

# HP Internet Advisor Series

Integrated monitoring and protocol analysis  
to solve network problems quickly and easily

Introducing Internet Advisor 8.0 —  
Automated, powerful network  
analysis.



# HP Internet Advisor Series

*Integrated monitoring  
and analysis —  
under one handle*

Powerful, integrated, and easy to use, the HP Internet Advisor lets you isolate datacom network problems more quickly than ever. With test capabilities for all major networking technologies integrated within a single, lightweight, portable, rugged package, the HP Internet Advisor lets you cost-effectively install, maintain and troubleshoot your datacom networks.

## Unparalleled ease-of-use

- Internet Advisor 8.0 — automatic expert troubleshooting and network health reporting
- Windows '95 - point and click for ease of use with industry standard user interface
- HP Internet Reporter — professional network baseline reports for WAN and LAN, automatically
- Pre-written tests for all major protocols, including LAN traffic analysis over WAN
- Complete remote control using in-band or out-of-band connections
- On-line Help

## Additional features

- Standard 3 year warranty
- Free application Helpline
- Worldwide service and support



## Connect anywhere in the network

- LAN monitoring and expert analysis for Ethernet, Fast Ethernet, token-ring, and FDDI networks
- Complete WAN testing from 50 bps to 2 Mbps — frame relay, ISDN, X.25, HDLC, SNA, async PPP, encapsulated LAN analysis
- ATM for T1/CEPT-E1, DS3/E3, and OC-3/STM-1 interfaces
- Bit error rate testing to 45 Mbps
- VT 100 terminal emulation
- Industry-standard analog transmission impairment measurement (TIMS) capability to 200 kHz
- T1 Telco undercradle for complete T1 BERT, SLC-96, and signaling analysis.

## Built-in, fully integrated 486 personal computer

No need to carry an additional PC. HP Internet Advisor also lets you retrieve messages, create reports, document test results, or run any standard DOS or MS Windows® application.

- 486 class, 100 MHz processor, 16 Mbyte PC memory<sup>(1)</sup>
- 256 Mbyte hard drive standard, 512 Mbyte optional
- 1.44 Mbyte flexible disk drive, built in mouse, serial and parallel ports
- PC-card (Type I/II) slot for modem, NIC, memory, etc.
- Standard 10.4 inch passive color VGA display, optional 10.4 inch active matrix VGA display

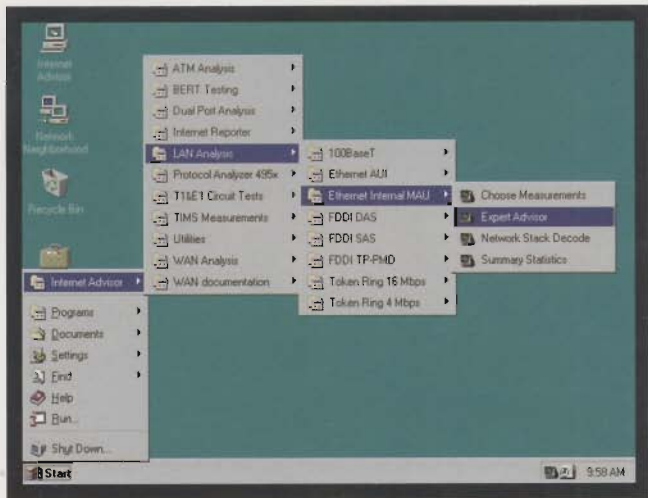
<sup>(1)</sup> PC specifications differ for the HP J2300A 64 kbps WAN analyzer — Intel80486 SX 25 MHz, 4 MB PC memory, 256 MB hard drive. Standard 9.6 inch passive LCD monochrome VGA. Optional 8.4 inch active matrix VGA display.

*Intel80486 is a U.S. trademark of Intel Corporation*

*MS Windows is a U.S. trademark of Microsoft®*

*Microsoft is a U.S. registered trademark of Microsoft Corporation*



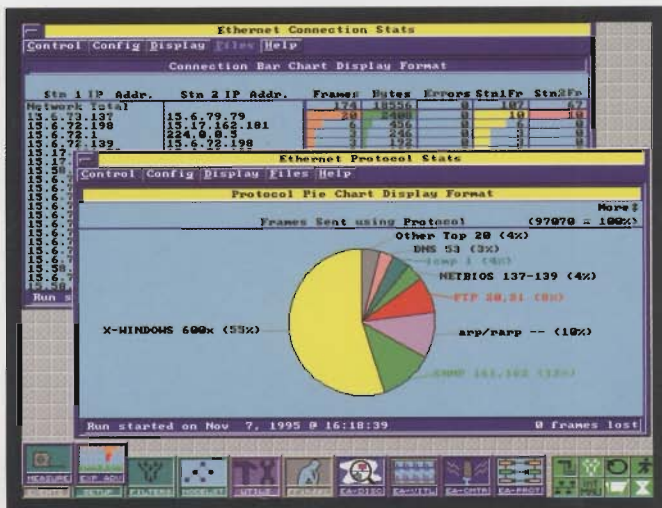


Point and click for fast and easy access. Test your high-speed WAN links, ATM circuits, Ethernet, Fast Ethernet, token-ring, and FDDI networks.

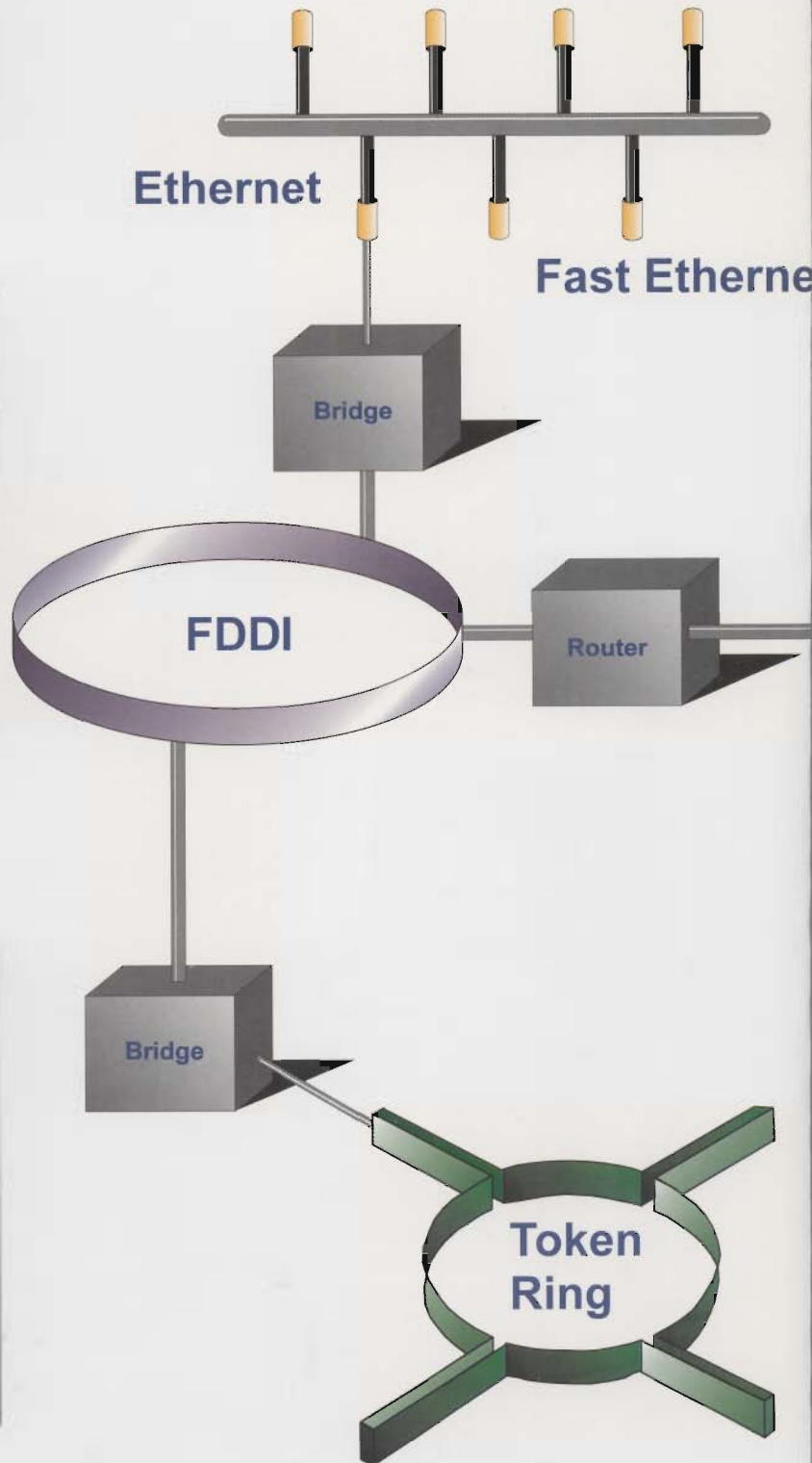
*Integrated HP protocol analyzers solve your WAN and LAN internetwork problems fast*



Obtain valuable information about your FDDI network. The FDDI Ring Manager shows ring status and a logical or physical map of your network. Clicking on a station icon brings up a window showing the station statistics.

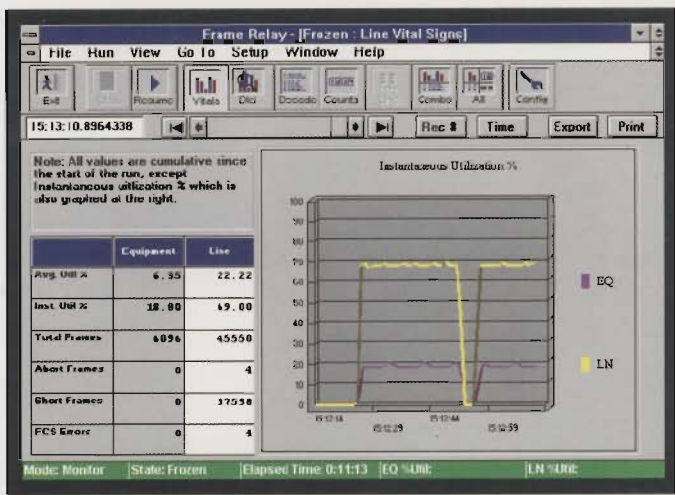


Statistical measurements of traffic by protocol, connection, node, frame length distribution and others quickly shows how precious network bandwidth is being consumed.

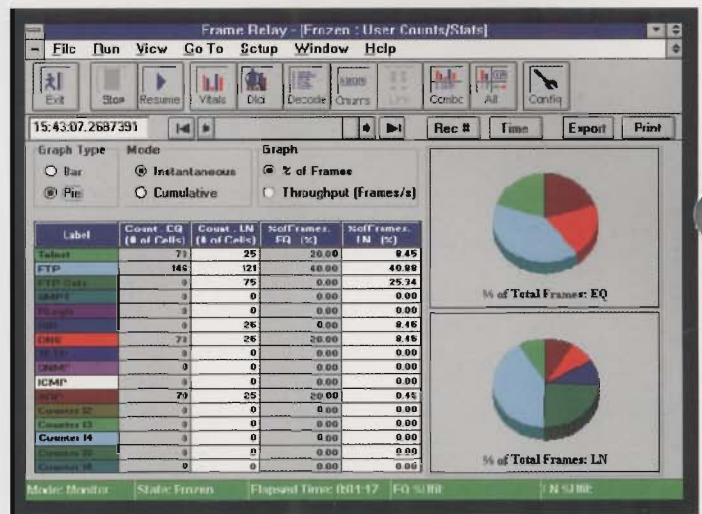


**HP Computer Museum**  
**[www.hpmuseum.net](http://www.hpmuseum.net)**

**For research and education purposes only.**

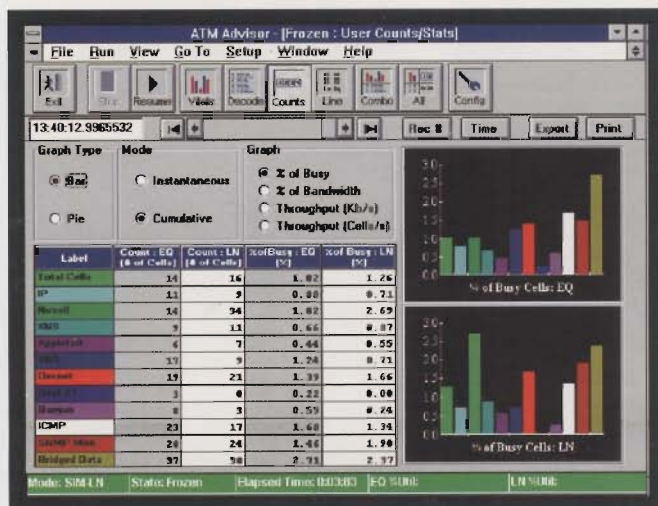
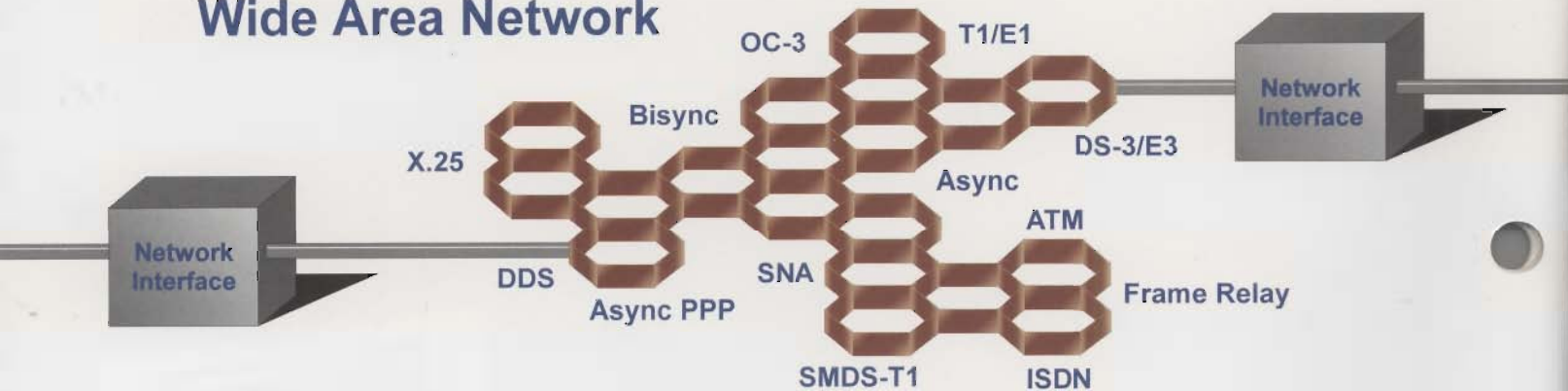


Frame relay Vital Signs shows overall network performance and errors, allowing you to identify network problems quickly.

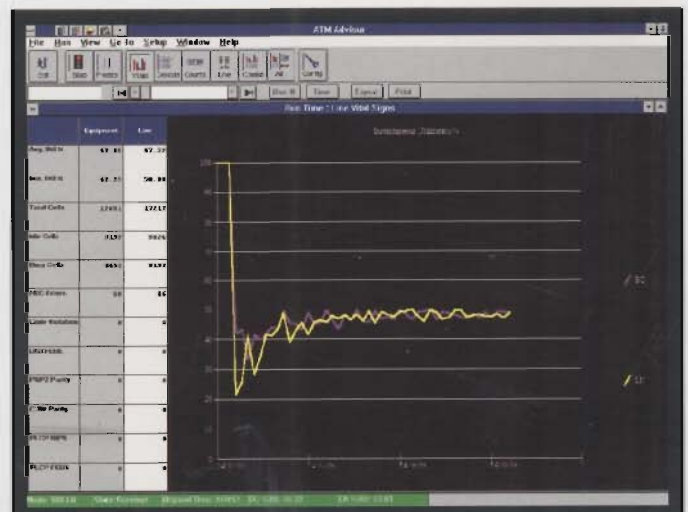


Real-time analysis of LAN traffic over your WAN allows fast and complete understanding of your internetwork connections.

## Wide Area Network

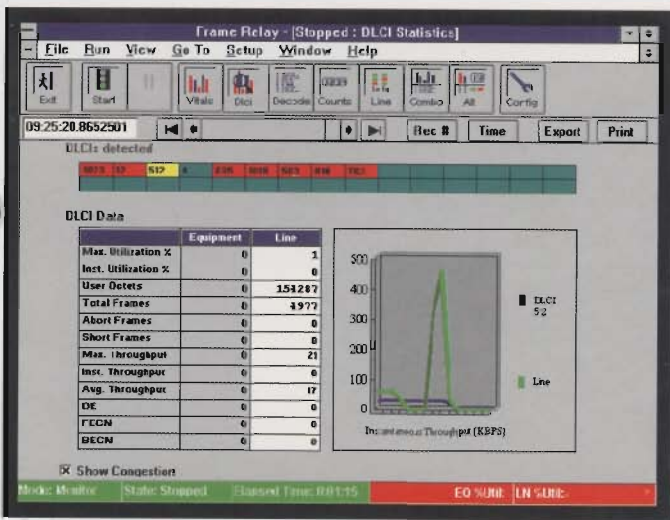


The Internet Advisor for ATM lets you select the parameters to measure on the ATM network. Analyze LAN traffic across ATM circuits in a single, easy-to-understand display.

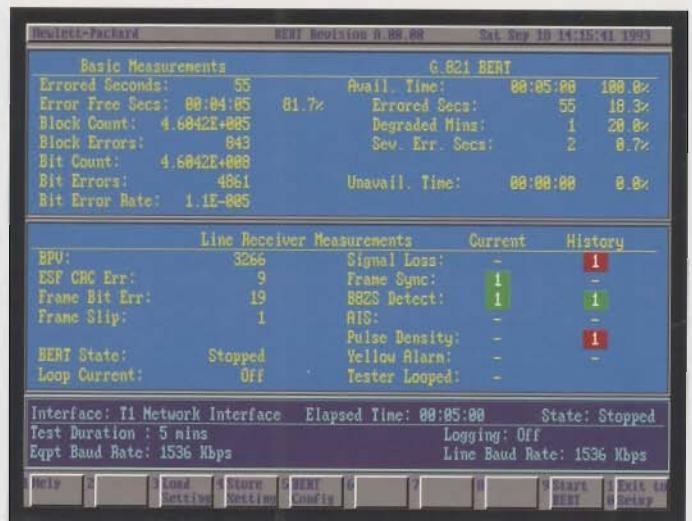


ATM Vital Signs shows overall network performance and errors in one easy-to-understand screen, helping you track down problems fast.

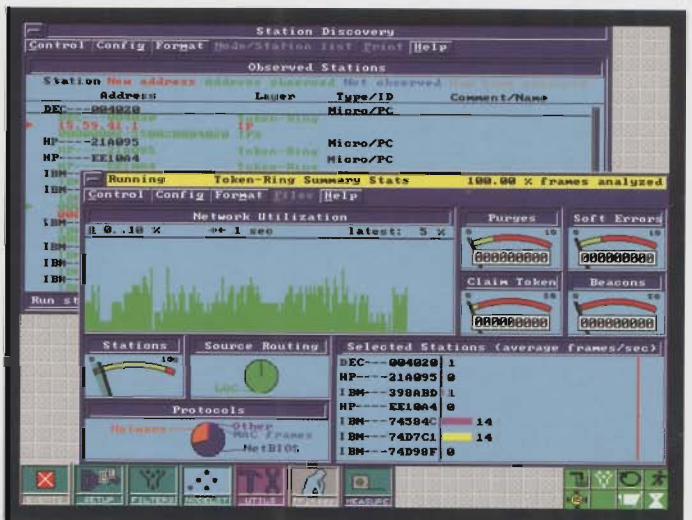
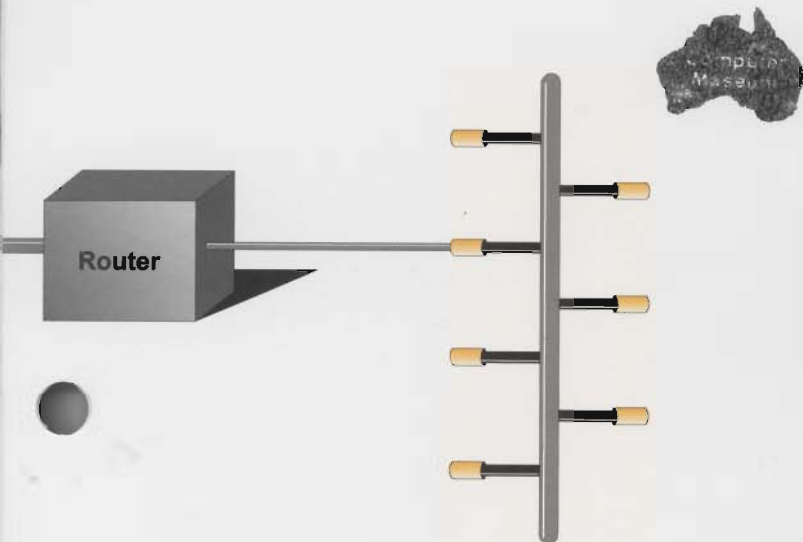




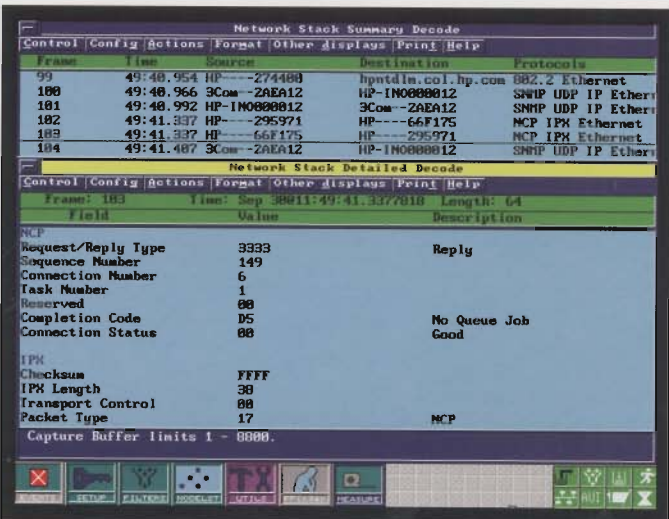
Complete frame relay statistics by DLCI help you isolate network configuration problems at a glance.



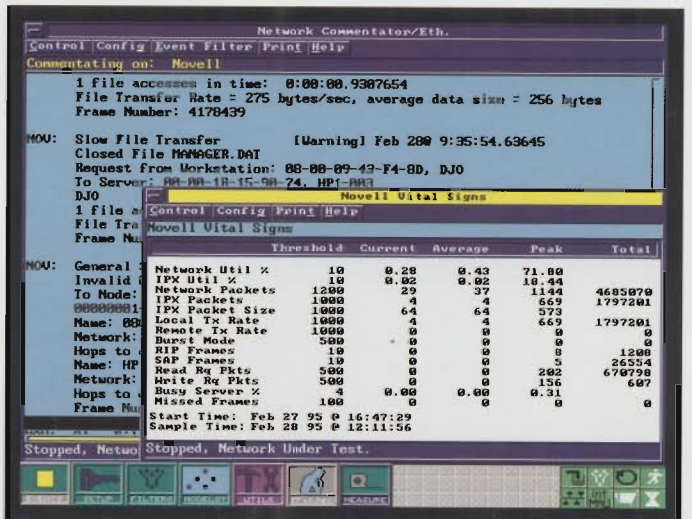
BERT capability eliminates the need to carry several test sets on support visits. Quickly measure the quality of your data circuits and identify network faults.



Network, node and protocol statistics are logged to disk over time and can be plotted offline with HP Internet Reporter to generate reports that facilitate troubleshooting and network planning.



Internet Advisor's LAN decodes are flexible enough to let you view all layers of all protocol suites in a single display, or focus in on a specific layer for detailed protocol troubleshooting.



Commentators and Vital Signs provide intelligent monitoring and troubleshooting for Ethernet, Fast Ethernet, token-ring and FDDI networks, and all major protocol stacks, greatly simplifying network management and problem resolution.

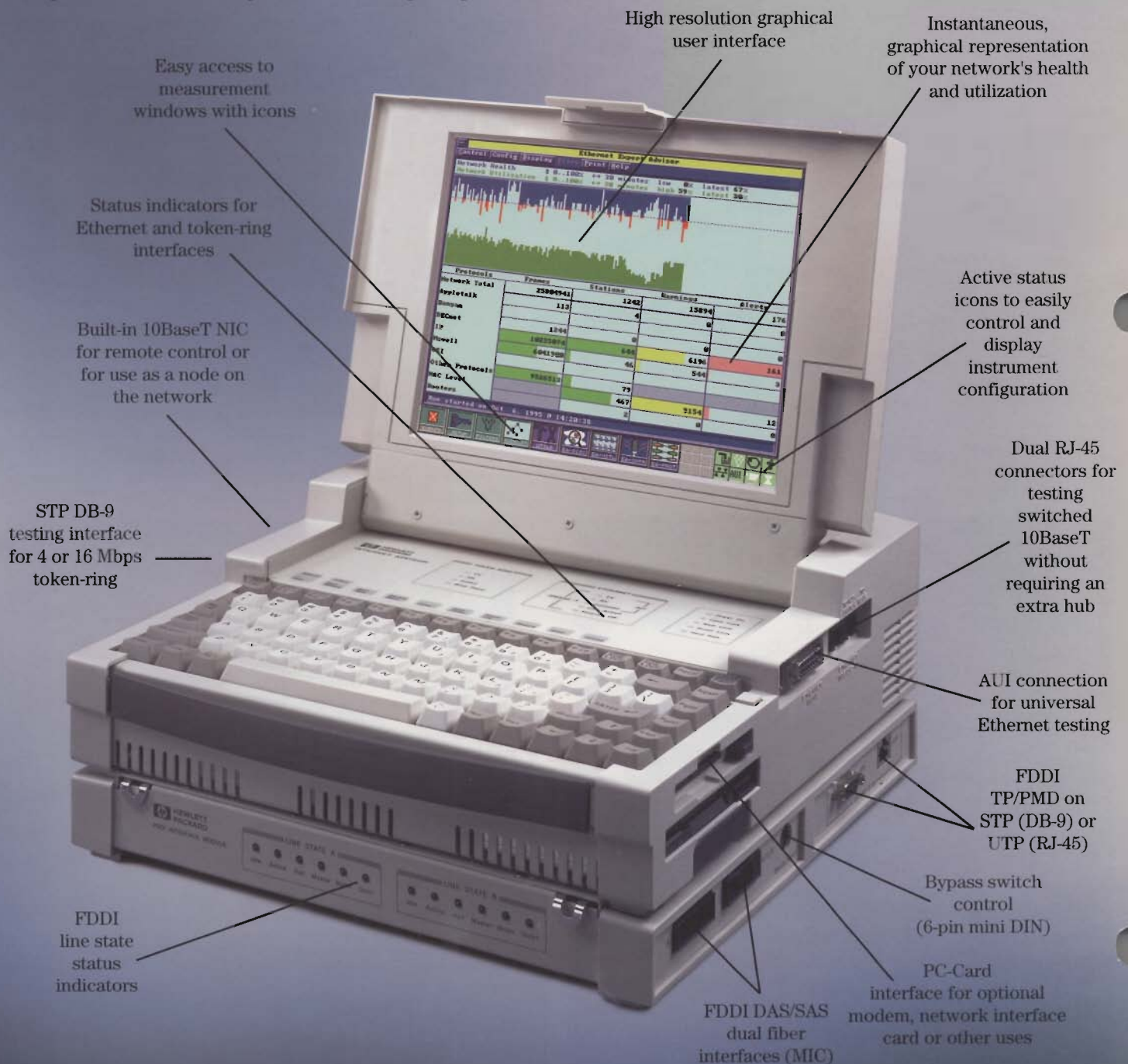


# HP Internet Advisor for LAN

*Expert analysis for Ethernet, Fast Ethernet, token-ring, and FDDI media*

The HP Internet Advisor for LAN combines uncompromised monitoring and analysis with a powerful, rugged PC—all in a lightweight, easy-to-carry package with an unprecedented low price.

- Optional undercradle (not shown) for 100BaseTx Fast Ethernet, OC-3/STM-1 Ethernet, switched Ethernet, token-ring, and FDDI under one handle — weighing less than 18 pounds
- All major protocol stacks on all media, including Fast Ethernet and FDDI
- More than 100 statistical parameters measured
- All media interfaces have hardware filtering and RISC analysis processors for uncompromised data-capture performance



# HP Internet Advisor for LAN

## Internet Advisor 8.0

Internet Advisor 8.0 transforms data into meaningful diagnostic information. Constantly monitoring the traffic on your Ethernet, Fast Ethernet, token-ring or FDDI

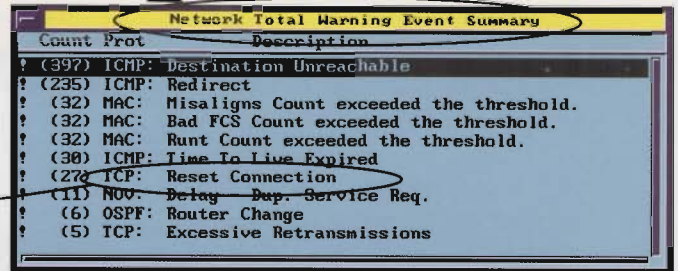
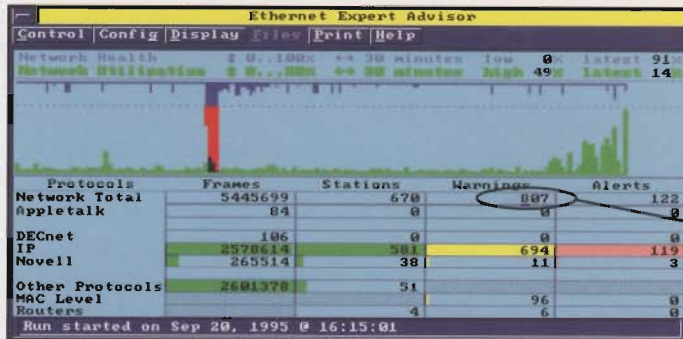
network, the Internet Advisor reduces thousands of frames to the critical significant events. It watches continuously for router misconfigurations, slow file transfers, inefficient window sizes,

connection resets, and many other problems. And it does this for each protocol stack you have running, all in real time — before problems actually occur.

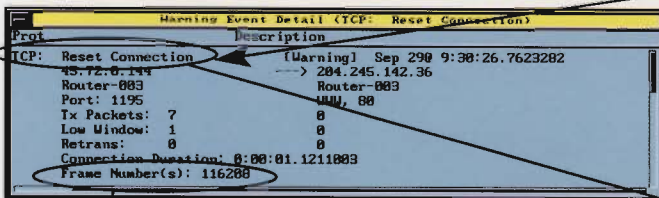
- Real-time summaries of all the important network parameters
- Event summaries categorized by protocol stack, so you can quickly isolate problems to specific protocols
- Drill down capability lets you “zoom in” on any area of interest, leading you quickly to the source of the problem
- Customize event thresholds to your network, saving and reusing customized configurations

## Drill down to isolate problems quickly

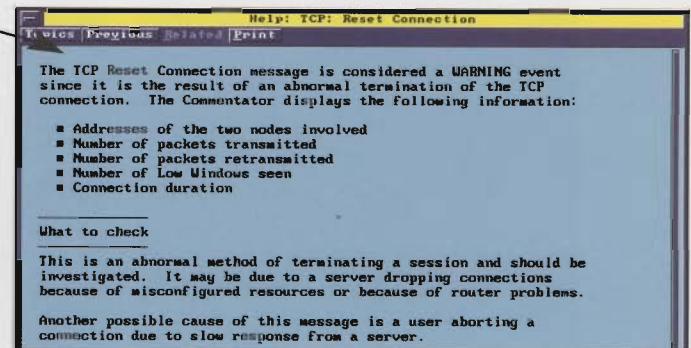
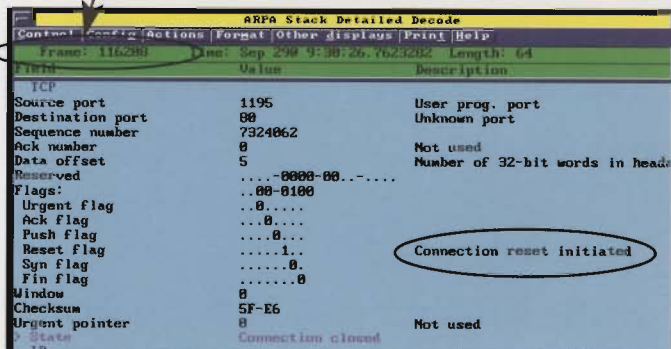
Internet Advisor 8.0's drill down capability leads you quickly to the source of problems by simply double clicking on areas of interest, as can be seen in the guided sequence shown below.



Each warning event is time-stamped and detailed, so you'll know exactly which stations were involved and what caused the error.



By drilling down on warning events, you can focus on inefficiencies that could be impacting network performance.



By double-clicking on the frame number(s), you'll view in detail the actual data frames that caused the event.

To identify and solve the problem, just double click on the event description. You'll get an explanation of how that event was detected, its likely causes, and what to check next to resolve it quickly.



*Expert analysis  
for Ethernet,  
Fast Ethernet,  
token-ring, and  
FDDI media*

## HP Internet Advisor for LAN

### Protocol decodes

- Complete seven-layer decodes for all major protocols
- Network stack decodes provide a complete view of all fields in all data packets
- View only the information that is relevant to the problem at hand; choose a specific protocol stack or focus on single layer
- All decodes available in summary, detail, and hexadecimal formats
- Decodes follow conversations to provide packet sequencing information and automatically detect syntax errors
- Multi-tasking allows any combination of measurements to run simultaneously, including decodes, statistics or expert analysis.

### Expert Commentators and Vital Signs

- Expert Commentators and Vital Signs measurements reduce thousands of individual data packets to a handful of significant network events
- Quickly identify routing inefficiencies, connection resets, slow file transfers and many other problems
- Available for Ethernet, Fast Ethernet, token-ring, and FDDI networks
- Expert Commentators and Vital Signs measurements for Novell, TCP/IP, AppleTalk, Banyan VINES, OSI, DECnet, RIP, IGRP, OSPF and MAC level protocols
- Easily configured to your network by enabling or disabling events and customizing event threshold levels
- Automatic baseline process sets thresholds based on observed network activity

- Thresholds can be used to stop the data capture process for isolating hard-to-find intermittent problems.
- All measurements run in real time or post-processing modes

### Network performance analysis

- Measure statistics for overall network performance, traffic by node, traffic by connection, traffic between subnets, protocol utilization, and frame length distribution
- Log all statistics measurement data to disk to provide network performance information for troubleshooting and planning
- Drill down from Summary Statistics to other performance analysis measurements

- Gather data for up to 41 MAC level parameters for sample periods as often as every second
- Top talkers and top error sources
- Node statistics include frames, bytes, errors, broadcasts and multicasts
- Connection statistics for MAC level, network level and subnet-to-subnet connections include bytes, frames and errors
- Protocol statistics include frames, bytes, errors and average frame length for up to 20 protocols at data link, network, and transport layers



Convenient size and rugged packaging allow you to take the solution to the problem.

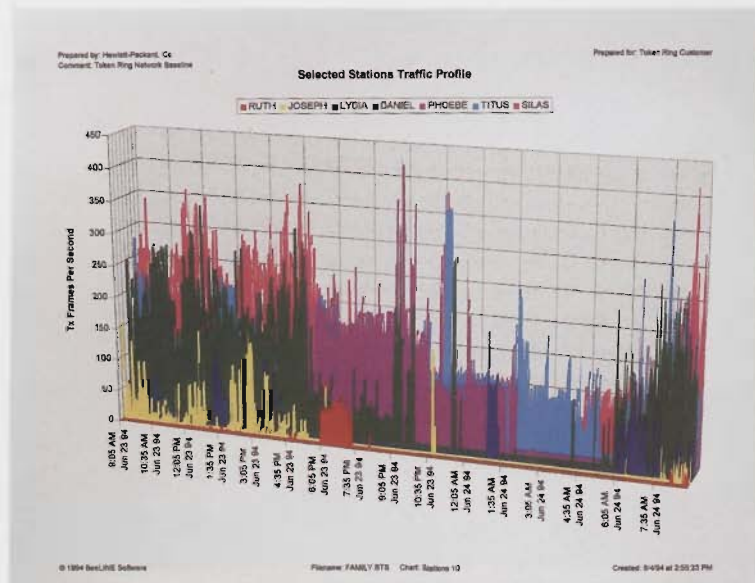
# HP Internet Advisor for LAN

## Isolate problems quickly and easily

- Node Discovery automatically discovers friendly node names, identifies routers, and maps network to MAC level addresses to create a node database
- Active Stimulus/Response tests include ping, ARP, active server list and customized load generation
- FDDI Ring Manager can create either a physical (wiring) or logical (token flow) map of your network, providing status information for the entire network and all its stations
- Hardware filters, RISC processor, and large flexible capture buffer ensure 100 percent data capture performance at full line load, under all conditions
- Multi-tasking: run any combination of measurements simultaneously for ultimate testing flexibility
- Measurements run in real time or in post-processing mode from a captured data file
- Context-sensitive help screens available for all measurements
- Self-paced user training course is included

## Remote troubleshooting

- Remotely control your HP Internet Advisor for LAN from anywhere on your network using an MS Windows PC or HP-UX workstation
- Includes virtual terminal remote control and file transfer capability
- Master console can control four or more remote images
- Uses IP or IPX transport
- Support for in-band or out-of-band (serial link) connections
- SNMP traps generated by remote Internet Advisors can alert network management systems of potential problems

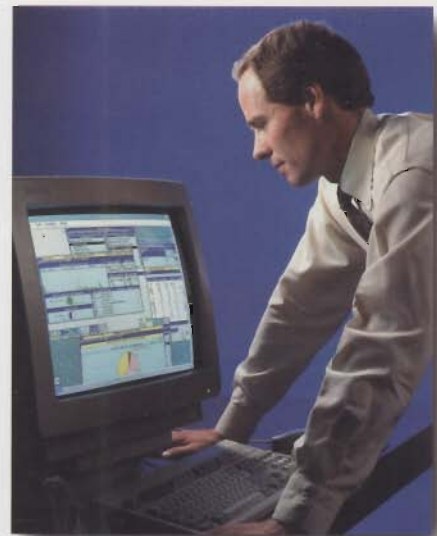


Selected stations traffic profile -- one of many graphs available with HP Internet Reporter.

## Automated professional network baseline reports for LAN

Optimize your network's performance using the HP Internet Reporter for LAN. This complete network baselining and reporting application is available for all Ethernet, token-ring, and FDDI Advisor products.

- Produce comprehensive snapshot of your network's health and performance
- Automatically generate reports to justify network upgrades
- Create history of network performance
- Use benchmarks to evaluate the effect of hardware or software changes



Remotely control your Internet Advisor for LAN from a PC or management workstation to increase troubleshooting effectiveness and shorten response time.



# HP Internet Advisor for WAN/LAN

*Integrated WAN/LAN/ATM/FDDI performance to solve your network problems quickly and easily*

Easy to access test functionality

Quickly identify network bottlenecks

Complete RS-232/V.24 breakout box

Serial and parallel ports

VGA video output

Built-in modem

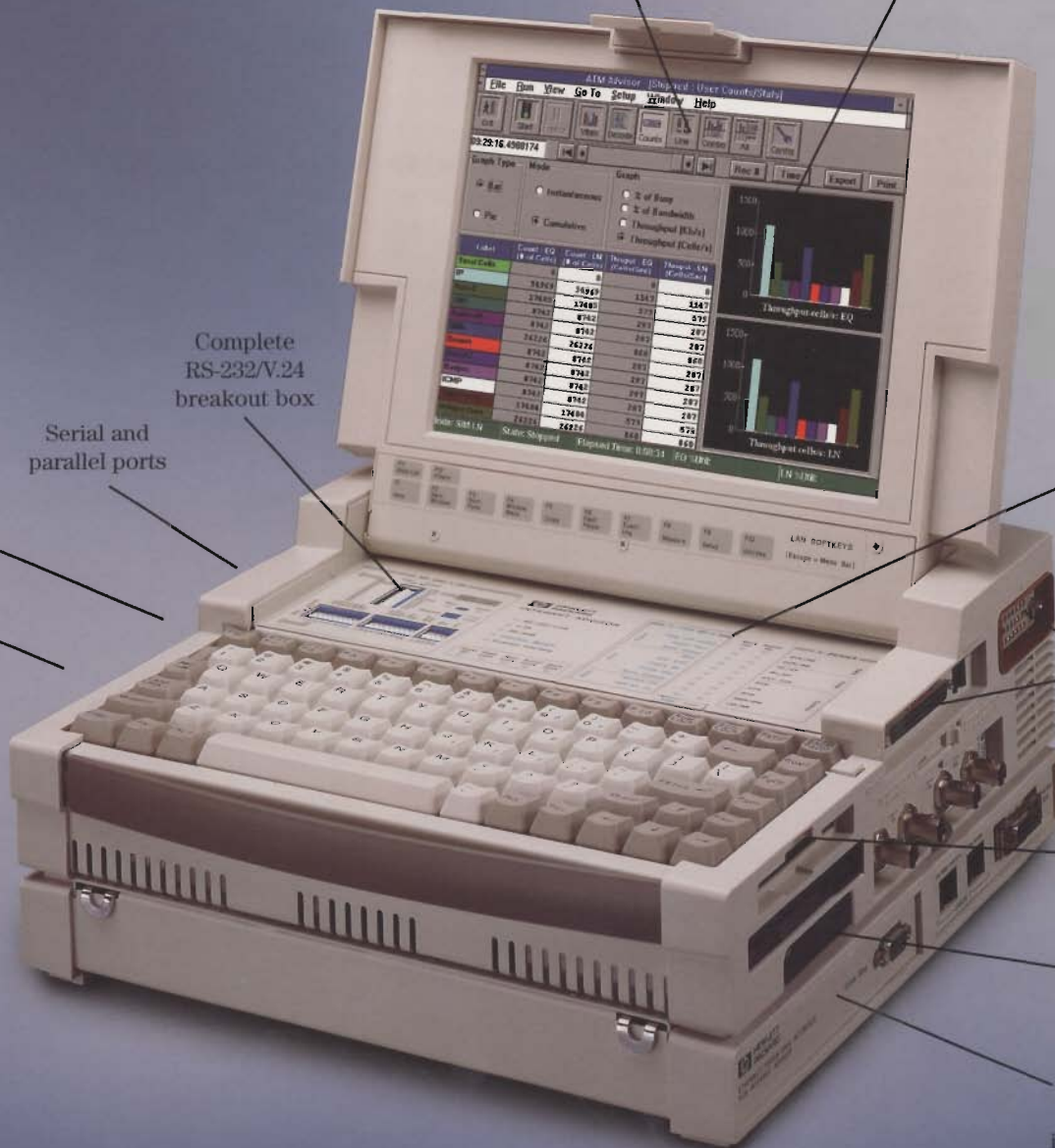
Status LEDs for quick problem isolation

All major interfaces built in — RS-232/V.24, V.35, V.36/RS-449/V.10/V.11 and T1 or CEPT-E1 optional, ISDN, DDS 4-WIRE, DS3/E3, OC-3/STM-1

PC-Card interface

Integrated mouse

Ethernet and token-ring, or FDDI or ATM interfaces available



# HP Internet Advisor for WAN/LAN

## Integrated solution

HP Internet Advisors integrate solutions to all your network monitoring, analysis, and simulation requirements. Internet Advisor combines a complete protocol analyzer for WAN, LAN, ATM, and ISDN, plus analog T1s and a complete bit-error-rate test set — all in a powerful, rugged personal computer. With this low-priced, compact package, you get the best combination of price and performance available in the datacom test industry.

## Quickly isolate and identify network problems at the press of a single key

- Check/identify router and bridge configuration problems
- Determine types of traffic routed over the WAN
- Determine bandwidth being used. Do you need more lines or greater bandwidth, or do you have too much bandwidth and could reduce costs?
- Determine who is generating inappropriate traffic
- Verify the operation of your WAN service — Pre-written tests for frame relay, X.25, and HDLC
- Verify the quality of your datacom circuit with industry standard Bit Error Rate tests

## Full-Featured WAN solution

- All major interfaces built in; test from 50 bps asynchronous to 45 Mbps synchronous; RS232/V.24, V.35, RS-449, V.10/11, DDS-4 wire, ISDN BRI/PRI, X.21, T1, CEPT-E1 (Meets applicable portion of G.703 and G.704 for 2 Mbps interfaces).
- Test ATM networks at the DS1, DS3, CEPT-E1, CEPT-E3 and OC-3 rates with full monitor and simulation capabilities.
- Full monitor and decode of major protocols over any channel, fractional channel, or full T1 or CEPT-E1: frame relay, X.25, HDLC, PPP (LCP), SDLC, SNAP, SNA, ISDN (Q.921/931), async PPP, SMDS (T1 only), X.21, IPARS, DDCMP, and async.
- Analyze encapsulated LAN traffic: TCP/IP, Novell, DECnet, XNS, AppleTalk, 3Com, and IBM SNA
- Simulate X.25, frame relay, HDLC, and proprietary bit-oriented protocols to 2.048 Mbps. Run a pre-written frame relay ping test or place a call on an X.25 network.
- Complete English decodes with customizable displays
- Real-time statistical analysis, including LAN traffic analysis over WAN
- Guaranteed 100 percent data-capture performance during full line loading; capture to 30 Mbyte buffer (optional)
- Simultaneous decodes, statistics, triggers, filters, and simulation: toggle between statistics and data displays real time, and never miss an event
- Extensive filtering for all protocols; X.25 calling and called numbers, frame relay DLCI, errors, and ISDN SAPI/TEI.
- Full-function BERT (bit-error-rate tests) including DS1, DS3, CEPT-E1, and CEPT-E3
- Log results to hard disk — statistics, LAN traffic analysis, frame types, errors, etc.
- Full remote control and PC data analysis



Quickly isolate internetwork problems in a multivendor environment.



# HP WAN/LAN Internet Advisor

## ATM solution for installation and maintenance of cell relay based networks

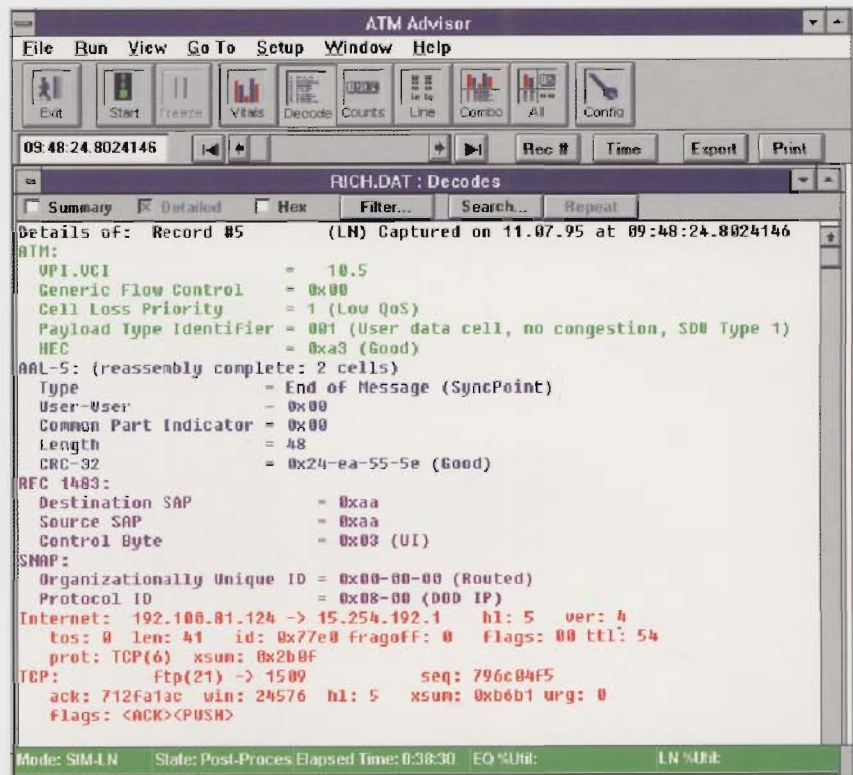
ATM testing is easy with solutions from the HP Internet Advisor for ATM. Any Internet Advisor can test DS1 or CEPT-E1 with a single software upgrade. The Internet Advisor can also be upgraded for DS3, CEPT-E3 or OC-3/STM-1 ATM testing with a quick and easy modular addition. Interfaces for OC3 and J2 testing are currently under development.

The Internet Advisor for ATM allows testing at full bandwidth, full duplex with complete reassembly decodes for ATM through all seven layers of LAN information. Statistical analysis and simulation provide a complete picture of your ATM network in operation. And, with fully incorporated BERT testing for the physical circuit and cell-based BERT, the Internet Advisor for ATM tests all network parameters of the ATM network.

Auto discovery mode allows an easy way to see which UPI/UCIs are being used.

Decodes for signaling ILMI, OAM, and LAN emulation help you see all ATM and application traffic as permanent virtual circuits or switched virtual circuits are used.

You can count on HP to provide leading-edge solutions for your network as you migrate from older "legacy" technologies to new network designs. The Internet Advisor is designed to grow with your changing network needs. Its modular design makes certain that your network investment in monitoring and analysis equipment is thoroughly protected.



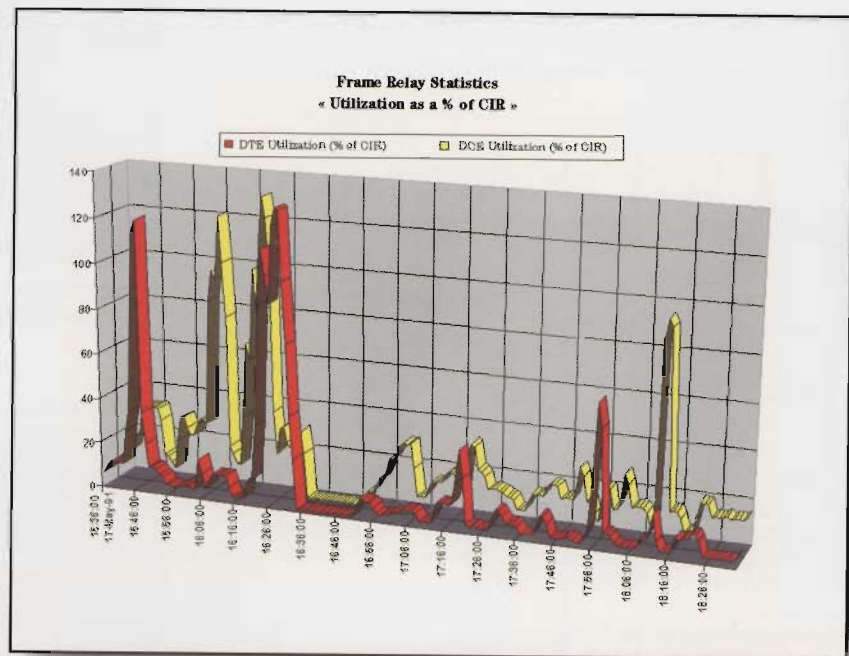
Real time analysis of LAN traffic over ATM allows fast and complete understanding of your internetwork connections.

# HP WAN/LAN Internet Advisor

## Automatic Baselineing with HP Internet Reporter

Used with the HP Internet Advisor, HP Internet Reporter for WAN/LAN automates network baselining and reporting.

- Obtain professional reports on network performance quickly and easily.
- Log statistical data on your frame relay, X.25, HDLC, SNA or ISDN links with the Internet Advisor, and automatically produce comprehensive reports on the health and performance of your network.
- Monitor line quality over time, including T1/CEPT-E1 transmission errors, errored user frames, and bit error rates (BERT)
- Monitor traffic patterns and bandwidth utilization for the entire WAN link, by LCN or DLCI, or by encapsulated LAN protocol to better address network growth and planning issues.
- Generate professional quality reports to justify service upgrades or document the impact of topology changes



Use the HP Internet Reporter to optimize your network resources. Monitor line quality and bandwidth utilization on critical WAN internetwork connections

## Add integrated ISDN monitoring solution

ISDN solutions for basic rate S/T, T1 primary rate, and CEPT-E1 primary rate combine with HP Internet Advisors to form an uncompromised ISDN solution in a multi-protocol environment. Completely monitor and decode ISDN B and D channels; perform statistical analysis of B and D channel activity.

- Monitor and decode LAN traffic carried on ISDN links — an ideal solution for LAN interconnect problems.
- Full D channel data Analysis
  - Full Level 1, Level 2, and Level 3 decoding in real time (including information elements)
  - Support for Q.931, ETSI, NI-1 and 14 other signaling decodes
  - Decode X.25 D-channel packet data
  - Full support for Q.921 and LAP-D
  - Full triggering, filtering and searching for SAPI and TEI
- Complete analysis of ISDN user data
  - Monitor and decode frame relay, PPP (LCP), X.25, HDLC, SNA, and encapsulated LAN traffic.
  - Extensive B-channel statistics; utilization, throughput, errors, frame types, and LAN traffic.



# HP WAN/LAN Internet Advisor

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## Add TIMS testing to the HP Internet Advisor

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WAN, LAN over WAN, bit error rate measurements and TIMS — all under one handle.

The TIMS undercradle for the HP Internet Advisor provides analog tests to 200 kHz for qualifying circuits for voice, data, broadcast, and ISDN. When the TIMS interface is attached to the T1 or E1 Internet Advisor, the datacom specialist has full decoding of LAN over WAN and WAN protocols, bit-error-rate measurements and transmission impairment measurements — all under one handle.

Operation is based on the industry-standard family of HP TIMS products: HP 4934A, HP 4935A, and HP 4936A.

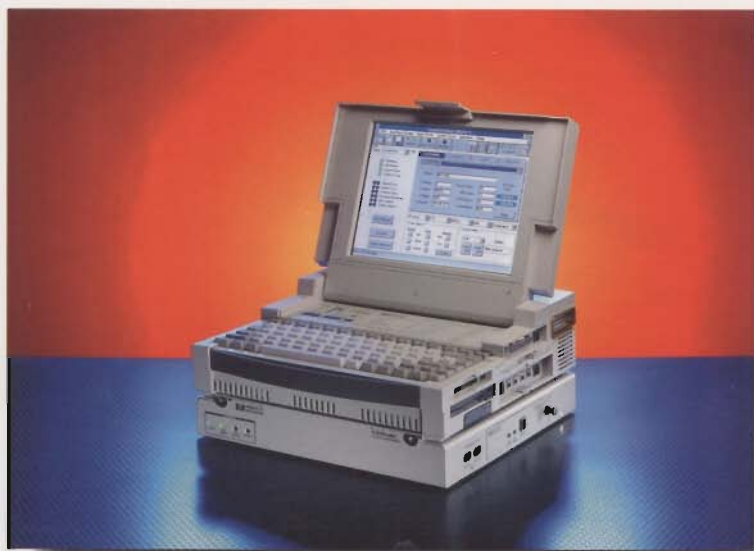
## Add extended T1 physical interface testing

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HP created the Internet Advisor to provide telco technicians with integrated LAN, WAN and internetwork monitoring and analysis capabilities under one handle. Now, the HP E4594A T1 undercradle extends these "all-in-one" instruments even further, with extended T1 capability.

An easy-to-use Microsoft Windows graphical user interface simplifies tests:

- Extensive telco oriented T1 BERT testing such as: clock slips, frame slips, density violations, BPV, CRC, logic errors, etc.
- Voice frequency analysis - Insert and drop tones
- Signaling bit display and analysis
- Complete SLC-96 testing
- Smart repeater testing
- Receive frequency measurement
- Received level in volts and dB



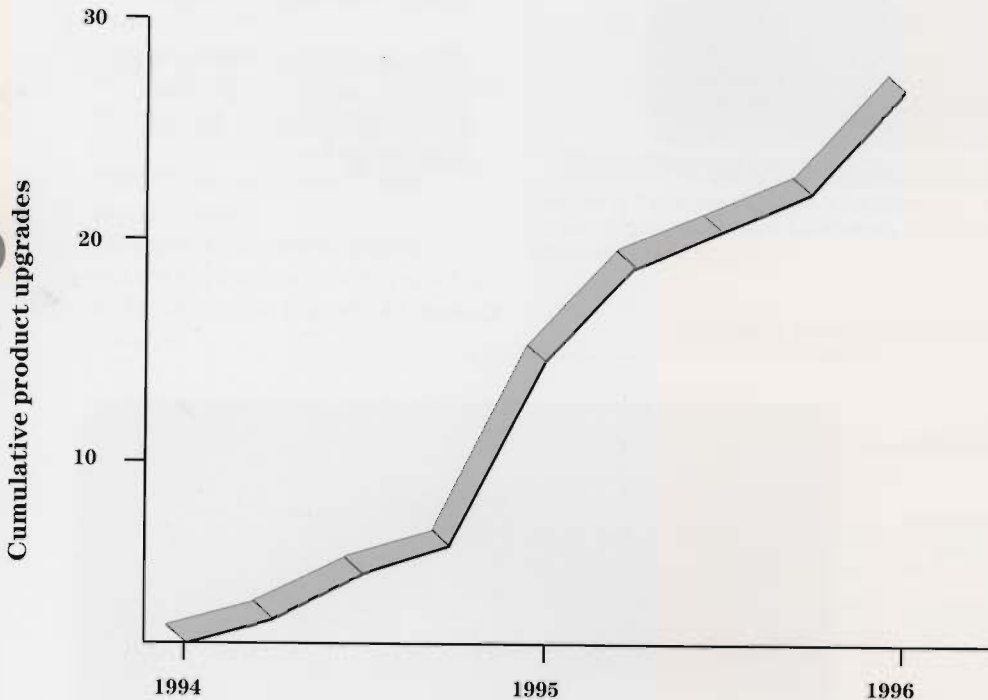
The HP E4594A adds enhanced T1 capability to the Internet Advisor.

# HP Internet Advisor Series

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## Continuous Product Enhancements

The HP Internet Advisor series is designed to grow with you as your testing needs change. The modular design of both the hardware and software will continue to make possible a constant stream of upgrades and enhancements which will keep your analyzer current. Subscribing to the Internet Advisor Software Update Service (HP J2899A + UA8) ensures that you always have the latest and most complete testing capability.



## Partnering with Hewlett-Packard

We know that it takes more than the best tools to keep your network healthy. With Hewlett-Packard as your partner, you'll also have the best training and education products to increase your troubleshooting effectiveness. You'll have on-line technical support and consulting services when you need them. And you'll have the protection provided by a standard 3 year (or optional 5 year) full warranty on the HP Internet Advisor.



## Ordering Information and Specifications

(Major products and options only. Contact your HP sales representative for complete information)

### HP Internet Advisor for WAN Series

HP J2300A 64 kbps WAN Analyzer

- Opt ADW Active matrix color display
- Opt 001 Fax modem (14.4 kbps) (U.S. only)
- Opt 002 Adds Katakana character set

HP J2301B T1 Internet Advisor

- Opt 001 Fax modem (14.4 kbps) (U.S. only)
- Opt 002 Adds Katakana character set
- Opt 200 Extended buffer / DS3/CEPT-E3 ATM capture ready
- Opt 203 RJ-45 Connectors (Japan)
- Opt 220 512 MB hard drive
- Opt 221 26.4 cm active matrix color display

HP J2302B E1 Internet Advisor

- Opt 200 Extended buffer / DS3/CEPT-E3 ATM capture ready
- Opt 201 BR2 Connectors
- Opt 220 512 MB hard drive
- Opt 221 26.4 cm active matrix color display

HP J2527A TIMS undercradle

- Opt 001 ITU-T version

HP J2306B Ethernet undercradle for HP J2301B or HP J2302B

HP J2309B Ethernet/Token-Ring Undercradle for HP J2301B or HP J2302B

HP E4594A Telco Undercradle

### HP Internet Advisor for ATM Solutions

HP J2909A ATM DS3 slide-in module and ATM software for HP J2301B or HP J2302B

HP J2910A ATM CEPT-E3 slide-in module and ATM software for HP J2301B or HP J2302B

HP J2915A ATM software - T1/E1/DS3/CEPT-E3 Analysis

HP J2916A DS3 undercradle and ATM Advisor software

HP J2917A CEPT-E3 undercradle and ATM software

### HP Internet Advisor for LAN series

HP J2522B Ethernet Advisor

- Opt 208 Adds Internet Reporter for LAN
- Opt 220 512 Mbyte hard drive
- Opt 221 26.4 cm active matrix color display

HP J2523B Ethernet/Token-Ring Advisor

- Opt 208 Adds Internet Reporter for LAN
- Opt 220 512 MB hard drive
- Opt 221 26.4 cm active matrix color display

HP J2524A FDDI interface (with 32 MB buffer memory standard) for HP J2522B, HP J2523B, HP J2301B, or HP J2302B

### HP Internet Reporter

HP J2531A Internet Reporter for LAN

HP J3306A Internet Reporter for WAN

HP J3307A Internet Reporter for LAN and WAN

### Additional Ordering Information:

HP J2899A + UAS Software Subscription Service

HP J2908A DDS 4 wire interface

HP J2904A ISDN Basic Rate Interface

HP J2906A ISDN T1/Primary Rate Software

HP J2907A ISDN CEPT/E1 Primary Rate Software



## HP Sales and Support Offices

For more information on Hewlett-Packard Test and Measurement products, applications or services please call your local Hewlett-Packard sales offices. A current listing is available via Web through AccessHP at <http://www.hp.com>.

If you do not have access to the internet please contact one of the HP centers listed below and they will direct you to your nearest HP representative.

### United States:

Hewlett-Packard Company  
Test and Measurement Organization  
5301 Stevens Creek Boulevard  
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