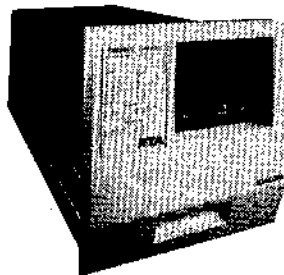
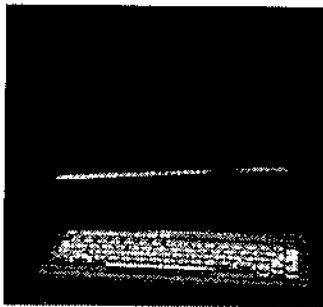


PROTOCOL ANALYZERS

The PT Series of Stimulus-and-Response Protocol Testers
PT500, PT502, PT540 and RTA



The Professional's Protocol Tester

PT Series stimulus-and-response protocol testers are the professional's choice for telecom and datacomm product development, quality assurance, performance testing, field trials, type approval, network monitoring and troubleshooting, and conformance testing. Based on a multiprocessor architecture, PT Series testers can be configured with a wide range of software and line interfaces to simultaneously test multiple WAN, ISDN, SS7 or LAN interconnect protocols over multiple ports. The PT Series can help you:

- Bring new products and services to market faster by finding protocol implementation errors quickly and accurately
- Gain a competitive edge by providing your customers with even more reliable products and services
- Participate in field trials confidently, knowing that your products have been rigorously tested and should perform well
- Evaluate new products thoroughly for interoperability, simulated in-service performance levels, and compliance with protocol standards before purchase and installation
- Maintain telecom and datacomm networks by quickly isolating faults

Dedicated High-Performance Protocol Tester

- Designed and built to monitor and emulate communications protocols
- SDL-oriented Test Manager helps customize applications

Cost-Efficient Multiport Testing

- Can be configured with 1 to 4 WAN ports
- Single and dual T1/E1 ports
- Single and dual ISDN BRA S/T ports
- Combinations of all of the above

Powerful Multiprocessor Architecture

- 3 to 7 x 68000 processors plus up to 2 x 68030 processors
- 1.1 GB hard drive and 1 or 2 x 2DD/2HD floppy disk drives
- 6 to 14 MB of RAM memory

Remote Control Saves Travelling

- Automates testing through external programs for unattended operation
- Can be virtually remotely controlled from HP Series 400 and 700 workstation hosts
- Remotely connects over leased line, modem dial-up, X.25, X.25 PAD or TCP/IP
- Exchanges files and redirects printer output to host workstation
- Host can simultaneously connect to any selected 10 testers from a maximum of 64 per session
- Testers can communicate with each other through the host
- Logs activity between host and all connected testers

Supports All Major WAN Physical and Electrical Interfaces

- Supports RS-232, V.35, V.36 (RS-449), V.11 (RS-422), RJ45 and RJ48
- Supports ISDN BRA R and S/T reference points
- Supports three T1 and three E1 framing formats

Simultaneous Access to All Channels

- ISDN BRA 2B+D channels
- T1/E1 4 x DS0 or fractional channels
- T1/E1 subrates from 8 to 56 kbps/channel
- T1 access to FDL

Applications Available on All Channels

- BSC 3270 and SDLC/SNA
- X.25, X.29, and X.75
- Q.921, Q.931, Q.933, FRF.4, and ARINC746
- SS7 ITU-T, ANSI, Bellcore with Level 2/3, SCCP, TUP, TUP + ISUP, International ISUP, TCAP, and OMAP
- Frame Relay, SDMDS, and DXI
- Rate adaption V.110 (80 bit frame) and V.120

Supports All Message-Oriented Signalling Standards

- Customizable support for Q.931, Q.933 and V.120
- Loadable and customizable protocol stack for SS7
- User-defined decode for encapsulated protocols

PTremote Manager

Multiple PT Series protocol testers can be remotely coordinated for network-wide, multiprotocol, stimulus-and-response testing from a single UNIX® workstation running our PTremote Manager software. You can set triggers and filters, broadcast commands, download scripts, and upload captured data and reports. PTs are fully programmable, so you can have them trigger on an event and notify your workstation and/or other PTs if it occurs. And since the PTremote Manager can launch a UNIX shell script and run a program, you could have all kinds of tie-ins to script libraries, report generators, databases, and network management control systems. A rich library of C programming routines gives you a complete software interface. See for yourself how multiple stimulus-and-response testers can save you even more valuable testing time.

UNIX® is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company Limited.

Model	Unattended Operation	Automated Testing	Max. Speed	Hard Drive	Floppy Drive/s	Form Factor	CRT	Keyboard	Power	Test Ports		
										WAN	BRA	T1/E1
PT500	•	•	256 kb/s	•	2	Desktop	•	•	110/220 VAC	1/2	1/2	1 Monitor 2 Emulation
PT502	•	•	2.048 Mb/s	•	2	Desktop	•	•	110/220 VAC	1/2	1/2	
PT540	•	•	256 kb/s	•	2	Desktop	•	•	110/220 VAC	4		
RTA	•	•	256 kb/s	•	1	Rackmount	Optional	Optional	110/220 VAC 48/60 VDC	The RTA is a rack-mount version of any of the above		

PROTOCOL ANALYZERS

PT Series of Stimulus-and-Response Protocol Testers

PT300, PT302, PT500, PT502, PT540, and RTA

The Professional's Protocol Tester

PT Series stimulus-and-response protocol testers are the professional's choice for datacomm product development, quality assurance, performance testing, field trials, type approval, and conformance testing. Based on a multiprocessor architecture, PT series testers can be configured with a wide range of software and line interfaces to test multiple WAN, ISDN, signaling or LAN interconnect protocols over multiple ports. The PT series can help you:

- Bring new products and services to market faster by finding protocol implementation errors quickly
- Gain a competitive edge by providing your customers with even more reliable products and services
- Participate in field trials confidently, knowing that your products have been rigorously tested and should perform well
- Evaluate new products thoroughly for interoperability, simulated in-service performance levels, and compliance with protocol standards before purchase and installation
- Maintain datacomm networks by quickly isolating faults

Multiport Multiprotocol Stimulus-and-Response Testing

The advanced PT series protocol testers are fully programmable and can isolate faults; emulate normal or abnormal traffic; capture data to memory, display and disk for later analysis; help quantify QoS (quality of service) parameters; and perform load or stress testing by generating traffic on one or more ports. They can monitor and emulate both sides of a device with a single test set, and even place calls, negotiate services, and transfer traffic with easy-to-use automatic emulation. Easy-to-understand data decoding, triggers, filters, and synchronized time stamps show you exactly what happened and when it happened, even when events occur on different ports.

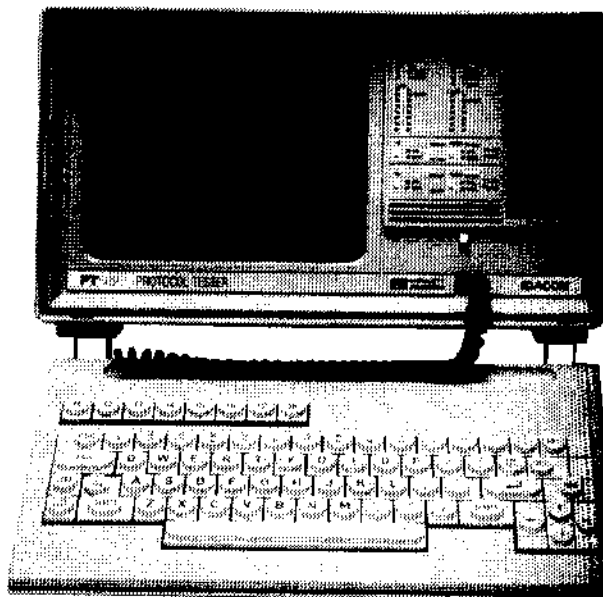
HP PT Series protocol testers can be configured with test software and physical line interfaces for the protocols shown below.

Featuring Hewlett-Packard's legendary reliability backed up by world-wide support and service, the PT Series of advanced stimulus-and-response testers can handle virtually any R&D engineering or network operation protocol test situation.

WAN	ISDN	SS7	LAN
<ul style="list-style-type: none"> • ALC • Bisync • DASS2/DPNSS • Group 4 Fax • IPARS • SNA/SDLC • Sync/Asynch • X.25 • X.25 MLP • X.25 QLLC • X.32 • X.75 • X.75 MLP 	<ul style="list-style-type: none"> • AT&T • BRA • ETSI • Frame Relay • Group 4 Fax • ITU-T • National ISDN • NTT • PRA • SNA/SDLC • V.110 • V.120 • VN2 • VN3 • VN4 • X.25 	<ul style="list-style-type: none"> • ANSI • Bellcore • Hong Kong Telecom • Italy NT • ITU-T • Singapore Telecom • Telecom Canada • RITT PRC 	<ul style="list-style-type: none"> • Frame Relay 1980/84/88, ANSI, ITU-T, NNI, NTT, Original LMI, PVC/SVC, UNI • ISDN • SMDS/CBDS • SDMS/DXI • X.25

PT300 and PT500 256 kb/s Protocol Testers

The PT500 is a powerful multiport stimulus-and-response protocol tester with an extensive library of software applications for WAN, ISDN, and SS7 testing. An internationally recognized standard for conformance testing, the PT500 is used worldwide by many major telecommunication carriers and independent certification laboratories. Conformance test suites are available for 1TR20, ACT23, ACT-FR, CTS, CTS2, CTS4, DDN, FIPS100, ISO 8882, NET2, NET5, NET31, NL-1, NTT, VN3, and CCITT Q.781. For design testing, conformance test suites can be executed case by case so that segments of software code may be incrementally tested before final systems integration. The PT500 is designed for laboratory testing and network operations, and can be configured with up to six application processors and four ports. The PT300 is functionally equivalent, but more compact unit, which can be configured with up to three applications processors and up to two ports.



PT302 and PT502 2 Mb/s Protocol Testers

The PT502 is a higher speed version of the PT500 and is ideal for LAN interconnect testing of protocols such as frame relay. The PT502 can be configured with up to four applications processors and two ports. The PT302 is a compact version which can be configured with up to two applications processors and two ports.

PT540 4-Port Protocol Tester

The PT540 is a four-port WAN protocol tester designed for R&D engineering, network operations, and conformance testing. Each test port is capable of performing an independent task, such as X.25 conformance testing, frame relay emulation, SNA monitoring, or load generation. The four-port capability makes the PT540 ideal for cost-effective testing of multiport devices such as switches. Test scripts are compatible across the entire PT Series product line, enabling scripts developed in the R&D lab on your PT540 to be used later in field trials, manufacturing QA, and regression testing.

RTA

The RTA is a rack-mount version of the PT300 which can be remotely deployed and operated from a network control center. Not just a data collection device, the RTA is a full-featured protocol tester that can independently execute tests, run scripts, and generate load or test traffic. Test results can be accessed by another PT series protocol tester or from a UNIX[®] workstation using the PTremote Manager remote control software. It can be powered by -48 or -60 Vdc. Designed for unattended operation in a telco central office, the RTA does not include a keyboard or integral CRT display, however, an optional keyboard and external monitor are available. The RTA can be configured with up to three applications processors and two ports.

PTremote Manager

Multiple PT series protocol testers can be remotely coordinated for network-wide, multiprotocol, stimulus-and-response testing from a single UNIX workstation running our PTremote Manager software. You can set triggers and filters, broadcast commands, download scripts, and upload captured data and reports. PTs are fully programmable, so you can have them monitor for an event and notify your workstation or other PT if it occurs. And since the PTremote Manager can launch a UNIX shell script and run a program, you could have all kinds of tie-ins to script libraries, report generators, databases, and network management-control systems. A rich library of C programming routines gives you a complete software interface. See for yourself how multiple stimulus-and-response testers can save you even more valuable testing time.

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