

MP1591A

Network Performance Tester

MP1591A Network Performance Tester Product Introduction

December 14th 2006

IP Network Measurement Division
Anritsu Corporation

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The history of MD1230 and MP1590 family's chassis

MD1231A
2-slot
main frame



MD1231A1
Correspondence
10GbE module
availability



MD1230A
5-slot
main frame



MD1230B
changed OS to Windows®XP

MT7407A
14-slot
main frame



MP1590A/B
SONET/SDH/OTN analyzer
6-slot main frame



MP1591A
SONET/SDH/OTN analyzer
16-slot main frame

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Features

- Supports existing all modules of MD1230 family and MP1590 family
 - ✓ 16 slots for MD1230 Family modules
 - ✓ 128ports for MD1230 Family modules
 - ✓ Up to two configurations of MP1590 modules
 - ✓ Provide all functions of MD1230 family and MP1590 family
- Non-hard-disk design for secure environments
 - ✓ Remote control from PC with dedicated MX159001B Network Performance Tester Control Software installed
 - ✓ Simultaneous control by up to 8 Users per bank
- Simultaneous control up to 8 units for high density test beds
 - ✓ Synchronize between units with sync I/F connector
- 19-inch Rack-Mount Standard

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Appearance of MP1591A

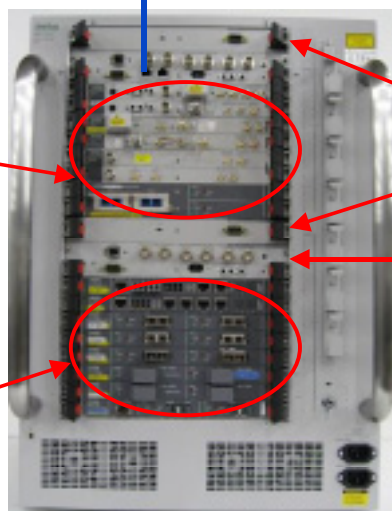


10/100BASE-T

External PC with
MX159001B

Bank A (Slot1-8)

Bank B (slot 9 to 16)
for extending up to
16 slots or 2nd
configuration of the
MP1590B



MU159101A
Control Module

MU159103A
Interface Module
for bank B

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Appearance of Control Module

- MU159101A Control Module
 - ✓ Necessary for each bank (A/B)



LED-

- Indicating the unit condition.
- It turns green when it is ready

RS232C (provided for setup)

- Setup and software download
- Selftest
- IP address setting

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Appearance of Interface Module

- Interface module for Bank A (provided as a standard)
 - ✓ No charge. The price is included in MP1591A price
 - ✓ Provides Trigger In/Out, Clock Source In/Out, DCC/GCC, Orderwire, Sync In/Out, Ethernet(for control)



- Interface module for Bank B (optional)
 - ✓ Model name- MU159103A Interface Module for Expansion Slot
 - ✓ Trigger In/Out, Clock Source In/Out, DCC/GCC, Orderwire, Sync In/Out



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Support Model Name -Option (1/3)

➤ Option of MP1591A

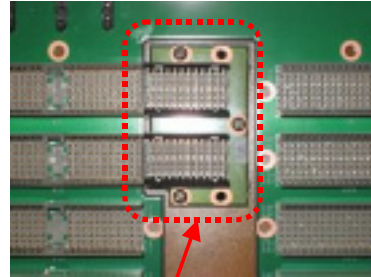
- ✓ MP1591A-50: 10GbE Slot Expansion for Bank A(*1)
- ✓ MP1591A-51: 10GbE Slot Expansion for Bank B(*1)

(*1)

Two 10GE modules (MU120118B/C) can be mounted to each bank (slot 4 to 8) without the option (total up to 4 modules).

When this option is installed, three or four modules can be mounted to each bank (total up to 8), but below functions of MU150100A become not available.

- Through Mode at 10G rate
- Transmission synchronized Rx clock at 10G rate
- Tx clock and Tx frame of Sync. output at all rates



Installed-
this connector is removed.

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Support Model Name -Option (2/3)

➤ Option of MX159001B

- ✓ MP159001B-01: RS-232C CONTROL
- ✓ MP159001B-02: GPIB CONTROL
- ✓ MP159001B-03: ETHERNET CONTROL

➤ Option of MU159101A (1/2)

- ✓ MU159101A-07: OSPF PROTOCOL
- ✓ MU159101A-08: MPLS(LDP/CR-LDP) PROTOCOL
- ✓ MU159101A-09: MPLS(RSVP) PROTOCOL
- ✓ MU159101A-10: RFC2889 BENCHMARKING TEST
- ✓ MU159101A-11: PACKET BER TEST

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Support Model Name -Option (3/3)

- Option of MU159101A (2/2)
 - ✓ MU159101A-12 IPV6 EXPANSION
 - ✓ MU159101A-13 XENPAK TEST
 - ✓ MU159101A-14 IGAP PROTOCOL
 - ✓ MU159101A-15 Auto Negotiation Analysis
 - ✓ MU159101A-16 Link Fault Signaling
 - ✓ MU159101A-20 APPLICATION TRAFFIC MONITOR
 - ✓ MU159101A-30 HIGH PRECISION JITTER ANALYSIS

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Support Model Name -Module (1/2)

- MD1230 Family
 - ✓ Ethernet
 - MU120101A/11A (10/100BASE-T 8port)
 - MU120102A/12A (1000BASE-X 2port)
 - MU120121A (10/100/1000BASE-T 4port)
 - MU120122A (10/100/1000BASE-T 2port, 1000BASE-X 2port)
 - MU120131A (10/100/1000BASE-T 12port)
 - MU120132A (1000BASE-X 8port)
 - MU120118B (10GBASE-X 2port)
 - MU120118C (10GBASE-X 1port)
 - ✓ POS
 - MU120103A/04A (2.5G 1port 1.31um/1.55um)
 - MU120105A/06A (10G 1port 1.31um/1.55um)
 - MU120119A (156M/622M 2port)
 - MU120120A (156M 2port)
 - ✓ EOS
 - MU120103B/04B (2.5G 1port 1.31um/1.55um)

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Support Model Name -Module (2/2)

- MP1590 Family
 - ✓ MU150100A 10/10.7G Unit
 - ✓ MU150101A 2.5/2.6G EoS Unit
 - ✓ MU150121A 10/10.7G Optical Unit(Tx)
 - ✓ MU150121B 10/10.7G Optical/Electrical Unit(Tx)
 - ✓ MU150122A 10/10.7G Optical Unit(Rx Narrow)
 - ✓ MU150123A 10/10.7G Optical Unit(Rx WIDE)
 - ✓ MU150123B 10/10.7G Optical/Electrical Unit(Rx Wide)
 - ✓ MU150124B 10.3G Optical/Electrical Unit(Rx Wide)
 - ✓ MU150125A 10/10.7G Jitter Unit

- Maximum numbers and location
 - ✓ MU120121A/22A-
Maximum number inserted into each bank is four (slot1-4 only).
 - ✓ MU120131A/32A-
Maximum number inserted into each bank is six (slot1-6 only).

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Application of MD1230 (1/3)

- Manual measurement
 - ✓ L2/L3/L4 Traffic Generation at Wire Rate
Ethernet, POS, GFP, IPv4, IPv6, etc
 - ✓ Counter, Latency, Capture and Decode
 - ✓ Frame Jitter
 - ✓ Unframe BER
 - ✓ Packet BER
 - ✓ Through Mode
 - ✓ IEEE 802.1Q-in-Q

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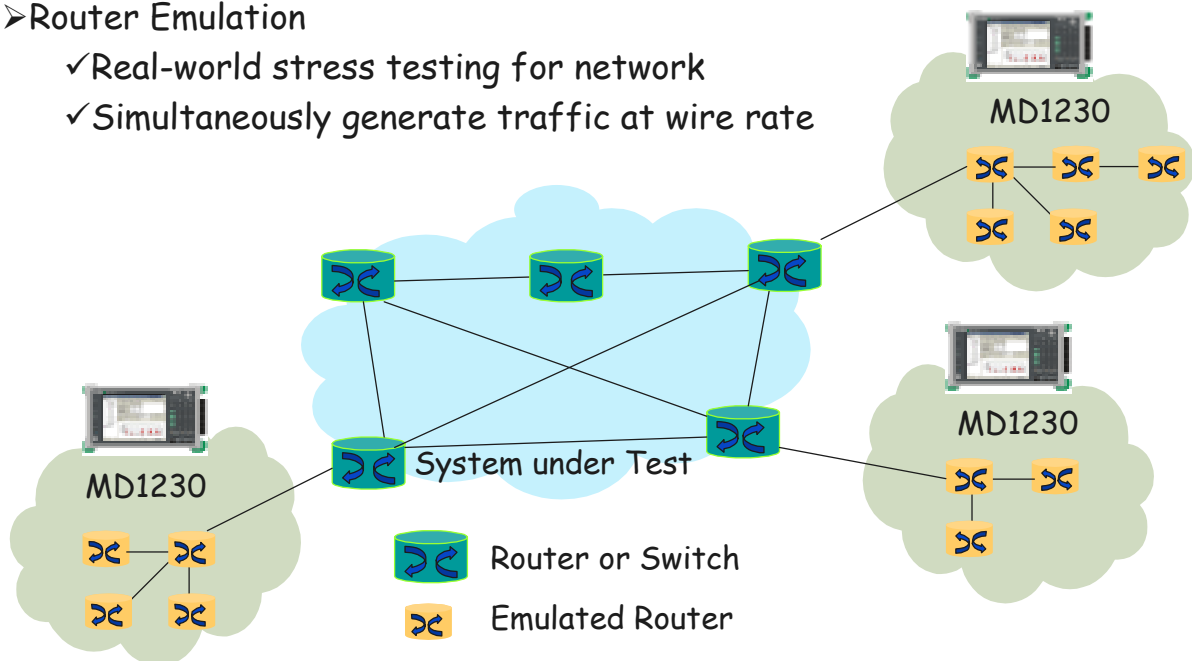
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Application of MD1230 (2/3)

➤ Router Emulation

- ✓ Real-world stress testing for network
- ✓ Simultaneously generate traffic at wire rate

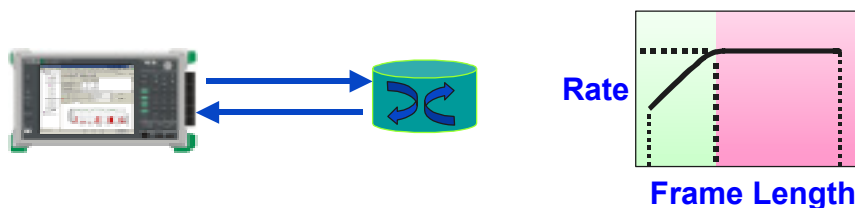


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Application of MD1230 (3/3)

➤ Benchmarking Tests Measurement

- ✓ RFC2544- Standard benchmark test for networking devices
- ✓ RFC2889- Extends methodology defined for benchmarking network interconnecting devices in RFC 2544 to switching devices
- ✓ Test distribution- One to One, Partially Mesh, Fully Mesh



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Application of MP1590 (1/3)

- SONET/SDH/OTN measurement function
 - ✓ ITU-T G.709 OTN measurement
 - ✓ OTN, SONET/SDH overhead setting and monitoring
 - ✓ Arbitrary concatenation
 - ✓ Error analysis (error performance)
 - ✓ Through mode
 - ✓ Clock/frame synchronization signal output

Application of MP1590 (2/3)

- EOS measurement function
 - ✓ LCAS
 - Testing bandwidth control using LCAS command during data transfer
 - LCAS Sequence measurement combining multiple LCAS command
 - LCAS Sequence analysis using Capture function
 - ✓ Differential Delay measurement
 - Differential Delay Tolerance inspection (also supports Through Mode)
 - Differential Delay adds up to 512 ms to each CH of VCG independently
 - Delay reproduces an actual network with the continuously Sweep mode
 - ✓ Frame Mapping
 - Generate IP packet over GFP or PPP
 - Counter, Capture, Latency and Decode

Application of MP1590 (3/3)

➤ Jitter measurement function

✓ Jitter Transfer

Supported mask patterns: Telcordia GR-253, ANSI T1.105.03, ITU-T G.783, G.8251, ETSI 300 417-1-1, user

✓ Jitter Tolerance

Supported mask patterns: Telcordia GR-253, ANSI T1.105.03, ITU-T G.783, G.825, G.813, G.8251, ETSI EN 302 084, user

✓ Jitter Generation

✓ Jitter Output

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Application of MP1591A (1/2)

➤ MSPP/MSTP measurement

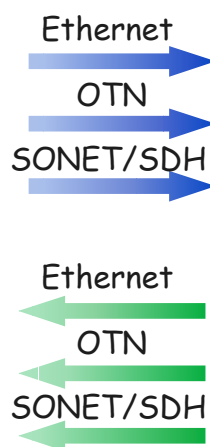
✓ Single tester for convergence test with different I/Fs

✓ Independent I/F application

✓ Multiple-port



MP1591A



MSPP/MSTP Equipment

10/100/1000BASE-T

1000BASE-X

10GBASE-X(LAN/WAN)

SONET/SDH

OTN

EOS

POS

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Application of MP1591A (2/2)

➤ Multi-port measurement

- ✓ 10/100/1000BASE-T- 128port
- ✓ 1000BASE-X- 128port
- ✓ 10GBASE-X- 16port



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Specifications

- Scale W426mm H596mm D350mm
- Weight less than 32kg
(include two MU159101A and one MU159103A)
- Power less than 2200W
- Appended Goods of MP1591A
 - ✓ Power Cable 2pcs
 - ✓ Ethernet Cable 1pc
 - ✓ Serial Cable 1pc
- Appended Goods of MU159103A
 - ✓ Coaxial Cable 1pc

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