TestPoint

TS-170

TS-10

TS-30

Broadband test solutions

The TestPoint platform supports a wealth of test configurations for transport and datacom applications. To address the challenges of next-generation networks, TestPoint provides test functions that include traffic loading, impairment injection, error reporting, information capture and performance characterization. Transport protocol coverage includes SONET/SDH, Virtual Concatenation (VCAT) for Ethernet over SONET/SDH and Optical Transport Network (G.709). In addition, TestPoint provides datacom capabilities for 1 and 10 Gigabit Ethernet, Generic Framing Procedure (GFP) and Asynchronous Transfer Mode (ATM). The TestPoint specializes in providing detailed lower layer test functions.

Newly added to the TestPoint family of instruments is the TS-10, which offers a self contained test solution for 10 Gigabit Ethernet bench top and mobile applications. The TS-10 features a single, fixed interface supporting up to five 10G line rates.

TestPoint also offers two scalable chassis configurations: the TS-170, and the TS-30. The TS-170 is a 17-slot system well suited for manufacturing needs. The TS-30 consists of a 3-slot chassis suitable for bench top, rackmount as well as mobile applications. Both the TS-170 and TS-30 chassis support module hot insertion to keep downtime to a minimum and mount into standard 19-inch (47.5cm) rack systems.

The TS-10 and all the TS-30/TS-170 modules are equipped with a 10/100 BaseT Ethernet port to perform test system management. With the TS-170 and TS-30, the optional Group Controller module provides a single point of access into the chassis when multiple modules are present. Each test module includes on-board clocking functions such as a local oscillator and loop timing. The Group Controller module provides additional clocking functions with the BITS/SSU (T1/E1) and external clock inputs. TestPoint supports clock rate variations.

An embedded Java GUI eliminates the need for dedicated computer based software applications. This has the added benefit of ensuring compatibility with most computer platforms. The TS-10 and all TS-30/TS-170 modules support automation and scripting capabilities, using any programming language such as Python or TCL, based on a Command Line Interface (CLI).

TestPoint Key Features

- Protocol availability includes: Gigabit Ethernet (GbE), 10GbE LAN/WAN with and without FEC, SONET, SDH, OTN (G.709), Ethernet over SONET/SDH (VCAT, GFP), ATM
- Multiple rate 10G support: 10GbE WAN (9.953G), 10GbE LAN (10.312G), OTU-2 (10.709G), 11.049G FEC (OTU-2 LAN) and 11.095G FEC for 10GbE LAN clients
- OC-48/12/3, STM-16/4/1, and GbE on one module
- Hot Insertion of any TS-30/TS-170 module
- Software for all modules and TS-10 is field-upgradable
- Simple test automation via a Command Line Interface (CLI) over Telnet or socket connections using any programming language
- Shelf-wide (with Group Controller module) or per-module LAN access via a web browser for test management
- Clock rate variations on SONET/SDH/OTN (+/-30ppm) and 1/10 Gigabit Ethernet (+/-110ppm)
- All test modules, including the TS-10, are equipped with test generator and analyzer, internal clock source, and clock out signal
- Standard 110V/220V AC input power. For North America, the TS-30 may also use 48V DC (A and B lugs) as an option

YOUR TEST REQUIREMENTS JUST GOT BIGGER?

TS-10

This self contained portable unit provides 10 Gigabit Ethernet LAN and WAN test functionality. A Forward Error Correction (FEC) hardware option supports rates at 10.709G (OTU-2) and 11.049G (OTU-2 LAN) or 11.095G FEC for 10GbE LAN clients.

Specifications:

Optical Connector	SC
Wavelength	1550 (or 1310) nm
Optical Output Power	-1 to +2 dBm
Optical Overload	-1 dBm (min)
Sensitivity	-16 dBm
Clock Out	LVPECL signal, AC coupled, SMA connector
Dimensions (W x H x D)	36.25 x 5 x 41.25 cm ; 14.5 x 2 x 16.5 in
Weight	3.7 Kg; 8.1 lbs
LAN (Ethernet) Port	RJ-45 (10/100BaseT)
Operator Port	RJ-11 into RS-232 serial cable

Modules (TS-30 & TS-170)

All modules come with a LAN (10/100BaseT Ethernet) port on an RJ45 connector and an RS-232 operator port on an RJ11 connector.

Multi-Rate Module

This single slot module can be configured to support all or a subset of the following: OC-48/STM-16, OC-12/3/STM-4/1, and Gigabit Ethernet. Options for Ethernet over SONET/SDH (VCAT/GFP) and ATM are available.

Specifications:

	OC-48/STM-16	OC-12/3/STM-4/1	GbE
Optical Connector	LC	LC	LC
Wavelength	1310 (or 1550)nm	1310 (or 1550)nm	850 (or 1310 or 1550)nm
Optical Output Power	-9.5 to -3 dBm	-15 to -8 dBm	-9.5 to -3 dBm
Optical Overload	0 dBm (typ)	-3 dBm (typ)	0 dBm (typ)
Sensitivity	-18 (or -28) dBm	-28 dBm	-22 dBm
Clock Out	LVPECL signal, AC coupled on SMA connector		
LAN (Ethernet) Port	RJ-45 (10/100BaseT)		
Operator Port	RJ-11 into RS-232 serial cable		

10Gbps Module

This single slot module provides 10 Gigabit Ethernet LAN and WAN test functionality. A Forward Error Correction (FEC) hardware option supports rates at 10.709G (OTU-2) and 11.049G (OTU-2 LAN) or 11.095G FEC for 10GbE LAN clients.

Specifications:

Optical Connector	SC
Wavelength	1550 (or 1310) nm
Optical Output Power	-1 to +2 dBm
Optical Overload	-1 dBm (min)
Sensitivity	-16 dBm
Clock Out	LVPECL signal, AC coupled, SMA connector
LAN (Ethernet) Port	RJ-45 (10/100BaseT)
Operator Port	RJ-11 into RS-232 serial cable

OC-192/STM-64 Module

This single slot module provides OC-192/STM-64 SONET/SDH test functionality with channelization down to STS-1/VC-3(AU-3). This module supports an OTU-2 G.709 hardware option.

Specifications: Same as the 10Gbps module

Group Controller Module

This single slot module is optional and connects into slot 0. It performs two main functions. The first is to provide a single point of test system management access when the TestPoint chassis contains multiple test modules. Individual modules can be LAN connected directly on the module faceplate or via the Group Controller. The second function is to provide additional clocking capabilities beyond those available on individual test modules. Each test module may use its on-board clock functions or the advanced clock functions provided by the Group Controller via the TestPoint backplane.

Interfaces:

LAN (Ethernet) Port	RJ-45 (10/100BaseT)
Operator Port	RJ-11 into RS-232 serial cable
External Clock Intput	50 Ohm SMA (multiple frequencies incl. 10 MHz)
T1	BITS (1.544 Mbps) on 100 Ohm balanced. Bantam connector
E1	SSU clock (2.048 Mbps) on 75 Ohm unbalanced. BNC connector

Optics Module

This dual slot module is user customizable to provide optical component integration in a system automation environment. Multiple off-the-shelf optical components that use RS-232, TTL, or I²C communication can mount onto this module. The TestPoint CLI interface then provides test management access to the optical components.

Interfaces:

Optical Connector	LC (up to 26)

Chassis

TS-170

The TS-170 provides a total of 17 slots. The first slot is reserved for the optional Group Controller module. Up to 16 test modules may be present.

Chassis Specifications:

Height	26.25 cm; 10.5 inches	Depth	52.5 cm; 21 inches
Width	42.5 cm; 17 inches	Weight	22.7 kg; 50 lbs

TS-30

The TS-30 provides a total of 3 slots for test modules.

Chassis Specifications:

Height	8.75 cm; 3.5 inches	Depth	37.5 cm; 15 inches
Width	42.5 cm; 17 inches	Weight	7.7 kg; 17 lbs

Standards Compliance:

Safety Certificates: CE Mark IEC 60950-1, 1st Edition; CAN/CSA C22.2 No. 950-95; ANSI/UL 1950, 3rd Edition

EMC Certificates: CE Mark EN55022: 1998 + amendment A1: 2000; CE Mark EN55024: 1998 + amendment A1: 2001

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Version 1.6.1, 2005

Printed in Canada