

OC-12c/STM-4 POS Single & Multi Mode

Thunder Series Interfaces

SOLUTION HIGHLIGHTS

Two full duplex ports per module (Rx, Tx)

Real time 7 layer protocol analysis

Generation and analysis of up to 1022 channels on a single port for IP quality of service (QoS)

User Definable Traffic Profile Per Channel Defined

40ns time stamp resolution & correlation across all ports

Full line rate capture with up to 128MB per port

Wire Rate Channel Stats for User Defined Layer 2, Layer 3 and Layer 4 Packet Types



Overview

The versatile Thunder Series interface modules are designed to provide wire rate data capture, playback and transmission, while performing real time simultaneous analysis of the seven OSI layers.

This module provides a dual port SC physical interface for SONET OC-12c/SDH STM-4 for the InterWatch platform. They operate at 622.08 Mbps using 1310nm single or multi mode optical fibre with software selectable OC12c or STM4 modes.

Up to 7 OC-12c/STM4 modules (14 ports) can be added to the InterWatch 96000 unit, 3 modules (6 ports) on the InterWatch 95000, allowing comprehensive system load testing across multiple ports simultaneously.

The OC-12c/STM4 interface provides application testing support for leading technologies including Voice over IP (VoIP), Quality of Service (QoS), ATM Signaling (UNI, PNNI) and IP Performance.

Combined with the powerful capabilities of the InterWatch Performance & Verification System, the modular architecture of the Thunder Series interface provides equipment manufacturers and network operators a world-class testing solution during the network development and verification process.

OC-12c/STM-4 POS Single & Multi Mode

Thunder Series Interfaces

Specifications

PORT DENSITY

(DUAL SLOT OC12c/SDH STM4c)

InterWatch 96000

- Up to 7 modules (14 ports)
- InterWatch 95000
- Up to 3 modules (6 ports)

RAM (PER RECEIVER)

- 64 MB
- Upgradable to 128MB

DATA PATHS

- 2 Transmit
- 2 Receive

CONNECTORS

- Dual Duplex SC
- 622.08 Mbps
- SMB AC-Coupled External Link Clock
- BNC TTL Input & Output

TRANSMIT LEVEL

SINGLE MODE

- Maximum: -8 dBm
- Minimum: -15 dBm

MULTI MODE

- Maximum: -8 dBm
- Minimum: -15 dBm

RECEIVE LEVEL

SINGLE MODE

- Maximum: -28 dBm

MULTI MODE

- Maximum: -14 dBm
- Minimum: -26 dBm

FILTERS

4 FILTER TYPES

INCLUDING BOOLEAN OPERATIONS

ON:

- MPLS Label
- Layer-3 Network Address (IPv4 & IPv6)
- Layer-4 Port Numbers
- Payload Octet Matching

TEST APPLICATIONS

- IP Performance/QoS (non-real-time)
- IP QoS (real-time)

MONITORING

- Up to 128MB full line rate capture and simultaneous analysis on 2 ports
- 40ns timestamp resolution and correlation across all ports
- Wire rate packet layer statistics on 1022 channels simultaneously
- Auto-recognition of encapsulated protocols on 1022 channels simultaneously
- Multiple packet pre-filters with statistics

GLOBAL STATISTICS

- Frames, Bytes, Idle Flags, Aborted Frames, Invalid Frames Drop Bytes

LAYER 3 STATISTICS

- IP Packet, Bytes & Fragments, MPLS Frames, IP Frame Rats & Byte Rates, IP Min/Max/Average Packet Size, 40 Byte to 64 Byte Frames, 64 Byte to 128 Bytes Frames, 128 Byte to 256 Byte Frames, 256 Byte to 512 Bytes Frames, 512 Byte Frames to 1k Byte Frames, 1k Byte to 2k Byte Frames, Packet Length Error Frames, Packet Length Error Bytes, Fragmented Packets, IPv6 Packets & Bytes, IPv4 Packets & Bytes, UDP Frames & Bytes, TCP Frames & Bytes and TTL Threshold Violation

TRAFFIC GENERATION

- Wire rate traffic generation, capture and playback across all channels
- QoS traffic generation across 1022 channels with user definable traffic profiles
- Dynamic On-the-Fly modification of parameters
- User definable Packet layer generation including UDP, TCP, ICMP or Customizable Payload
- HDLC, IPv4 & IPv6 generation
- Runtime Statistic per channel generated Source & Destination Address, Current Frames, Total Frames, Current Layer 2 Bytes and Total Layer 2 Bytes
- GUI editor for IPv4 & IPv6 and MPLS

Traffic Distribution Parameters:

- Back to Back
- Single Bursts
- Multiple Bursts
- Constant Packet Rate
- CPR Simulation
- Random

PHYSICAL CHARACTERISTICS

DUAL SLOT MODULE

Width: 40.6mm (1.6")

Length: 311.2mm (12.25")

Weight: 885g (1.95 lbs.)

EMULATION

- User Definable TCP/UDP/IP Stack
- LCP Negotiation

STANDARD COMPLIANCE

INTERNET ENGINEERING TASK FORCE (IETF)

IP/PPP

- RFC 2615
- RFC 1662

PART NUMBERS

COMPLETE MODULES

0200010600

Thunder OC12c/STM4 622.08Mbps Short Haul/Intermediate Reach SM Fiber POS Module

occupies 2 VME-64 slots
128MB RAM per receiver

0200010700

Thunder OC12c/STM4 622.08Mbps MM Fiber POS Module

occupies 2 VME-64 slots
128MB RAM per receiver

01-105069B

ATM Thunder 512MB RAM Upgrade

256MB RAM per receiver

Navtel delivers high performance, high capacity VoIP testing solutions. Recognized globally for their unrivalled ability to test capacity, conformance, functionality, interworking, performance and reliability, our solutions are the ideal choice for those wanting to rapidly develop and deploy next generation converged network infrastructures or components.