



The GigE Module for the RxT platform ensures rapid and efficient installation and maintenance of business Ethernet and IP services and significantly reduces repair time while maintaining the quality of service that customers demand. A complete set of testing capabilities makes the GigE Module ideal for the field technician who needs to verify end to end transport of Ethernet/IP traffic, perform BER tests, determine throughput, link utilization and/or IP connectivity.

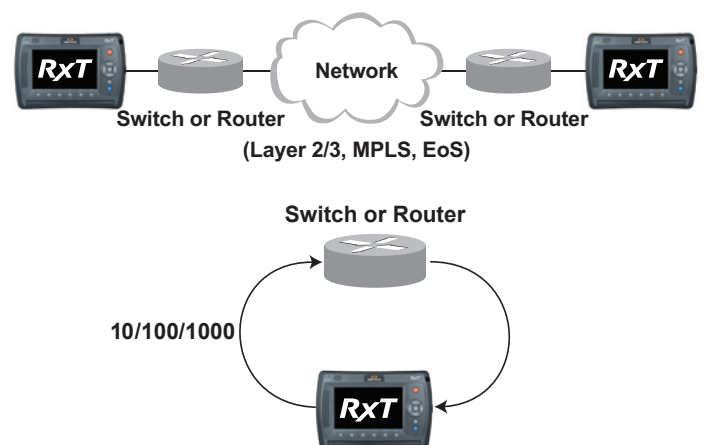
An intuitive user interface helps technicians with limited Ethernet or IP experience to verify performance parameters. The modular design, and the wide range of test functionalities, provides all of the tools needed for verifying Service Level Agreements while lowering the operating costs associated with the need for multiple test sets.

Key Features

- Full 10/100/1000 BASE-T and Gigabit Ethernet line rate traffic generation
- 100M optical interface (100BASE-FX) available through SFPs
- Throughput, latency, frame loss, and back-to-back tests per RFC 2544 using Loopback or point-to-point without Loopback
- BER testing at Layer 1, Layer 2, and Layer 3 (IP) for Gigabit Ethernet and IP services
- Packet Delay Variation measurement per RFC 3393 on BERT/RFC 2544 modes
- IP verification, with Ping, Trace Route, ARP Scan and IP Throughput, across a routed network
- Generate up to 8 traffic flows with different MAC address, VLAN and MPLS tags, and IP address configurations
- Class of Service (CoS) via VLAN P-bit and IP Type of Service (ToS/DSCP) traffic prioritization settings
- Dual Port capability for network element prequalification testing
- Test Profiles for fast and efficient test set configuration and operation
- RxT Carrier module enables forward compatibility for other existing MTT modules

Applications

- Turn-up and troubleshoot Ethernet and IP services
- Verify SLAs between service providers and their customers
- Automated SLA verification with RFC 2544 testing
- Layer 2 CoS settings for verifying Metro Ethernet services
- Test profile storing and loading for fast deployment of Ethernet services



GigE Specifications

Connectivity

Ethernet and Fast Ethernet

10/100BASE-T and 100BASE-FX (RxT2500SW-100X)

Gigabit Ethernet 1000BASE-T (RxT2500SW-1000T)

per IEEE 802.3, 2000 Edition

Gigabit Ethernet 1000BASE-X (RxT2500SW-1000X)

per IEEE 802.3, 2000 Edition

Connector type:

Dual Duplex LC for 100BASE-FX and 1000BASE-X

Dual RJ-45 UTP for 10/100/1000BASE-T

Optical transceiver types: field interchangeable SFP

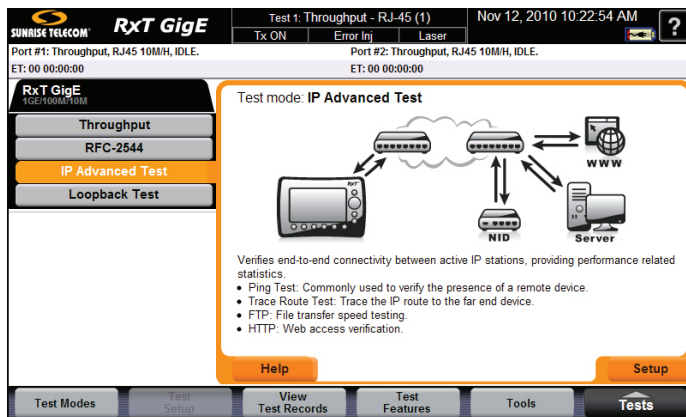
850nm 1000BASE-SX (MMF)

1310nm 1000BASE-LX (SMF)

1550nm 1000BASE-ZX (SMF)

850nm 100BASE-FXM (MMF)

1310nm 100BASE-FXS (SMF)



Operation Modes

Up to two simultaneous independent tests

Dual port point-to-point mode

Auto-negotiation enabled or disabled

Auto-negotiation parameters: pause flow control, asymmetric pause

BER /Throughput Testing

End-to-end testing with two test sets

Single-ended testing with loop on the other end

Single test set bench testing

Dual port operation of tests mentioned above

Traffic Generation

Layer 1, Layer 2, or Layer 3 traffic

Configurable source and destination MAC address

Configurable 802.1q VLAN tags and 802.1p priority, with up to three tags, including STAG, CTAG, and priority

Configurable MPLS tags with up to three tags (RxT2500SW-L3)

Configurable source and destination IP address (RxT2500SW-L3)

Configurable IP header fields (ToS, TTL, Protocol, and Fragment Offset) for QoS verification testing (RxT2500SW-L3)

Up to 8 independent traffic flows with MAC address, IP address, VLAN and MPLS tags, and TCP/UDP (RxT2500SW-MULTI)

Test patterns: All 1s, All 0s, ITU-T PRBS (2e31, compatible 2e23, compatible 2e31, normal or invert, or user defined [2 bytes])

Frame length: 48 to 1518 bytes or Jumbo frame (up to 11000 bytes)

Frame rate: 0% to 100% bandwidth utilization with steps of 0.1%

Traffic shaping: Constant, Ramp, Burst

Error/Alarm injection: Bit, CRC, IP Checksum error, and rate injection

Test duration

Measurements

Performance statistics: Transmitted and received bandwidth utilization (Min, Max, Average), frame rate (Min, Max, Average), transmitted and received line rate and data rate (kbps)

Frame statistics: Total number of transmitted & received frames, total number of received VLAN tagged, MPLS, TCP/UDP, number of lost frames, out of sequence frames, oversized, multicast, flow control, broadcast and unicast frames, inter-frame delay measurement (Min, Max, Avg, Variation), frame size distribution

Link statistics: Bit, CRC, IP checksum distribution count and rate, loss of signal, loss of synchronization, and out of service seconds counters

Events recorder with timestamp

IP Features (RxT2500SW-L3)

PING Test

Step by step results showing connectivity to the router

Summary and detailed result screens

Statistics on PING messages

Number of sent/received/missing/unreached messages

Current/average/max/min round trip delay

Following parameters can be configured:

IP mode (Static/DHCP mode)

VLAN settings

Local IP address

Destination IP address

Gateway address

Number and rate of PING messages

Frame length

Trace Route

Trace the IP route over the IP network, up to 30 hops

Gateway, Router IP address traceability

ARP Scan

Discover the MAC address of devices on the network by sending ARP requests to a range of IP addresses

RFC 2544

Throughput, latency, frame loss rate, and back-to-back frames tests conform to the RFC 2544 standard, using Loopback or point-to-point without Loopback. PDV measurement per RFC 3393
User configurable frame sizes (64 to 4096 bytes)
Configurable PASS/FAIL threshold
Tests can be run individually or in sequence
Available for Layer 2 and Layer 3 testing, including Ethernet routed circuits
Configurable IP header fields (ToS, TTL, Protocol, and Frame Offset) for QoS verification testing
RFC2544 test report in CSV format

Monitoring and Analysis

In-service monitoring with or without splitter
Measurements
Signal and Frame Synchronization
Bandwidth Utilization
Rx Frames Count
CRC Error
Events recorder with timestamp

Loopback Modes

Automatically loops all incoming frames with or without swapping the source and destination MAC address fields and IP address source and destination fields
Manual or controller/responder mode

Other Features

Optical Power Measurement

Report Tx/Rx Power, wavelength of the optical ports

Multiple User Profiles

Up to 10 different test configuration profiles may be saved
Test profiles saved and loaded with the press of a button
Profiles can be shared across multiple chassis for fast and efficient test set configuration and operation

Results and Reports

Test reports can be saved in PDF format for easy retrieval, sharing, and analysis of data. Upload and download test results from realGATE™

Product Description

Size: 208 W x 152 L x D 30 mm
(8.2 W x 6.0 L x 1.2 H in)

Module Weight:..... 0.86 kg (1.9 Lb)

Environmental:

Operating Temperature: ... 0° to 40°C (32° to 104°F)

Storage Temperature: -20° to 70°C (-4° to 158°F)

Humidity:..... 5% to 90% non-condensing

Ordering Information

RxT-2500..... RxT GigE – Dual Port Ethernet Test Set
RxT Platform with RxT GigE Test Toolkit. Basic Package Includes Dual 10/100Base-T Ports, Dual SFP slots, Single Stream, 10/100M Layer 1 & 2 Ethernet Testing. Includes: RXT Platform (RXT1000A-B), RxT Carrier (RXT1000A), GigE Module (SSMTT-50), stylus (SA142), hand and shoulder straps, Li-ion battery pack (SA991), AC/DC charger (SA1580), soft carrying case (SA605), calibration statement, and one year basic warranty.

Warranty Options

RXT2500-W1 RxT GigE Test Set Standard Basic 1-Year Warranty

RXT2500-EW1 RxT GigE Test Set Warranty Extension: 1 Additional Year

RXT2500-EW2 RxT GigE Test Set Warranty Extension: 2 Additional Years

Software Options

RxT2500SW-1000T.. Dual Ports 1000Base-T Testing: enables 1000Base-T on RJ-45 electrical interfaces

RxT2500SW-1000X . Dual Ports 1000Base-X Testing: enables 1000Base-X on optical interfaces

RxT2500SW-L3 Layer 3, MPLS and Advanced IP Features

RxT2500SW-MULTI.. Multiple Streams

RxT2500SW-100X .. Dual Port 100 Base-FX/LX

SFP Modules

SA580-850..... 1000BASE-SX & 1/2GFC 850 nm MMF SFP optical transceiver

SA580-1310 1000BASE-LX & 1/2GFC 1310 nm SMF SFP optical transceiver

SA580-1550 1000BASE-ZX & 1/2GFC 1550 nm SMF SFP optical transceiver

SA580-FXM..... 100BASE-FX 850 nm MMF SFP optical transceiver

SA580-FXS..... 100BASE-FX 1310 nm SMF SFP optical transceiver

Note: Certain limitations apply, contact support for details and availability



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