						
Errors/Alarms, Error Performance/Delay/APS Test, FEC Test, O.182 Test, Overhead Editing/Capture, TCM Monitoring/Generation, Tributary Scan		MU104014B-052 OTN up to 10G Dual Channel	—	MU104014B-053 OTN 40G Single Channel	MU104014B-054 OTN 40G Dual Channel	—
100ZR		—	—	MU104014B-055 OTN 100G Single Channel	MU104014B-056 OTN 100G Dual Channel	—
ODU Multiplexing Addition		MU104014B-063 ODU Multiplexing/ Multi Stage*5	—	MU104014B-006*4 100G Pluggable Coherent		—
				MU104014B-063 ODU Multiplexing/Multi Stage*5		—
CPRI/OBSAI						
CPRI/OBSAI L1: Level/Bit Rate/Frequency deviation Measurement, Alarms/Errors Detection, Unframed BER CPRI/OBSAI L2: Link Status Monitoring, Alarms/Errors Detection, Framed BER Measurement, RTD Measurement, Monitoring using Passthrough		MU104014B-074 CPRI/OBSAI up to 25G Dual Channel		—	—	—
Fibre Channel						
Performance Test, Signal Generation/Monitoring, Latency, BER, Line Alarm/Error Monitoring		MU104014B-092 FC up to 16G Dual Channel		—	—	—
SDH/SONET						
Two-Way Monitoring/Mapping, Errors/Alarms, Error Performance/Delay/APS Test, Header Monitoring/Generation, Pointer Event Generation, Tributary Scan		MU104014B-082 SDH/SONET up to 10G Dual Channel	—	MU104014B-084*6 STM-256/OC-768 Client Signal		—

*1: The channel is not related to the physical port position. The user can freely choose either of the two physical ports assigned to the option via software. For a dual channel setup, the two different ports of one protocol can operate simultaneously, or two different single channel options can operate simultaneously.

*2: Requires MU104014B-012.

*3: Requires MU104014B-015 or 016.

Model/Order No.	Name	
MU104014B	400G (QSFP-DD) Multirate Module	
Standard Accessories		
B0768A*	ESD Box:	1 pc
W4039AE	Transport Module Quick Reference Guide:	1 pc

*: The following combination of optical transceiver patterns can be installed.

Pattern	QSFP-DD/QSFP56/QSFP28/QSFP+	SFP28/SFP+/SFP	OSFP
Pattern 1	4	0	1
Pattern 2	3	2	1
Pattern 3	2	4	1
Pattern 4	1	6	1

*4: Requires MU104014B-055 or 056.

*5: Requires that at least one of the following option is installed: MU104014B-052, MU104014B-053, MU104014B-054, MU104014B-055, MU104014B-056.

*6: MU104014B does not have a physical interface of the option. The option is required for client signal mapped in the OTN.

Transport Module

1-2 400G (OSFP) Multirate Module MU104015A



The 400G (OSFP) Multirate Module MU104015A supports communications network technologies from 10 Mbps to 25 Gbps with dual ports and from 40 Gbps to 400 Gbps with single port. It has the functions and performance required for network I&M tests. In addition, optional test protocols can be selected and added. This excellent expandability helps cut initial capital costs and supports introduction of new functions matching the work schedule.

1-2-1 Selecting Protocol Options

The protocol options are software options for transport technologies supporting each bit rate. At least one Channel option must be selected from the following list.

MU104015A	Bit Rate	10G or less	16G or 25G	40G or 100G	400G
Transport Technology	No. of Measurement Ports*1	2 (Dual Channel)	2 (Dual Channel)	1 (Single Channel)	1 (Single Channel)
Ethernet					
IPv4/IPv6, Y.1564, IEEE 1588 v2, RFC 2544, BER, Multistream, OAM, SyncE, MPLS, MPLS-TP, Multistage VLAN, PBB, Ping/Traceroute, In-band Control, Auto discovery, Reflector		MU104015A-012 Ethernet up to 25G Dual Channel		MU104015A-013 Ethernet 40G Single Channel	—
				MU104015A-015 Ethernet 100G Single Channel	MU104015A-033 Ethernet 400G Single Channel
Pass-through (10G), Channel Stat (10G)		MU104015A-012 Ethernet up to 25G Dual Channel	—	—	—
TCP Throughput Test (RFC 6349, iPerf, 10G)		MU104015A-020 TCP Throughput*2	—	—	—
100ZR		—	—	MU104015A-006*3 100G Pluggable Coherent	—
400GBASE-2FR4 N-Port BERT		—	—	—	MU104015A-035 2×200G N Port BERT
eCPRI/RoE (IEEE1914.3)					
IPv4/IPv6, BER, VLAN, SyncE, IEEE 1588 v2, E-OAM		MU104015A-012 Ethernet up to 25G Dual Channel		MU104015A-013 Ethernet 40G Single Channel	—
				MU104015A-015 Ethernet 100G Single Channel	—
OTN					
Errors/Alarms, Error Performance/Delay/APS Test, FEC Test, O.182 Test, Overhead Editing/Capture, TCM Monitoring/Generation, Tributary Scan		MU104015A-052 OTN up to 10G Dual Channel	—	MU104015A-053 OTN 40G Single Channel	—
				MU104015A-055 OTN 100G Single Channel	—
100ZR		—	—	MU104015A-006*4 100G Pluggable Coherent	—
ODU Multiplexing Addition		MU104015A-063 ODU Multiplexing/ Multi Stage*5	—	MU104015A-063 ODU Multiplexing/Multi Stage*5	—
CPRI/OBSAI					
CPRI/OBSAI L1: Level/Bit Rate/Frequency deviation Measurement, Alarms/Errors Detection, Unframed BER CPRI/OBSAI L2: Link Status Monitoring, Alarms/Errors Detection, Framed BER Measurement, RTD Measurement, Monitoring using Passthrough		MU104015A-074 CPRI/OBSAI up to 25G Dual Channel		—	—
Fibre Channel					
Performance Test, Signal Generation/Monitoring, Latency, BER, Line Alarm/Error Monitoring		MU104015A-092 FC up to 16G Dual Channel		—	—
SDH/SONET					
Two-Way Monitoring/Mapping, Errors/Alarms, Error Performance/Delay/APS Test, Header Monitoring/Generation, Pointer Event Generation, Tributary Scan		MU104015A-082 SDH/SONET up to 10G Dual Channel	—	MU104015A-084*6 STM-256/OC-768 Client Signal	—

*1: The channel is not related to the physical port position. The user can freely choose either of the two physical ports assigned to the option via software. For a dual channel setup, the two different ports of one protocol can operate simultaneously, or two different single channel options can operate simultaneously.

*2: Requires MU104015A-012.

*3: Requires MU104015A-015.

*: The following combination of optical transceiver patterns can be installed.

	QSFP-DD/QSFP56/QSFP28/QSFP+	SFP28/SFP+/SFP	OSFP
Pattern 1	4	0	1
Pattern 2	3	2	1
Pattern 3	2	4	1
Pattern 4	1	6	1

*4: Requires MU104015A-053.

*5: Requires that at least one of the following option is installed: MU104015A-052, MU104015A-053, MU104015A-055.

*6: MU104015A does not have a physical interface of the option. The option is required for client signal mapped in the OTN.

Transport Module

1-3 100G Multirate Module MU104011A



The 100G Multirate Module MU104011A supports communications network technologies from 10 Mbps to 100 Gbps with dual ports. It has the functions and performance required for network I&M tests. In addition, optional test protocols can be selected and added. This excellent expandability helps cut initial capital costs and supports introduction of new functions matching the work schedule.

1-3-1 Selecting Protocol Options

The protocol options are software options for transport technologies supporting each bit rate. At least one Channel option must be selected from the following list.

MU104011A	Bit Rate	10G or less	16G or 25G	40G or 100G	
Transport Technology	No. of Measurement Ports*1	2 (Dual Channel)	2 (Dual Channel)	1 (Single Channel)	2 (Dual Channel)
Ethernet					
IPv4/IPv6, Y.1564, IEEE 1588 v2, RFC 2544, BER, Multistream, OAM, SyncE, MPLS, MPLS-TP, Multistage VLAN, PBB, Ping/Traceroute, In-band Control, Auto discovery, Reflector		MU104011A-012 Ethernet up to 25G Dual Channel		MU104011A-013 Ethernet 40G Single Channel	MU104011A-014 Ethernet 40G Dual Channel
Pass-through (10G), Channel Stat (10G)		MU104011A-012 Ethernet up to 25G Dual Channel	—	—	—
TCP Throughput Test (RFC 6349, iPerf, 10G)		MU104011A-020 TCP Throughput*2	—	—	—
100ZR		—	—	MU104011A-006*3 100G Pluggable Coherent	
eCPRI/RoE (IEEE1914.3)					
IPv4/IPv6, BER, VLAN, SyncE, IEEE 1588 v2, E-OAM		MU104011A-012 Ethernet up to 25G Dual Channel		MU104011A-013 Ethernet 40G Single Channel	MU104011A-014 Ethernet 40G Dual Channel
				MU104011A-015 Ethernet 100G Single Channel	MU104011A-016 Ethernet 100G Dual Channel
OTN					
Errors/Alarms, Error Performance/Delay/APS Test, FEC Test, O.182 Test, Overhead Editing/Capture, TCM Monitoring/Generation, Tributary Scan		MU104011A-052 OTN up to 10G Dual Channel	—	MU104011A-053 OTN 40G Single Channel	MU104011A-054 OTN 40G Dual Channel
			—	MU104011A-055 OTN 100G Single Channel	MU104011A-056 OTN 100G Dual Channel
ODU Multiplexing Addition		MU104011A-063 ODU Multiplexing/ Multi Stage*4	—	MU104011A-063 ODU Multiplexing/Multi Stage*4	
100ZR		—	—	MU104011A-006*5 100G Pluggable Coherent	
CPRI/OBSAI					
CPRI/OBSAI L1: Level/Bit Rate/Frequency deviation Measurement, Alarms/Errors Detection, Unframed BER CPRI/OBSAI L2: Link Status Monitoring, Alarms/Errors Detection, Framed BER Measurement, RTD Measurement, Monitoring using Passthrough		MU104011A-074 CPRI/OBSAI up to 25G Dual Channel		—	—
Fibre Channel					
Performance Test, Signal Generation/Monitoring, Latency, BER, Line Alarm/Error Monitoring		MU104011A-092 FC up to 16G Dual Channel		—	—
SDH/SONET					
Two-Way Monitoring/Mapping, Errors/Alarms, Error Performance/Delay/APS Test, Header Monitoring/Generation, Pointer Event Generation, Tributary Scan		MU104011A-082 SDH/SONET up to 10G Dual Channel	—	MU104011A-084*6 STM-256/OC-768 Client Signal	

*1: The channel is not related to the physical port position. The user can freely choose either of the two physical ports assigned to the option via software.

For a dual channel setup, the two different ports of one protocol can operate simultaneously, or two different single channel options can operate simultaneously.

*2: Requires MU104011A-012.

*3: Requires MU104011A-015 or 016.

*4: Requires that at least one of the following option is installed: MU104011A-052, MU104011A-053, MU104011A-054, MU104011A-055, MU104011A-056.

*5: Requires MU104011A-055 or 056.

*6: MU104011A does not have a physical interface of the option. The option is required for client signal mapped in the OTN.

Model/Order No.	Name
MU104011A	100G Multirate Module
Standard Accessories	
B0768A*	ESD Box: 1 pc
W4039AE	Transport Module Quick Reference Guide: 1 pc

*: The following combination of optical transceiver patterns can be installed.

	QSFP-DD/QSFP56/QSFP28/QSFP+	SFP28/SFP+/SFP	OSFP
Pattern 1	4	0	1
Pattern 2	3	2	1
Pattern 3	2	4	1
Pattern 4	1	6	1

Transport Module

1-4 10G Multirate Module MU100010A1



The 10G Multirate Module MU100010A1 supports communications network technologies with speeds ranging from 10 Mbps to 10 Gbps. It has the functions and performance required for network I&M tests. In addition, optional test protocols can be selected and added. This excellent expandability helps cut initial capital costs and supports introduction of new functions matching the work schedule.

1-4-1 Selecting Protocol Options

The protocol options are software options for transport technologies supporting each bit rate. At least one Channel option must be selected from the following list.

MU100010A1	Bit Rate	Less than 5G	From 6G to 10G	
Transport Technology	No. of Measurement Ports*1	2 (Dual Channel)	1 (Single Channel)	2 (Dual Channel)
Ethernet				
IPv4/IPv6, Y.1564, IEEE 1588 v2, RFC 2544, BER, Multistream, OAM, SyncE, MPLS, MPLS-TP, Multistage VLAN, PBB, Ping/Traceroute, Cable Tests, In-band Control, Auto discovery, Path-through, Channel Stat		MU100010A-001 Up to 2.7G Dual Channel	MU100010A-011 Ethernet 10G Single Channel	MU100010A-012 Ethernet 10G Dual Channel
TCP Throughput Test (RFC 6349, iPerf)		MU100010A-020 TCP Throughput		
eCPRI/RoE (IEEE1914.3)				
IPv4/IPv6, BER, VLAN, SyncE, IEEE 1588 v2, E-OAM		MU100010A-001 Up to 2.7G Dual Channel	MU100010A-011 Ethernet 10G Single Channel	MU100010A-012 Ethernet 10G Dual Channel
OTN*2, *3				
Errors/Alarms, Error Performance/Delay/APS Test, FEC Test, O.182 Test, Overhead Editing/Capture, TCM Monitoring/Generation, Tributary Scan		MU100010A-001 Up to 2.7G Dual Channel	MU100010A-051 OTN 10G Single Channel	MU100010A-052 OTN 10G Dual Channel
ODU Multiplexing Addition*4		MU100010A-061 ODU Multiplexing		
ODU Flex Addition*5		—	MU100010A-062 ODU Flex	
CPRI/OBSAI				
CPRI/OBSAI L1: Level/Bit Rate/Frequency deviation Measurement, Alarms/Errors Detection, Unframed BER CPRI/OBSAI L2: Link Status Monitoring, Alarms/Errors Detection, Framed BER Measurement, RTD Measurement, Monitoring using Passthrough		MU100010A-071 CPRI/OBSAI Up to 5G Dual Channel	MU100010A-072 CPRI/OBSAI 6G to 10G Single Channel	MU100010A-073 CPRI/OBSAI 6G to 10G Dual Channel
Fibre Channel				
Performance Test, Signal Generation/Monitoring, Latency, BER, Line Alarm/Error Monitoring		MU100010A-002 FC 1G 2G 4G Dual Channel	MU100010A-091 FC 8G 10G Single Channel	MU100010A-092 FC 8G 10G Dual Channel
SDH/SONET				
Tw-Way Monitoring/Mapping, Errors/Alarms, Error Performance/Delay/APS Test, Header Monitoring/Generation, Pointer Event Generation, Tributary Scan		MU100010A-001 Up to 2.7G Dual Channel	MU100010A-081 STM-64 OC-192 Single Channel	MU100010A-082 STM-64 OC-192 Dual Channel

*1: The channel is not related to the physical port position. The user can freely choose either of the two physical ports assigned to the option via software. For a dual channel setup, the two different ports of one protocol can operate simultaneously, or two different single channel options can operate simultaneously.

*2: Please see the datasheet for supported OTN mapping.

*3: When using the OTN function, the channel can be used as client signal mapped to OTN. For example, when mapping STM-64/OC-192 to OTU2, both the MU100010A-051/052 (for physical port) and the MU100010A-081/082 (for client signal) are required.

*4: When the ODU Multimapping option is installed, OTN multistage mapping measurements are supported.

This one option supports both single channel and dual channel.

*5: When the ODU Flex option is installed, since transport is over OTN networks, mappings based on used ODU Flex standard can be measured.

This one option supports both single channel and dual channel.

Model	Name
MU100010A1	10G Multirate Module
Standard Accessories	
W3935AE	MT1000A Transport Quick Reference Guide: 1 pc
B0692A*	ESD Box (for optical modules): 1 pc

*: Up to four SFP+/SFPs can be stored.

Transport Module

1-5 100G Multirate Module MU100011A



The 100G Multirate Module MU100011A supports communications network technologies with speeds ranging from 10 Mbps to 100 Gbps. It has the functions and performance required for network I&M tests. In addition, optional test protocols can be selected and added. This excellent expandability helps cut initial capital costs and supports introduction of new functions matching the work schedule.

1-5-1 Selecting Protocol Options

The protocol options are software options for transport technologies supporting each bit rate. At least one Channel option must be selected from the following list.

MU100011A	Bit Rate No. of Measurement Ports*1	Up to 10G		Higher than 10G	
		1 (Single Channel)	2 (Dual Channel)	1 (Single Channel)	2 (Dual Channel)
Ethernet					
IPv4/IPv6, Y.1564, IEEE 1588 v2, RFC 2544, BER, Multistream, OAM, SyncE, MPLS, MPLS-TP, Multistage VLAN, PBB, Ping/Traceroute, Cable Tests, In-band Control, Auto discovery	MU100011A-001 Up to 10G Single Channel	MU100011A-003 Up to 10G Dual Channel	MU100011A-017*8 Ethernet 25G Single Channel	—	—
Pass-through, Channel Stat	—	—	MU100011A-013*9 Ethernet 40G Single Channel	—	—
TCP Throughput Test (RFC 6349, iPerf)	MU100011A-020 TCP Throughput	—	MU100011A-015*9 Ethernet 100G Single Channel	—	—
100GBASE-SR and single-λ 100G related measurements	—	—	MU100011A-023*8 RS-FEC for 100GBASE-SR4	—	—
100ZR	—	—	MU100011A-024*8 RS-FEC (544,514) for 100GBASE-xR	—	—
			MU100011A-015*9 Ethernet 100G Single Channel	—	—
			MU100011A-006*10 100G Pluggable Coherent	—	—
eCPRI/RoE (IEEE1914.3)					
IPv4/IPv6, BER, VLAN, SyncE, IEEE 1588 v2, E-OAM	MU100011A-001 Up to 10G Single Channel	MU100011A-003 Up to 10G Dual Channel	MU100011A-017*8 Ethernet 25G Single Channel	MU100011A-075*7,*8 eCPRI/RoE 25G Dual Channel	—
			MU100011A-013*9 Ethernet 40G Single Channel	—	—
			MU100011A-015*9 Ethernet 100G Single Channel	—	—
OTN*2,*3					
Errors/Alarms, Error Performance/Delay/APS Test, FEC Test, O.182 Test, Overhead Editing/Capture, TCM Monitoring/Generation, Tributary Scan	MU100011A-001 Up to 10G Single Channel	MU100011A-003 Up to 10G Dual Channel	MU100011A-053 OTN 40G Single Channel	—	—
ODU Multiplexing Addition*2,*4	MU100011A-063 ODU Multiplexing/Multi Stage		MU100011A-055 OTN 100G Single Channel	—	—
ODU Flex Addition*2,*5	MU100011A-062 ODU Flex		—	—	—
100ZR	—	—	MU100011A-006*11 100G Pluggable Coherent	—	—
CPRI/OBSAI					
CPRI/OBSAI L1: Level/Bit Rate/Frequency deviation Measurement, Alarms/Errors Detection, Unframed BER CPRI/OBSAI L2: Link Status Monitoring, Alarms/Errors Detection, Framed BER Measurement, RTD Measurement, Monitoring using Passthrough	MU100011A-071 CPRI/OBSAI Up to 10G Single Channel	MU100011A-072 CPRI/OBSAI Up to 10G Dual Channel	MU100011A-073 CPRI 12/25G Single Channel	MU100011A-074 CPRI 12/25G Dual Channel	—
Fibre Channel					
Performance Test, Signal Generation/Monitoring, Latency, BER, Line Alarm/Error Monitoring	MU100011A-004 Up to 10G FC Single Channel	MU100011A-005 Up to 10G FC Dual Channel	MU100011A-091 FC 16G Single Channel	—	—
SDH/SONET					
PDH/DSn Test, Tw-Way Monitoring/Mapping, Errors/Alarms, Error Performance/Delay/APS Test, Header Monitoring/Generation, Pointer Event Generation, Tributary Scan	MU100011A-001 Up to 10G Single Channel	MU100011A-003 Up to 10G Dual Channel	MU100011A-083*6 STM-256/OC-768 Client Signal	—	—

*1: The channel is not related to the physical port position. The user can freely choose either of the two physical ports assigned to the option via software. For a dual channel setup, the two different wire rates of one protocol can operate simultaneously.

*2: Please see the datasheet for supported OTN mapping.

*3: When using the OTN function, the channel can be used as client signal mapped to OTN.
For example, when mapping STM-256/OC-768 to OTU4, both the MU100011A-055 (for physical port) and the MU100011A-083 (for client signal) are required.

*4: When the ODU Multiplexing/Multistage option is installed, OTN multistage mapping measurements are supported.
This one option supports both single channel and dual channel.

Model	Name
MU100011A	100G Multirate Module
Standard Accessories	
W3935AE	MT1000A Transport Quick Reference Guide: 1 pc
B0763A*	ESD Box (for optical modules): 1 pc

*: One CFP4 plus either up to two QSFP28s or up to four SFP/SFP+s can be stored.

*5: This mapping function is based on the ODU Flex standard for transmissions over OTN networks and supports client signals of any speed.
This one option supports both single channel and dual channel.

*6: The MU100011A has no STM-256/OC-768 PHY interface; it can be used for OTN client signals.

*7: Option supports eCPRI/RoE protocol tests only.

*8: FEC selectable On/Off.

*9: FEC is always Off.

*10: Requires MU100011A-015.

*11: Requires MU100011A-055.

New Purchase

Transport Module

1-7 Selecting Transport Test Option

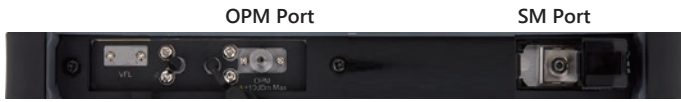
These options are used in combination with the transport module. Choose options matching the customer's test requirements. Additionally today, these options cannot be used in combination with the OTDR module.

Model	Name	Notes
G0325A	GPS Receiver	It is required when measuring one-way latency at Ethernet tests.
W4038AE	MT1040A Transport Module Operation Manual	Printed manual
W4041AE	MT1000A/MT1100A/MT1040A Remote Scripting Operation Manual	Printed manual
Z1821A	Utilities in USB Stick	USB memory with operation manual, remote scripts instruction manual, etc.
J1583A	Optical Attenuator 10 dB LC/PC to LC/PC	
J1584A	RJ45 Cable 3 m	

New Purchase

OTDR Module

2-1 OTDR Module 1310/1550 nm SMF MU100020A



The OTDR Module 1310/1550 nm SMF MU100020A is an OTDR module for single mode fiber use only. It supports all-in-one OTDR, FTTA, and OLTS measurements required for checking optical fiber. Select a model with the dynamic range matching the test requirements. Additionally, combined used with the visible light source options support visual confirmation of fiber breaks, etc.

Model	Name
MU100020A	OTDR Module 1310/1550 nm SMF
Standard Accessories	
J1693A	Universal Connector 2.5 mm for OPM: 1 pc
J1694A	Universal Connector 1.25 mm for OPM: 1 pc
W3811AE	Quick Reference Guide: 1 pc

2-1-1 Selecting Dynamic Range

The MU100020A is available in three models with different dynamic ranges matching the test environment. Select the One matching the test requirements.

Wavelength: Dynamic Range	Model	Name
1310/1550 nm: 39/37.5 dB	MU100020A-020	Standard Dynamic Range
1310/1550 nm: 42/41 dB	MU100020A-021	Enhanced Dynamic Range
1310/1550 nm: 46/46 dB	MU100020A-022	High-Performance Dynamic Range

2-1-2 Selecting Polish Type/Connector Adapter

The MU100020A is available in a total of five models (3 UPC and 2 APC) as listed below. Specify the required connector type at ordering. The specified connector is provided as a standard accessory. The polish type cannot be changed after purchase.

Connector Adapter	Polish Type		Model	
	UPC	APC	UPC Ultra Physical Contact	APC Angled Physical Contact
FC Connector	MU100020A-010 MU100020A-037	MU100020A-011 MU100020A-025		
SC Connector	MU100020A-010 MU100020A-040	MU100020A-011 MU100020A-026		

2-1-3 Selecting Visible Light Source Option

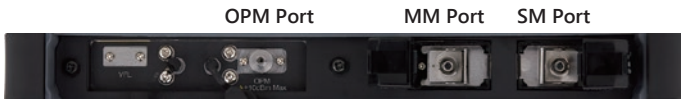
Breaks in the optical fiber can be detected visually using this light source. This option cannot be added after purchase.

Model	Name	Notes
MU100020A-002	Visual Fault Locator	For direct insertion of 2.5 mm (FC, SC) optical fiber with fixed diameter of 2.5 mm
J1335A	MU/LC Connector Adapter	Required conversion adapter for inserting LC (1.25 mm) optical fiber

New Purchase

OTDR Module

2-2 OTDR Module 1310/1550/850/1300 nm SMF/MMF MU100021A



The OTDR Module 1310/1550/850/1300 nm SMF/MMF MU100021A is an OTDR module for single and multimode fiber use. It supports all-in-one OTDR, FTTA, and OLTS measurements required for checking optical fiber. Select a model with the dynamic range matching the test requirements. Additionally, combined used with the visible light source options support visual confirmation of fiber breaks, etc.

Model	Name
MU100021A	OTDR Module 1310/1550/850/1300 nm SMF/MMF
Standard Accessories	
J1693A	Universal Connector 2.5 mm for OPM: 1 pc
J1694A	Universal Connector 1.25 mm for OPM: 1 pc
W3811AE	Quick Reference Guide: 1 pc

2-2-1 Selecting Dynamic Range

The MU100021A has a fixed dynamic range; select the following model.

Wavelength: Dynamic Range	Model	Name
1310/1550/850/1300 nm: 42/41/29/28 dB	MU100021A-021	Enhanced Dynamic Range

2-2-2 Selecting Polish Type/Connector Adapter

The MU100021A is available in a total of five models (3 UPC and 2 APC) as listed below. Specify the required connector type at ordering. Two specified connectors (for SMF and MMF ports) are provided as standard accessories. The polish type cannot be changed after purchase.

Connector Adapter	Polish Type	UPC*1		APC*1, *2	APC Angled Physical Contact		
		UPC Ultra Physical Contact	UPC Ultra Physical Contact	(SM port only, MM port is UPC)	UPC Ultra Physical Contact	APC Angled Physical Contact	
		Model	MM Port	SM Port	Model	MM Port	SM Port
FC Connector		MU100021A-010 MU100021A-037			MU100021A-011 MU100021A-025		
SC Connector		MU100021A-010 MU100021A-040			MU100021A-011 MU100021A-026		

*1: Different connector adapter types cannot be specified for the SMF and MMF ports.

*2: There is no APC polish type for the MMF port. As a result, this connector adapter polish type is UPC.

2-2-3 Selecting Visible Light Source Option

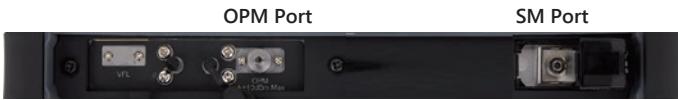
Breaks in the optical fiber can be detected by eye using this light source. This option cannot be added by retrofit after purchase.

Model	Name	Notes
MU100021A-002	Visual Fault Locator	For direct insertion of 2.5 mm (FC, SC) optical fiber with fixed diameter of 2.5 mm.
J1335A	MU/LC Connector Adapter	Required conversion adapter for inserting LC (1.25 mm) optical fiber

New Purchase

OTDR Module

2-3 OTDR Module 1310/1550/1625 nm SMF MU100022A



The OTDR Module 1310/1550/1625 nm SMF MU100022A is an OTDR module for single mode fiber use only. It supports all-in-one OTDR, FTTA, and OLTS measurements required for checking optical fiber. Additionally, combined used with the visible light source options support visual confirmation of fiber breaks, etc.

Model	Name
MU100022A	OTDR Module 1310/1550/1625 nm SMF
Standard Accessories	
J1693A	Universal Connector 2.5 mm for OPM: 1 pc
J1694A	Universal Connector 1.25 mm for OPM: 1 pc
W3811AE	Quick Reference Guide: 1 pc

2-3-1 Selecting Dynamic Range

The MU100022A has a fixed dynamic range; select the following model.

Wavelength: Dynamic Range	Model	Name
1310/1550/1625 nm: 46/46/44 dB	MU100022A-022	High-Performance Dynamic Range

2-3-2 Selecting Polish Type/Connector Adapter

The MU100022A is available in a total of five models (3 UPC and 2 APC) as listed below. Specify the required connector type at ordering. The specified connector is provided as a standard accessory. The polish type cannot be changed after purchase.

Connector Adapter	Polish Type			
	UPC	APC		
	Model	UPC Ultra Physical Contact	Model	APC Angled Physical Contact
FC Connector	MU100022A-010 MU100022A-037		MU100022A-011 MU100022A-025	
SC Connector	MU100022A-010 MU100022A-040		MU100022A-011 MU100022A-026	

2-3-3 Selecting Visible Light Source Option

Breaks in the optical fiber can be detected visually using this light source. This option cannot be added after purchase.

Model	Name	Notes
MU100022A-002	Visual Fault Locator	For direct insertion of 2.5 mm (FC, SC) optical fiber with fixed diameter of 2.5 mm
J1335A	MU/LC Connector Adapter	Required conversion adapter for inserting LC (1.25 mm) optical fiber

New Purchase

OTDR Module

2-4 OTDR Module 1310/1550 nm, 1650 nm SMF MU100023A



The OTDR Module 1310/1550 nm, 1650 nm SMF MU100023A is an OTDR module for single mode fiber use only. It supports all-in-one OTDR, FTTA, and OLTS measurements required for checking optical fiber. Additionally, combined used with the visible light source options support visual confirmation of fiber breaks, etc.

Model	Name
MU100023A	OTDR Module 1310/1550/1650 nm SMF
Standard Accessories	
J1693A	Universal Connector 2.5 mm for OPM: 1 pc
J1694A	Universal Connector 1.25 mm for OPM: 1 pc
W3811AE	Quick Reference Guide: 1 pc

2-4-1 Selecting Dynamic Range

The MU100023A has a fixed dynamic range; select the following model.

Wavelength: Dynamic Range	Model	Name
1310/1550 nm: 42/41 dB, 1650 nm: 35 dB	MU100023A-021	Enhanced Dynamic Range

2-4-2 Selecting Polish Type/Connector Adapter

The MU100023A is available in a total of five models (3 UPC and 2 APC) as listed below. Specify the required connector type at ordering. The specified connector is provided as a standard accessory. The polish type cannot be changed after purchase.

Connector Adapter	Polish Type			
	UPC*	APC*		
	Model	UPC Ultra Physical Contact	Model	APC Angled Physical Contact
FC Connector	MU100023A-010 MU100023A-037		MU100023A-011 MU100023A-025	
SC Connector	MU100023A-010 MU100023A-040		MU100023A-011 MU100023A-026	

*: Different types of connector adapters cannot be selected for the SM port (1310/1550 nm) and the SM port (1650 nm).

2-4-3 Selecting Visible Light Source Option

Breaks in the optical fiber can be detected visually using this light source. This option cannot be added after purchase.





Model	Name	Notes
MU100023A-002	Visual Fault Locator	For direct insertion of 2.5 mm (FC, SC) optical fiber with fixed diameter of 2.5 mm.
J1335A	MU/LC Connector Adapter	Required conversion adapter for inserting LC (1.25 mm) optical fiber

OTDR Module

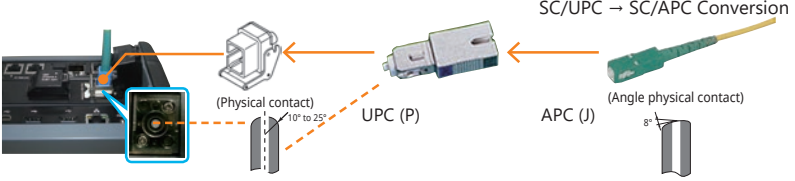
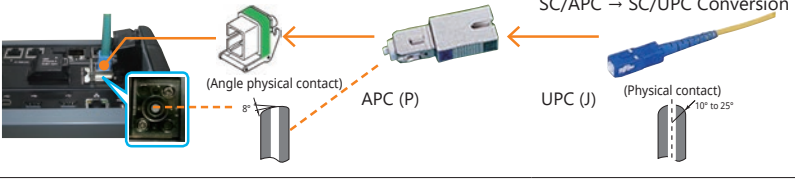
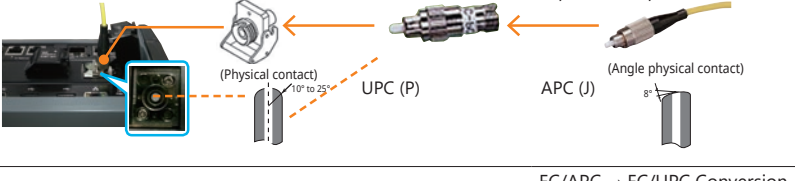
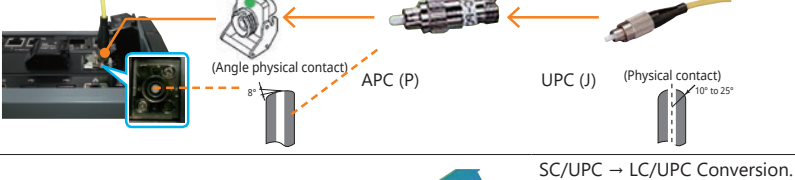
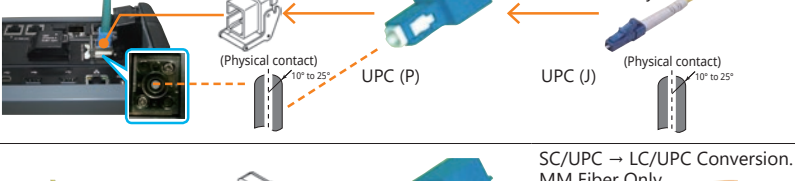
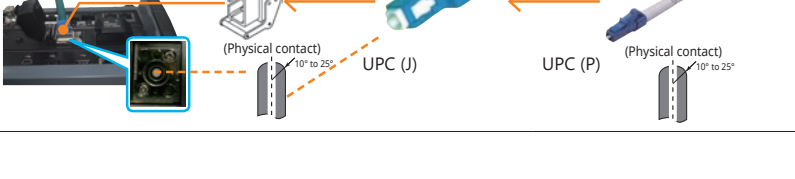
2-5 Selecting MU100020A/MU100021A/MU100022A/MU100023A Options

The OTDR Module connector is available in a total of five types (3 UPC and 2 APC). These connectors can be changed freely by the user. However, connectors with mismatched polish types cannot be used.

2-5-1 OTDR Module Conversion Connector Adapters

Model	UPC (Option 010), SM/MM Ports		APC (Option 011), SM Port	
	J0617B (FC/UPC)	J0619B (SC/UPC)	J0739A (FC/APC)	J1697A (SC/APC)
Name	Changeable Optical Connector (FC-PC)	Changeable Optical Connector (SC)	Changeable Optical Connector (FC-APC)	Changeable Optical Connector (SC-APC)
Form				

2-5-2 Optical Fiber Conversion Adapters

Model	Name	Notes
J1530A	SC Plug-in Converter (UPC (P)-APC (J))	 <p>SC/UPC → SC/APC Conversion</p>
J1531A	SC Plug-in Converter (APC (P)-UPC (J))	 <p>SC/APC → SC/UPC Conversion</p>
J1532A	FC Plug-in Converter (UPC (P)-APC (J))	 <p>FC/UPC → FC/APC Conversion</p>
J1533A	FC Plug-in Converter (APC (P)-UPC (J))	 <p>FC/APC → FC/UPC Conversion</p>
J1534A	LC-SC Plug-in Converter (for SM, SC (P)-LC (J))	 <p>SC/UPC → LC/UPC Conversion. SM Fiber Only</p>
J1535A	LC-SC Plug-in Converter (for MM, SC (P)-LC (J))	 <p>SC/UPC → LC/UPC Conversion. MM Fiber Only</p>

2-5-3 Others

Model	Name	Notes
NETWORKS*	PC Emulation Software for Data Analysis and Reporting	Supports PC running Microsoft Windows 7 and Windows 10 to edit waveform data and create reports
W3810AE	MT1000A MU100020A Network Master Pro Operation Manual	MT1000A and MU100020A/MU100021A/MU100022A/MU100023A operation manuals

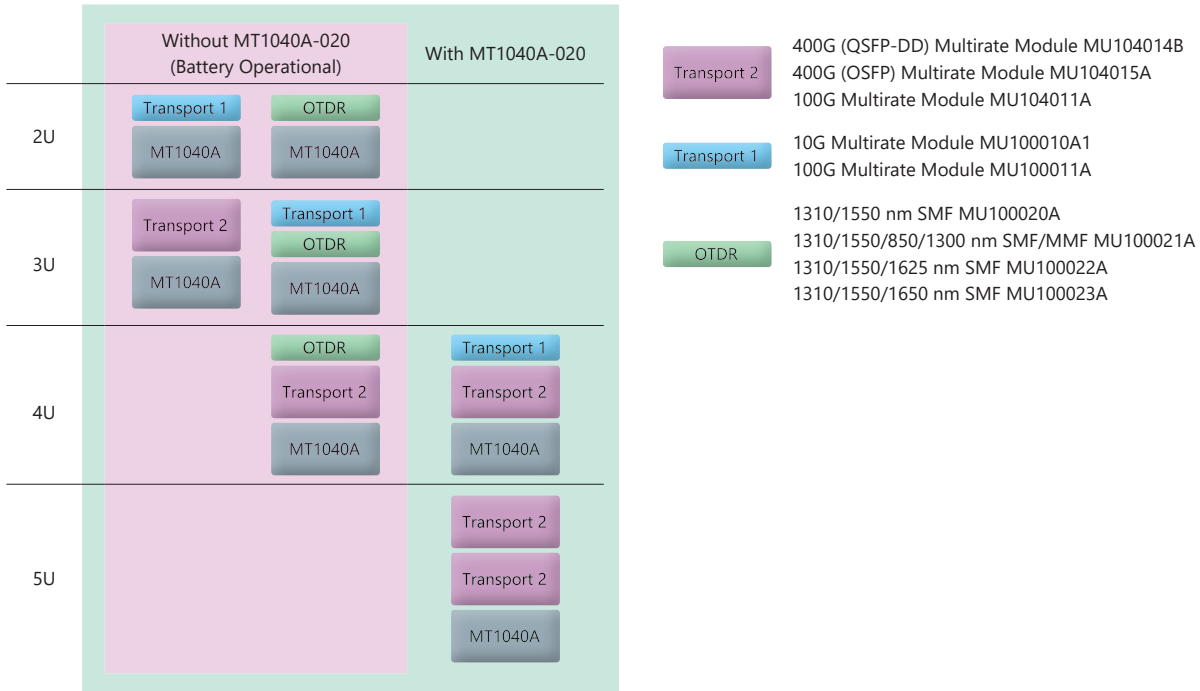
*: Reduce the software display resolution to 1920 × 1080 or less.

New Purchase

Optional Accessories, Extended Warranty Services and Remote Software Service

3-1 MT1040A Power Supply Option

Depending on module combination, it is necessary to order MT1040A-020 Activate for 400G Dual/100G Quad Option.



3-2 MT1040A Selecting Optional Accessories

Various application parts make the MT1040A more convenient to use.

Battery Charger G0324A

This is the charger for the MT1040A G0423A Li-ion battery. This product must not be exported to China.



Video Inspection Probe G0382A/G0306C

Scratches and dirt on the connector end face are a major cause of degraded communications quality. The MT1040A has a built-in VIP function for analyzing the condition of the optical connector end face in the utility menu. When the VIP is connected, scratches and dirt on the optical connector end face are visualized (x 400) and the OK/NG status is evaluated based on the IEC61300-3-35 standard.

Anritsu supports VIP Series G0382A (USB Autofocus Type) and G0306C* (USB Standard Type).

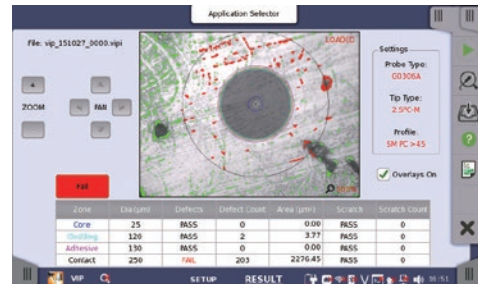


G0382A



G0306C

Different tip types are used by the G0382A and G0306C.



Optical Connector End-face Inspection/Evaluation Screen

*: When checking the end face of some SC-APC-F and FC-APC-F adapters, sometimes, there may be a dark region at the screen edge and the end face may not be checked correctly.

New Purchase

Optional Accessories, Extended Warranty Services and Remote Software Service

Accessories for MT1040A Dual-Module Configuration

The size of the MT1040A depends on the module configuration. Choose the appropriate case.

Module Combination	Mounting Screws	Soft Case		Hard Case	
		B0745A	B0772A	B0733A	B0773A
Short (2U)	B0730A				
Standard Transport (Type 2) (3U)	B0731A				
+ Transport (Type 1) or OTDR Module (4U)	B0740A			345 (W) × 238 (H) × 480 (D) mm, 3.5 kg	495 (W) × 338 (H) × 663 (D) mm, 12.3 kg
Two Transport (type 2) Modules (5U)	B0741A				



Size of Each Hard Case for MT1040A

Optical Cables

Model	Name	Notes
J1571A	Optical cable SM LC/PC to SC/PC 3 m	Single core (no paired cables)
J1575A	Optical Cable SM LC/PC to FC/PC 3 m	Single core (no paired cables)
J1579A	Optical Cable SM LC/PC to LC/PC 3 m	Single core (no paired cables)
J1581A	Optical Cable MM LC/PC to LC/PC 3 m	Single core (no paired cables)

MT1040A Module Connection Parts

Model	Name	Notes
B0720A	Rear Panel	MT1040A Rear Panel
B0730A	Screw 2U	2 units screw set (Total 4 pcs)
B0731A	Screw 3U	3 units screw set (Total 4 pcs)
B0740A	Screw 4U	4 units screw set (Total 4 pcs)
B0741A	Screw 5U	5 units screw set (Total 4 pcs)
B0769A	MT1040A Screw Kit	Composed of B0730A, B0731A, B0740A and B0741A.

Optional Accessories, Extended Warranty Services and Remote Software Service

3-3 MT1040A Selecting Extended Warranty Services

The standard warranty period is 1 year. An extended warranty can be purchased for the main frame and the test interface modules as listed below.

Model	Name
MT1040A	
MT1040A-ES210	2 Years Extended Warranty Service (standard 1 year + 1 year)
MT1040A-ES310	3 Years Extended Warranty Service (standard 1 year + 2 years)
MT1040A-ES510	5 Years Extended Warranty Service (standard 1 year + 4 years)
MU104014B	
MU104014B-ES210	2 Years Extended Warranty Service (standard 1 year + 1 year)
MU104014B-ES310	3 Years Extended Warranty Service (standard 1 year + 2 years)
MU104014B-ES510	5 Years Extended Warranty Service (standard 1 year + 4 years)
MU104015A	
MU104015A-ES210	2 Years Extended Warranty Service (standard 1 year + 1 year)
MU104015A-ES310	3 Years Extended Warranty Service (standard 1 year + 2 years)
MU104015A-ES510	5 Years Extended Warranty Service (standard 1 year + 4 years)
MU104011A	
MU104011A-ES210	2 Years Extended Warranty Service (standard 1 year + 1 year)
MU104011A-ES310	3 Years Extended Warranty Service (standard 1 year + 2 years)
MU104011A-ES510	5 Years Extended Warranty Service (standard 1 year + 4 years)
MU100010A1	
MU100010A1-ES210	2 Years Extended Warranty Service (standard 1 year + 1 year)
MU100010A1-ES310	3 Years Extended Warranty Service (standard 1 year + 2 years)
MU100010A1-ES510	5 Years Extended Warranty Service (standard 1 year + 4 years)

Model	Name
MU100011A	
MU100011A-ES210	2 Years Extended Warranty Service (standard 1 year + 1 year)
MU100011A-ES310	3 Years Extended Warranty Service (standard 1 year + 2 years)
MU100011A-ES510	5 Years Extended Warranty Service (standard 1 year + 4 years)
MU100020A	
MU100020A-ES210	2 Years Extended Warranty Service (standard 1 year + 1 year)
MU100020A-ES310	3 Years Extended Warranty Service (standard 1 year + 2 years)
MU100020A-ES510	5 Years Extended Warranty Service (standard 1 year + 4 years)
MU100021A	
MU100021A-ES210	2 Years Extended Warranty Service (standard 1 year + 1 year)
MU100021A-ES310	3 Years Extended Warranty Service (standard 1 year + 2 years)
MU100021A-ES510	5 Years Extended Warranty Service (standard 1 year + 4 years)
MU100022A	
MU100022A-ES210	2 Years Extended Warranty Service (standard 1 year + 1 year)
MU100022A-ES310	3 Years Extended Warranty Service (standard 1 year + 2 years)
MU100022A-ES510	5 Years Extended Warranty Service (standard 1 year + 4 years)
MU100023A	
MU100023A-ES210	2 Years Extended Warranty Service (standard 1 year + 1 year)
MU100023A-ES310	3 Years Extended Warranty Service (standard 1 year + 2 years)
MU100023A-ES510	5 Years Extended Warranty Service (standard 1 year + 4 years)

New Purchase

Optional Accessories, Extended Warranty Services and Remote Software Service

3-4 Remote Software Service

The following licenses must be purchased to use the MX109020A Site Over Remote Access.

Mainframe Option License

Model/Order No.	Name
MT1040A-003*1	WLAN/Bluetooth Connect
MT1040A-011*2	Site Over Remote Access Connect

*1: WLAN is available for certified countries and regions including USA, Canada, Japan and EU countries. Please visit the Anritsu web site for updated information.

Although this product has not been approved by Bluetooth SIG, the supported frequencies are in the range assigned to Bluetooth® communications.

*2: Validity period is unlimited. An open TCP port may be required to allow the MT1040A to be connected from an in-company LAN to MX109020A, depending on the LAN security policy.

Subscription Option License

Model/Order No.	Name
MX109020A*3, *5, *6, *7	Site Over Remote Access Basic License
MX109020A-TL001*3, *4	Site Over Remote Access 1 Year License
MX109020A-001*5	Site Over Remote Access 8 Units
MX109020A-002*5	Site Over Remote Access Unlimited Units
MX109020A-003*8	Centralized Data Management

*3: We recommend purchasing a 1-year license in addition to the basic license.

*4: When extending the usage period, we recommend purchasing in 1-year license periods

*5: Up to two measuring instruments can be remotely controlled simultaneously with the basic license.

This number can be increased to up to 8 units by purchasing the MX109020A-001 option, and up to 100 units by purchasing the MX109020A-002 option.

*6: You must agree to the service terms before purchasing SORA.

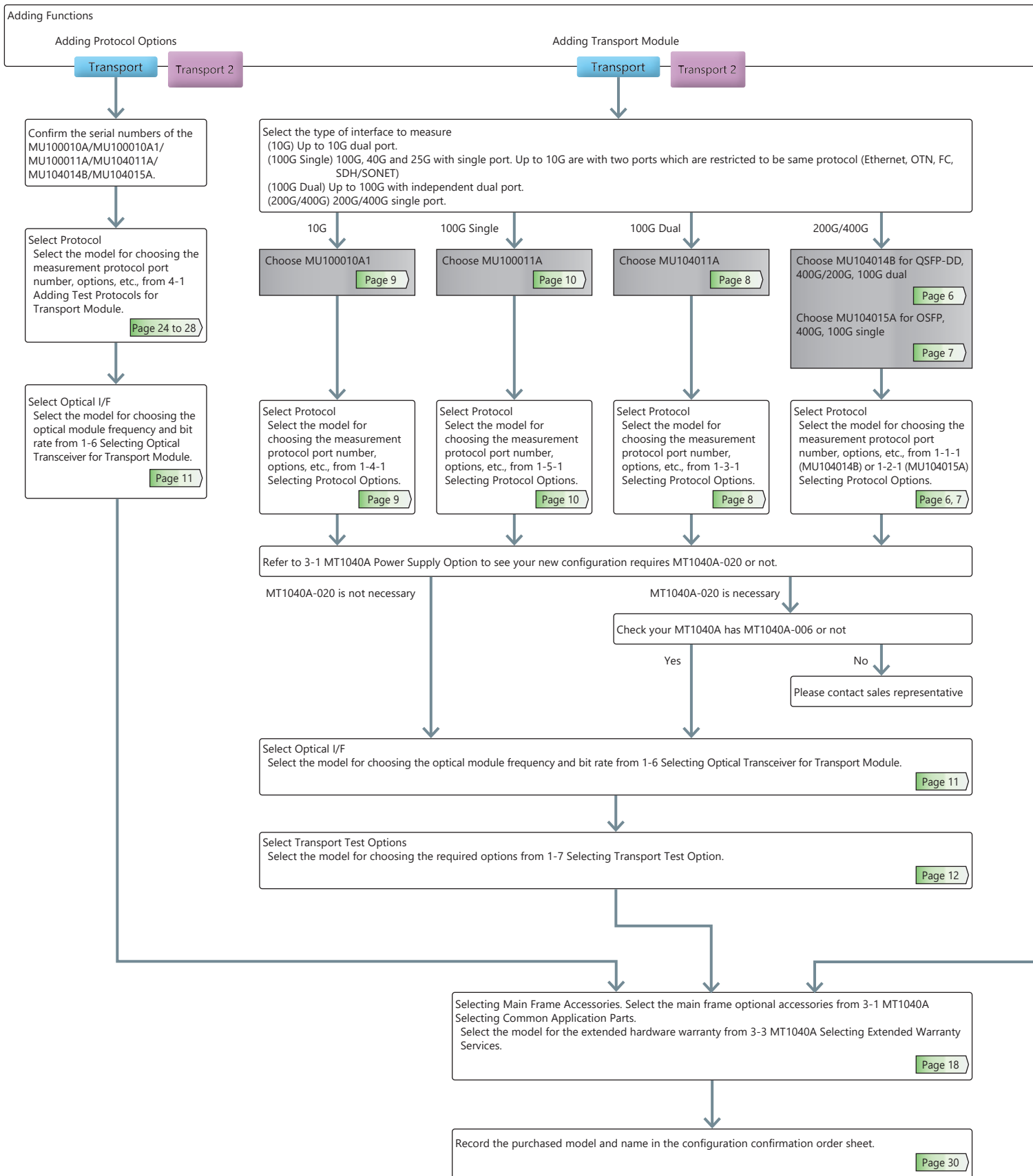
Refer to the service terms at the following URL: <https://www.anritsu.com/en-AU/test-measurement/support/downloads/manuals/dwl20059>

*7: This product cannot be used in some regions and countries; please read the service terms for more details.

*8: Users must provide their own storage at the upload destination.

Additional Purchases Flowchart

Use this flowchart when adding modules and options to a previously purchased MT1040A.



Adding OTDR Module

OTDR

Select the type of optical fiber to measure
Single Mode only
Both Single Mode and Multimode

Single Mode only

Both Single Mode and Multimode

Wavelength select

2 Wavelength
(1310/1550 nm)

3 Wavelength
(1310/1550/
1625 nm)

3 Wavelength
(1310/1550/
1650 nm)

Choose MU100020A

Choose MU100022A

Choose MU100023A

Choose MU100021A

Select Dynamic Range
Select the model with the
required test wavelength and
dynamic range from 2-1-1
Selecting Dynamic Range.

Select Dynamic Range
Select the model with the
required test wavelength and
dynamic range from 2-3-1
Selecting Dynamic Range.

Select Dynamic Range
Select the model with the
required test wavelength and
dynamic range from 2-4-1
Selecting Dynamic Range.

Select Dynamic Range
Select the model with the
required test wavelength and
dynamic range from 2-2-1
Selecting Dynamic Range.

Select Connector
Select the model with the
required connector type from
2-1-2 Selecting Polish Type/
Connector Adapter.

Select Connector
Select the model with the
required connector type from
2-3-2 Selecting Polish Type/
Connector Adapter.

Select Connector
Select the model with the
required connector type from
2-4-2 Selecting Polish Type/
Connector Adapter.

Select Connector
Select the model with the
required connector type from
2-2-2 Selecting Polish Type/
Connector Adapter.

With/Without Visible Light Source
Select the model with built-in
visible light source if required
from 2-1-3 Selecting Visible
Light Source Option.

With/Without Visible Light Source
Select the model with built-in
visible light source if required
from 2-3-3 Selecting Visible
Light Source Option.

With/Without Visible Light Source
Select the model with built-in
visible light source if required
from 2-4-3 Selecting Visible
Light Source Option.

With/Without Visible Light Source
Select the model with built-in
visible light source if required
from 2-2-3 Selecting Visible
Light Source Option.

Selecting OTDR Test Options
Select the models with the option choices from 2-5-1 OTDR Module Conversion Connector Adapters, 2-5-2 Optical Fiber Conversion Adapters, and 2-5-3 Others.

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Additional Purchases

Adding New Options to Previously Purchased MT1040A and Measurement Modules

Confirm the serial numbers of the MT1040A, MU104014B/MU104015A/MU104011A and MU100010A1/MU100011A.

4-1 Adding Test Protocols for Transport Module

When adding options, please either specify one of the following media along with the relevant option, or Web download.

Model	Name
Z1849A	DVD-ROM for Retrofit Options
Z1850A	USB Stick for Retrofit Options

In addition, when purchasing multiple retrofit options at one time, they are all installed using the same media.

<MU104014B>

To add a new protocol option to a previously purchased MU104014B, choose the required option from the following list.

The MU104014B serial number is required to make the purchase.

MU104014B	Bit Rate	10G or less	16G or 25G	40G or 100G	200G or 400G	
Transport Technology	No. of Measurement Ports*1	2 (Dual Channel)	2 (Dual Channel)	1 (Single Channel)	2 (Dual Channel)	1 (Single Channel)
Ethernet						
IPv4/IPv6, Y.1564, IEEE 1588 v2, RFC 2544, BER, Multistream, OAM, SyncE, MPLS, MPLS-TP, Multistage VLAN, PBB, Ping/Traceroute, In-band Control, Auto discovery, Reflector	MU104014B-312 Ethernet up to 25G Dual Channel Retrofit	—	—	MU104014B-313 Ethernet 40G Single Channel Retrofit	MU104014B-314 Ethernet 40G Dual Channel Retrofit	MU104014B-331 Ethernet 200G Single Channel Retrofit
				MU104014B-315 Ethernet 100G Single Channel Retrofit	MU104014B-316 Ethernet 100G Dual Channel Retrofit	MU104014B-333 Ethernet 400G Single Channel Retrofit
Pass-through (10G), Channel Stat (10G)	MU104014B-312 Ethernet up to 25G Dual Channel Retrofit	—	—	—	—	—
TCP Throughput Test (RFC 6349, iPerf, 10G)	MU104014B-320 TCP Throughput Retrofit*2	—	—	—	—	—
100ZR	—	—	—	MU104014B-306*3 100G Pluggable Coherent		—
400GBASE-XDR4 N-Port BERT	—	—	—	—	—	MU104014B-334 4×100G N Port BERT Retrofit
Open ZR+ Multi Client BERT	—	—	—	—	—	MU104014B-336 Open ZR+ Multi Client BERT Retrofit
eCPRI/RoE (IEEE1914.3)						
IPv4/IPv6, BER, VLAN, SyncE, IEEE 1588 v2, E-OAM	MU104014B-312 Ethernet up to 25G Dual Channel Retrofit	—	—	MU104014B-313 Ethernet 40G Single Channel Retrofit	MU104014B-314 Ethernet 40G Dual Channel Retrofit	—
				MU104014B-315 Ethernet 100G Single Channel Retrofit	MU104014B-316 Ethernet 100G Dual Channel Retrofit	—
OTN						
Errors/Alarms, Error Performance/Delay/APS Test, FEC Test, O.182 Test, Overhead Editing/Capture, TCM Monitoring/Generation, Tributary Scan	MU104014B-352 OTN up to 10G Dual Channel Retrofit	—	—	MU104014B-353 OTN 40G Single Channel Retrofit	MU104014B-354 OTN 40G Dual Channel Retrofit	—
				MU104014B-355 OTN 100G Single Channel Retrofit	MU104014B-356 OTN 100G Dual Channel Retrofit	—
100ZR	—	—	—	MU104014B-306*4 100G Pluggable Coherent		—
ODU Multiplexing Addition	MU104014B-363 ODU Multiplexing/ Multi Stage Retrofit*5	—	—	MU104014B-363 ODU Multiplexing/Multi Stage Retrofit*5		—
CPRI/OBSAI						
CPRI/OBSAI L1: Level/Bit Rate/Frequency deviation Measurement, Alarms/Errors Detection, Unframed BER CPRI/OBSAI L2: Link Status Monitoring, Alarms/Errors Detection, Framed BER Measurement, RTD Measurement, Monitoring using Passthrough	MU104014B-374 CPRI/OBSAI up to 25G Dual Channel Retrofit	—	—	—	—	—
Fibre Channel						
Performance Test, Signal Generation/Monitoring, Latency, BER, Line Alarm/Error Monitoring	MU104014B-392 FC up to 16G Dual Channel Retrofit	—	—	—	—	—
SDH/SONET						
Two-Way Monitoring/Mapping, Errors/Alarms, Error Performance/Delay/APS Test, Header Monitoring/Generation, Pointer Event Generation, Tributary Scan	MU104014B-382 SDH/SONET up to 10G Dual Channel Retrofit	—	—	MU104014B-384*6 STM-256/OC-768 Client Signal Retrofit		—

*1: The channel is not related to the physical port position. The user can freely choose either of the two physical ports assigned to the option via software. For a dual channel setup, the two different ports of one protocol can operate simultaneously, or two different single channel options can operate simultaneously.

*2: Requires MU104014B-012/312.

*3: Requires MU104014B-015 or 016.

*4: Requires MU104014B-055 or 056.

*5: Requires that at least one of the following option is installed: MU104014B-052/352, MU104014B-053/353, MU104014B-054/354, MU104014B-055/355, MU104014B-056/356.

*6: MU104014B does not have a physical interface of the option. The option is required for client signal mapped in the OTN.

Additional Purchases

Adding New Options to Previously Purchased MT1040A and Measurement Modules

<MU104015A>

To add a new protocol option to a previously purchased MU104015A, choose the required option from the following list. The MU104015A serial number is required to make the purchase.

MU104015A	Bit Rate	10G or less	16G or 25G	40G or 100G	400G
Transport Technology	No. of Measurement Ports*1	2 (Dual Channel)	2 (Dual Channel)	1 (Single Channel)	1 (Single Channel)
Ethernet					
IPv4/IPv6, Y.1564, IEEE 1588 v2, RFC 2544, BER, Multistream, OAM, SyncE, MPLS, MPLS-TP, Multistage VLAN, PBB, Ping/Traceroute, In-band Control, Auto discovery, Reflector	MU104015A-312 Ethernet up to 25G Dual Channel Retrofit			MU104015A-313 Ethernet 40G Single Channel Retrofit	—
				MU104015A-315 Ethernet 100G Single Channel Retrofit	MU104015A-333 Ethernet 400G Single Channel Retrofit
Pass-through (10G), Channel Stat (10G)	MU104015A-312 Ethernet up to 25G Dual Channel Retrofit	—	—	—	—
TCP Throughput Test (RFC 6349, iPerf, 10G)	MU104015A-320 TCP Throughput Retrofit*2	—	—	—	—
100ZR	—	—	—	MU104015A-306*3 100G Pluggable Coherent	—
400GBASE-2FR4 N-Port BERT	—	—	—	—	MU104015A-335 2×200G N Port BERT Retrofit
eCPRI/RoE (IEEE1914.3)					
IPv4/IPv6, BER, VLAN, SyncE, IEEE 1588 v2, E-OAM	MU104015A-312 Ethernet up to 25G Dual Channel Retrofit			MU104015A-313 Ethernet 40G Single Channel Retrofit	—
				MU104015A-315 Ethernet 100G Single Channel Retrofit	—
OTN					
Errors/Alarms, Error Performance/Delay/APS Test, FEC Test, O.182 Test, Overhead Editing/Capture, TCM Monitoring/Generation, Tributary Scan	MU104015A-352 OTN up to 10G Dual Channel Retrofit			MU104015A-353 OTN 40G Single Channel Retrofit	—
				MU104015A-355 OTN 100G Single Channel Retrofit	—
100ZR	—	—	—	MU104015A-306*4 100G Pluggable Coherent	—
ODU Multiplexing Addition	MU104015A-363 ODU Multiplexing/Multi Stage Retrofit*5	—	—	MU104015A-363 ODU Multiplexing/Multi Stage Retrofit*5	—
CPRI/OBSAI					
CPRI/OBSAI L1: Level/Bit Rate/Frequency deviation Measurement, Alarms/Errors Detection, Unframed BER CPRI/OBSAI L2: Link Status Monitoring, Alarms/Errors Detection, Framed BER Measurement, RTD Measurement, Monitoring using Passthrough	MU104015A-374 CPRI/OBSAI up to 25G Dual Channel Retrofit			—	—
Fibre Channel					
Performance Test, Signal Generation/Monitoring, Latency, BER, Line Alarm/Error Monitoring	MU104015A-392 FC up to 16G Dual Channel Retrofit			—	—
SDH/SONET					
Two-Way Monitoring/Mapping, Errors/Alarms, Error Performance/Delay/APS Test, Header Monitoring/Generation, Pointer Event Generation, Tributary Scan	MU104015A-382 SDH/SONET up to 10G Dual Channel Retrofit	—	—	MU104015A-384*6 STM-256/OC-768 Client Signal Retrofit	—

*1: The channel is not related to the physical port position. The user can freely choose either of the two physical ports assigned to the option via software.

For a dual channel setup, the two different ports of one protocol can operate simultaneously, or two different single channel options can operate simultaneously.

*2: Requires MU104015A-012.

*3: Requires MU104015A-015.

*4: Requires MU104015A-053.

*5: Requires that at least one of the following option is installed: MU104015A-052, MU104015A-053, MU104015A-055.

*6: MU104015A does not have a physical interface of the option. The option is required for client signal mapped in the OTN.

Additional Purchases

Adding New Options to Previously Purchased MT1040A and Measurement Modules

<MU104011A>

To add a new protocol option to a previously purchased MU104011A, choose the required option from the following list. The MU104011A serial number is required to make the purchase.

MU104011A	Bit Rate	10G or less	16G or 25G	40G or 100G	
Transport Technology	No. of Measurement Ports*1	2 (Dual Channel)	2 (Dual Channel)	1 (Single Channel)	2 (Dual Channel)
Ethernet					
IPv4/IPv6, Y.1564, IEEE 1588 v2, RFC 2544, BER, Multistream, OAM, SyncE, MPLS, MPLS-TP, Multistage VLAN, PBB, Ping/Traceroute, In-band Control, Auto discovery, Reflector	MU104011A-312 Ethernet up to 25G Dual Channel Retrofit		MU104011A-313 Ethernet 40G Single Channel Retrofit		MU104011A-314 Ethernet 40G Dual Channel Retrofit
			MU104011A-315 Ethernet 100G Single Channel Retrofit		MU104011A-316 Ethernet 100G Dual Channel Retrofit
Pass-through (10G), Channel Stat (10G)	MU104011A-312 Ethernet up to 25G Dual Channel Retrofit	—	—	—	—
TCP Throughput Test (RFC 6349, iPerf, 10G)	MU104011A-320 TCP Throughput Retrofit*2	—	—	—	—
100ZR	—	—	MU104011A-306*3 100G Pluggable Coherent		
eCPRI/RoE (IEEE1914.3)					
IPv4/IPv6, BER, VLAN, SyncE, IEEE 1588 v2, E-OAM	MU104011A-312 Ethernet up to 25G Dual Channel Retrofit		MU104011A-313 Ethernet 40G Single Channel Retrofit		MU104011A-314 Ethernet 40G Dual Channel Retrofit
			MU104011A-315 Ethernet 100G Single Channel Retrofit		MU104011A-316 Ethernet 100G Dual Channel Retrofit
OTN					
Errors/Alarms, Error Performance/Delay/APS Test, FEC Test, O.182 Test, Overhead Editing/Capture, TCM Monitoring/Generation, Tributary Scan	MU104011A-352 OTN up to 10G Dual Channel Retrofit		—	MU104011A-353 OTN 40G Single Channel Retrofit	MU104011A-354 OTN 40G Dual Channel Retrofit
			—	MU104011A-355 OTN 100G Single Channel Retrofit	MU104011A-356 OTN 100G Dual Channel Retrofit
ODU Multiplexing Addition	MU104011A-363 ODU Multiplexing/ Multi Stage Retrofit*4	—	MU104011A-363 ODU Multiplexing/Multi Stag Retrofit*4		
100ZR	—	—	MU104011A-306*5 100G Pluggable Coherent		
CPRI/OBSAI					
CPRI/OBSAI L1: Level/Bit Rate/Frequency deviation Measurement, Alarms/Errors Detection, Unframed BER CPRI/OBSAI L2: Link Status Monitoring, Alarms/Errors Detection, Framed BER Measurement, RTD Measurement, Monitoring using Passthrough	MU104011A-374 CPRI/OBSAI up to 25G Dual Channel Retrofit		—	—	—
Fibre Channel					
Performance Test, Signal Generation/Monitoring, Latency, BER, Line Alarm/Error Monitoring	MU104011A-392 FC up to 16G Dual Channel Retrofit		—	—	—
SDH/SONET					
Two-Way Monitoring/Mapping, Errors/Alarms, Error Performance/Delay/APS Test, Header Monitoring/Generation, Pointer Event Generation, Tributary Scan	MU104011A-382 SDH/SONET up to 10G Dual Channel Retrofit	—	MU104011A-384*6 STM-256/OC-768 Client Signal Retrofit		

*1: The channel is not related to the physical port position. The user can freely choose either of the two physical ports assigned to the option via software.

For a dual channel setup, the two different ports of one protocol can operate simultaneously, or two different single channel options can operate simultaneously.

*2: Requires MU104011A-012.

*3: Requires MU104011A-015 or 016.

*4: Requires that at least one of the following option is installed: MU104011A-052, MU104011A-053, MU104011A-054, MU104011A-055, MU104011A-056.

*5: Requires MU104011A-055 or 056.

*6: MU104011A does not have a physical interface of the option. The option is required for client signal mapped in the OTN.

Additional Purchases

Adding New Options to Previously Purchased MT1040A and Measurement Modules

<MU100010A1>

To add a new protocol option to a previously purchased MU100010A1, choose the required option from the following list. The MU100010A1 serial number is required to make the purchase.

Adding MU100010A1 Protocol Option	Bit Rate	Less than 5G	From 6G to 10G	
Transport Technology	No. of Measurement Ports*1	2 (Dual Channel)	1 (Single Channel)	2 (Dual Channel)
Ethernet				
IPv4/IPv6, Y.1564, IEEE 1588 v2, RFC 2544, BER, Multistream, OAM, SyncE, MPLS, MPLS-TP, Multistage VLAN, PBB, Ping/Traceroute, Cable Tests, In-band Control, Auto discovery, Path-through, Channel Stat		MU100010A-301 Up to 2.7G Dual Channel Retrofit	MU100010A-311 Ethernet 10G Single Channel Retrofit	MU100010A-312 Ethernet 10G Dual Channel Retrofit
TCP Throughput Test (RFC 6349, iPerf)		MU100010A-320 TCP Throughput Retrofit		
eCPRI/RoE (IEEE1914.3)				
IPv4/IPv6, BER, VLAN, SyncE, IEEE 1588 v2, E-OAM		MU100010A-301 Up to 2.7G Dual Channel Retrofit	MU100010A-311 Ethernet 10G Single Channel Retrofit	MU100010A-312 Ethernet 10G Dual Channel Retrofit
OTN*2				
Errors/Alarms, Error Performance/Delay/APS Test, FEC Test, O.182 Test, Overhead Editing/Capture, TCM Monitoring/Generation, Tributary Scan		MU100010A-301 Up to 2.7G Dual Channel Retrofit	MU100010A-351 OTN 10G Single Channel Retrofit	MU100010A-352 OTN 10G Dual Channel Retrofit
ODU Multiplexing Addition*3		MU100010A-361 ODU Multiplexing Retrofit		
ODU Flex Addition*4		—	MU100010A-362 ODU Flex Retrofit	
CPRI/OBSAI				
CPRI/OBSAI L1: Level/Bit Rate/Frequency deviation Measurement, Alarms/Errors Detection, Unframed BER CPRI/OBSAI L2: Link Status Monitoring, Alarms/Errors Detection, Framed BER Measurement, RTD Measurement, Monitoring using Passthrough		MU100010A-371 CPRI/OBSAI Up to 5G Dual Channel Retrofit	MU100010A-372 CPRI/OBSAI 6G to 10G Single Channel Retrofit	MU100010A-373 CPRI/OBSAI 6G to 10G Dual Channel Retrofit
Fibre Channel				
Performance Test, Signal Generation/Monitoring, Latency, BER, Line Alarm/Error Monitoring		MU100010A-302 FC 1G 2G 4G Dual Channel Retrofit	MU100010A-391 FC 8G 10G Single Channel Retrofit	MU100010A-392 FC 8G 10G Dual Channel Retrofit
SDH/SONET				
Tw-Way Monitoring/Mapping, Errors/Alarms, Error Performance/Delay/APS Test, Header Monitoring/Generation, Pointer Event Generation, Tributary Scan		MU100010A-301 Up to 2.7G Dual Channel Retrofit	MU100010A-381 STM-64 OC-192 Single Channel Retrofit	MU100010A-382 STM-64 OC-192 Dual Channel Retrofit

- *1: The channel is not related to the physical port position. The user can freely choose either of the two physical ports assigned to the option via software. For a dual channel setup, the two different ports of one protocol can operate simultaneously, or two different single channel options can operate simultaneously.
- *2: When using the OTN function, the channel can be used as client signal mapped to OTN. For example, when mapping STM-64/OC-192 to OTU2, both the MU100010A-351/352 (for physical port) and the MU100010A-381/382 (for client signal) are required.
- *3: When the ODU Multimapping option is installed, OTN multistage mapping measurements are supported. This one option supports both single channel and dual channel.
- *4: When the ODU Flex option is installed, since transport is over OTN networks, mappings based on used ODU Flex standard can be measured. This one option supports both single channel and dual channel.

Additional Purchases

Adding New Options to Previously Purchased MT1040A and Measurement Modules

<MU100011A>

To add a new protocol option to a previously purchased MU100011A, choose the required option from the following list. The MU100011A serial number is required to make the purchase.

Adding MU100011A Protocol Option	Bit Rate	Up to 10G		Higher than 10G	
Transport Technology	No. of Measurement Ports*1	1 (Single Channel)	2 (Dual Channel)	1 (Single Channel)	2 (Dual Channel)
Ethernet					
IPv4/IPv6, Y.1564, IEEE 1588 v2, RFC 2544, BER, Multistream, OAM, SyncE, MPLS, MPLS-TP, Multistage VLAN, PBB, Ping/Traceroute, Cable Tests, In-band Control, Auto discovery	MU100011A-301 Up to 10G Single Channel Retrofit	MU100011A-303 Up to 10G Dual Channel Retrofit	MU100011A-317*8 Ethernet 25G Single Channel Retrofit	—	
			MU100011A-313*9 Ethernet 40G Single Channel Retrofit	—	
			MU100011A-315*9 Ethernet 100G Single Channel Retrofit	—	
			—	—	
Pass-through, Channel Stat			—	—	
TCP Throughput Test (RFC 6349, iPerf)	MU100011A-320 TCP Throughput		—		
SyncE Wander	MU100011A-021*10 SyncE Wander				—
100GBASE-SR and single-λ 100G related measurements	—	—	MU100011A-323*8 RS-FEC for 100GBASE-SR4 Retrofit	—	
			MU100011A-324*8 RS-FEC (544,514) for 100GBASE-xR Retrofit	—	
			MU100011A-315*9 Ethernet 100G Single Channel Retrofit	—	
100ZR	—	—	MU100011A-306*11 100G Pluggable Coherent	—	
eCPRI/RoE (IEEE1914.3)					
IPv4/IPv6, BER, VLAN, SyncE, IEEE 1588 v2, E-OAM	MU100011A-301 Up to 10G Single Channel Retrofit	MU100011A-303 Up to 10G Dual Channel Retrofit	MU100011A-317*8 Ethernet 25G Single Channel Retrofit	MU100011A-375*7, *8 eCPRI/RoE 25G Dual Channel Retrofit	
			MU100011A-313*9 Ethernet 40G Single Channel Retrofit	—	
			MU100011A-315*9 Ethernet 100G Single Channel Retrofit	—	
OTN*2, *3					
Errors/Alarms, Error Performance/Delay/APS Test, FEC Test, O.182 Test, Overhead Editing/Capture, TCM Monitoring/Generation, Tributary Scan	MU100011A-301 Up to 10G Single Channel Retrofit	MU100011A-303 Up to 10G Dual Channel Retrofit	MU100011A-353 OTN 40G Single Channel Retrofit	—	
			MU100011A-355 OTN 100G Single Channel Retrofit	—	
ODU Multiplexing Addition*2, *4	MU100011A-363 ODU Multiplexing/Multi Stage Retrofit				
ODU Flex Addition*2, *5	MU100011A-362 ODU Flex Retrofit				—
100ZR	—	—	MU100011A-306*12 100G Pluggable Coherent	—	
CPRI/OBSAI					
CPRI/OBSAI L1: Level/Bit Rate/Frequency deviation Measurement, Alarms/Errors Detection, Unframed BER CPRI/OBSAI L2: Link Status Monitoring, Alarms/Errors Detection, Framed BER Measurement, RTD Measurement, Monitoring using Passthrough	MU100011A-371 CPRI/OBSAI Up to 10G Single Channel Retrofit	MU100011A-372 CPRI/OBSAI Up to 10G Dual Channel Retrofit	MU100011A-373 CPRI 12/25G Single Channel Retrofit	MU100011A-374 CPRI 12/25G Dual Channel Retrofit	
Fibre Channel					
Performance Test, Signal Generation/Monitoring, Latency, BER, Line Alarm/Error Monitoring	MU100011A-304 Up to 10G FC Single Channel Retrofit	MU100011A-305 Up to 10G FC Dual Channel Retrofit	MU100011A-391 FC 16G Single Channel Retrofit	—	
SDH/SONET					
PDH/DSn Test, Tw-Way Monitoring/Mapping, Errors/Alarms, Error Performance/Delay/APS Test, Header Monitoring/Generation, Pointer Event Generation, Tributary Scan	MU100011A-301 Up to 10G Single Channel Retrofit	MU100011A-303 Up to 10G Dual Channel Retrofit	MU100011A-383*6 STM-256/OC-768 Client Signal Retrofit	—	

*1: The channel is not related to the physical port position. The user can freely choose either of the two physical ports assigned to the option via software.

For a dual channel setup, the two different ports can operate simultaneously with different bit rate of the same single protocol.

*2: Please see the datasheet for supported OTN mapping.

*3: When using the OTN function, the channel can be used as client signal mapped to OTN.
For example, when mapping STM-256/OC-768 to OTU4, both the MU100011A-355 (for physical port) and the MU100011A-383 (for client signal) are required.

*4: When the ODU Multiplexing/Multistage option is installed, OTN multistage mapping measurements are supported.
This one option supports both single channel and dual channel.

*5: This mapping function is based on the ODUFlex standard for transmissions over OTN networks and supports client signals of any speed.

*6: The MU100011A has no STM-256/OC-768 PHY interface; it can be used for OTN client signals.

*7: Option supports eCPRI/RoE protocol tests only.

*8: FEC can be switched ON/OFF.

*9: FEC is always OFF.

*10: 40G and 100G are not supported.

*11: Requires MU100011A-015.

*12: Requires MU100011A-055.

Additional Purchases

Adding New Options to Previously Purchased MT1040A and Measurement Modules

4-2 Adding Main Frame Options for Transport Function

The MT1040A serial number is required at purchase.

Model	Name	Notes
MT1040A-303	Connectivity for WLAN/Bluetooth Retrofit	WLAN/Bluetooth options (can be used in approved countries, including N. America, Japan, EU; see Anritsu web site for latest list of countries)
MT1040A-320	Activate for 400G Dual/100G Quad retrofit	In mounting two transport modules, this option is required. This option includes AC Adapter G0419A. Please refer to 3.1 Power supply option. - When the MT1040A already has MT1040A-006, please order MT1040A-320. - When the MT1040A does not have MT1040A-006, please contact to sales representative.
MT1040-311	Site Over Remote Access Connect retrofit	This option enables remote control of the MT1040A using the Site Over Remote Access MX109020A software. We recommend using in conjunction with the WLAN/Bluetooth option MT1040A-003/303. A Wi-Fi dongle can be used in countries and regions where WLAN is not supported. For a list of supported Wi-Fi dongles, please contact us.

4-3 Adding Transport Module

When adding Transport Module to a previously purchased MT1040A, use the same procedure as for Transport Module described on pages 6 thru 12, 18 thru 21.

4-4 Adding OTDR Module

When adding the OTDR Module to a previously purchased MT1040A, use the same procedure as for OTDR Module described on pages 13 thru 21.

4-5 Adding MX109020A Option

Requires MX109020A serial number at purchase.

Model	Name	Notes
MX109020A-TL001	Site Over Remote Access 1 Year License	Extends MX109020A usage period by 1 year
MX109020A-301	Site Over Remote Access 8 Units	Extends number of instruments simultaneously controlled by MX109020A to 8 units
MX109020A-302	Site Over Remote Access Unlimited Units	Extends number of instruments simultaneously controlled by MX109020A to 100 units
MX109020A-303	Centralized Data Management	Supports upload of measurement report from MT1040A to cloud storage

Network Master Pro MT1040A

Configuration Examples

400G Core/Metro Installation

The most simple configuration to install 400G network.

Model	Name	Q'ty
MT1040A	Network Master Pro	1
MU104014B	400G (QSFP-DD) Multirate Module	1
MU104014B-033	Ethernet 400G Single Channel	1
G0404A	QSFP-DD 400GBASE-LR4	1

Up to 400G Ethernet Installation and Maintenance

Multirate Ethernet configuration to install or maintain Carrier class Ethernet network.

Model	Name	Q'ty
MT1040A	Network Master Pro	1
MU104014B	400G (QSFP-DD) Multirate Module	1
MU104014B-012	Ethernet up to 25G Dual Channel	1
MU104014B-014	Ethernet 40G Dual Channel	1
MU104014B-016	Ethernet 100G Dual Channel	1
MU104014B-031	Ethernet 200G Single Channel	1
MU104014B-033	Ethernet 400G Single Channel	1
G0322A	1G/2G/4G FC 1310 nm SFP	2
G0315A	10G LR/LW 1310 nm SFP+	2
G0389A	25G LR 1310 nm SFP28	2
G0334A	40G LR4 1310 nm QSFP+	2
G0434A	100G LR4 Dual Rate 1310 nm QSFP28	2
G0421A	QSFP56 200GBASE-LR4	1
G0404A	QSFP-DD 400GBASE-LR4	1

400G Ethernet Dual Port for System Verification

The detail verification of 400G Ethernet system such as bi-directional testing.

Model	Name	Q'ty
MT1040A	Network Master Pro	1
MT1040A-020	Activate for 400G Dual/100G Quad Option	1
MU104014B	400G (QSFP-DD) Multirate Module	2
MU104014B-033	Ethernet 400G Single Channel	2
G0404A	QSFP-DD 400GBASE-LR4	2

Up to 400G Datacom Network Installation and Maintenance

Multirate and multiprotocol configuration to install or maintain datacom network.

Model	Name	Q'ty
MT1040A	Network Master Pro	1
MU104014B	400G (QSFP-DD) Multirate Module	1
MU104014B-012	Ethernet up to 25G Dual Channel	1
MU104014B-014	Ethernet 40G Dual Channel	1
MU104014B-016	Ethernet 100G Dual Channel	1
MU104014B-031	Ethernet 200G Single Channel	1
MU104014B-033	Ethernet 400G Single Channel	1
MU104014B-020	TCP Throughput	1
MU104014B-092	FC up to 16G Dual Channel	1
G0322A	1G/2G/4G FC 1310 nm SFP	2
G0315A	10G LR/LW 1310 nm SFP+	2
G0434A	100G LR4 Dual Rate 1310 nm QSFP28	2
G0421A	QSFP56 200GBASE-LR4	1
G0404A	QSFP-DD 400GBASE-LR4	1

Ethernet Service and Optical Fiber Commissioning

Transport and OTDR in one box with upgradability to 400G.

Model	Name	Q'ty
MT1040A	Network Master Pro	1
MU104014B	400G (QSFP-DD) Multirate Module	1
MU104014B-012	Ethernet up to 25G Dual Channel	1
MU104014B-016	Ethernet 100G Dual Channel	1
MU100022A	OTDR Module 1310/1550/1625 nm SMF	1
MU100022A-022	High-Performance Dynamic Range	1
MU100022A-010	UPC Polish	1
MU100022A-037	FC Connector	1
MU100022A-002	Visual Fault Locator	1
G0322A	1G/2G/4G FC 1310 nm SFP	2
G0315A	10G LR/LW 1310 nm SFP+	2
G0434A	100G LR4 Dual Rate 1310 nm QSFP28	2

Network Master Pro MT1040A

Method for Adding Measurement Modules

Preparation 1: Version up the software for MT1040A

Install the latest software in the MT1040A.
This software can be obtained from the Anritsu web site.

Preparation 2: Remove the battery pack from Mainframe

- 1) Disconnect the AC cable.
- 2) Use screw driver or Coin and remove the battery lid from MT1040A.



- 3) Remove the battery pack.

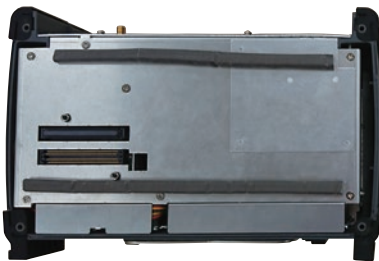


Preparation 3: Replacing the connected modules

- 1) Place the instrument on its front on a plain surface.
Loosen the screws (shown by the blue circle) on rear side of the connected module.



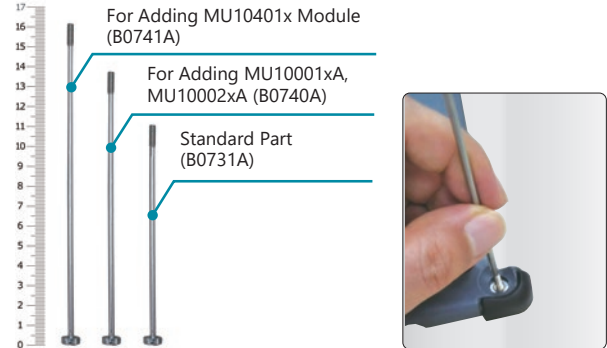
- 2) After loosening the four screws, lift up the connected module with holding both sides.
If you cannot lift up, loosen the four screws again.
You can see the panel as below.



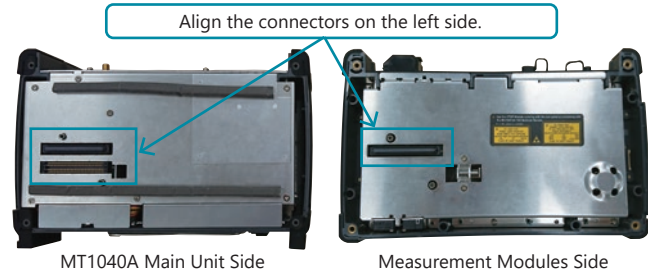
MT1040A Main Unit Back Panel

Attaching the Transport (MU10001xA) or OTDR (MU10002xA) Module

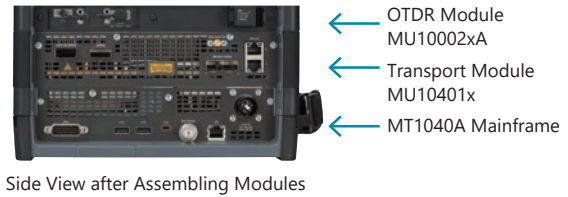
- 1) Remove four screws of former module and replace to the next screws.
Choose the bolts matching the added module. Use the B0740A for transport (MU10001xA) or OTDR module.



- 2) Align the OTDR module horizontally with the MT1040A as shown below.



- 3) Install the OTDR module in the correct MU10401x slot as shown below.



Side View after Assembling Modules

Note: Align the four edges when installing the option; the module connector is easily damaged by misalignment.

- 4) Secure the module using the B0740A part chosen in step 1.
After installing the module as shown in the figure on the right, check that there is no gap between the modules.

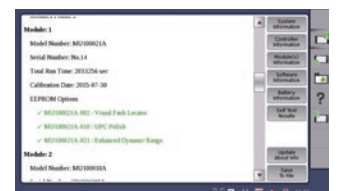


After attaching the modules

- 1) After attaching the modules, connect the AC cable or install the battery packs.



- 2) Turn on the MT1040A.
Please check whether a new module is recognized at the system information.

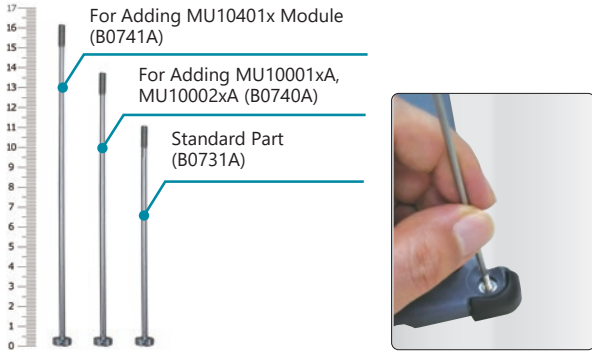


Network Master Pro MT1040A

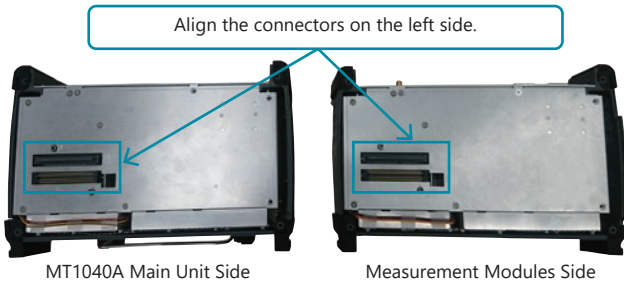
Method for Adding Measurement Modules

Adding Transport Module (MU10401x)

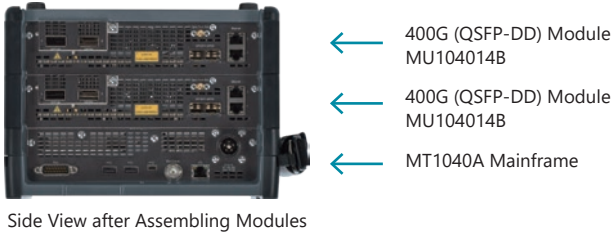
- 1) Confirm that the MT1040A-020 option is installed in the MT1040A main unit.
- 2) Choose the bolts matching the added module.
Use the B0741A for the MU10401x module



- 3) Align the transport module horizontally with the MT1040A as shown below.



- 4) Install the transport module in the correct MT1040A slot as shown below.



Side View after Assembling Modules

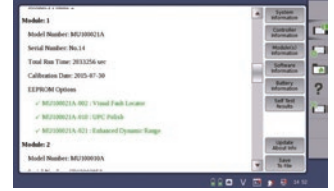
Note: Align the four edges when installing the option; the module connector is easily damaged by misalignment.

- 5) Secure the module using the B0741A part chosen in step 2.
After installing the module as shown in the figure on the right, check that there is no gap between the modules.



After attaching the modules

- 1) Connect the G0419A standard accessory of the MT1040A-020 option to the MT1040A. The G0418A will not start. Additionally, battery operation is not possible when two transport modules are installed.
- 2) Turn on the MT1040A.
Please check whether a new module is recognized at the system information.





Specifications are subject to change without notice.

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