

450P

NETWORK TESTING

DSL TRIPLE-PLAY
TEST SET
CoLT-450P



The right tool for service confirmation testing, maintenance and troubleshooting

- Easy-to-use, simple menus
- Advanced DSL testing
- Makes determining IPTV and VoIP quality a snap
- Provides a comprehensive analysis of all layers involved

Robust and future-proof

- Modular design
- Smart test application modules (TAMs)
- Basic and advanced testing of data, voice and video

Improve productivity

- Lightning-fast power-up time
- Runs a test at the push of a button
- Pass/fail results indicators for IPTV and VoIP QoS



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Telecom Test and Measurement

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EXPERTISE REACHING OUT

The Ultimate Handheld Platform for Triple-Play Testing

EXFO's CoLT-450P DSL Triple-Play Test Set represents the next generation of the popular CoLT-450, a powerful handheld platform optimized for triple-play testing over DSL. Whether you are testing ADSL, ADSL2+, G.shdsl, including IPTV, VoIP and ISP services, the CoLT-450P has the power and modularity that you require in the field.

Ensure Quality at All Phases of Triple-Play Service Deployments

- Installation
- Provisioning/activation
- Service/troubleshooting



Test Your Data, Voice and Video Services

Data

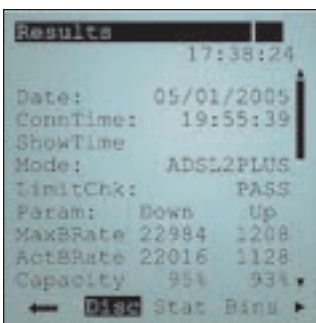
- Supports the latest DSL standards
- Terminate and Through mode operation
- Multiple encapsulation methods
- IP layer testing: ping, traceroute and Web download speed
- Industry's best interoperability

Voice

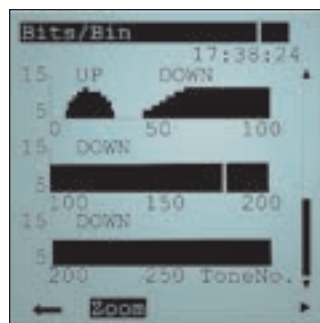
- VoIP testing supporting SIP and MGCP
- Multilayer monitoring and analysis
- Voice delay and jitter histograms

Video

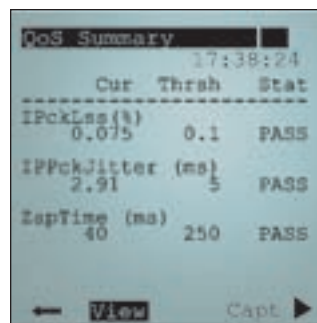
- Fully supports simultaneous multiple channels of HDTV and standard def TV
- IPTV testing supporting MPEG2, MPEG4 and WM9/VC-1
- Set-top box IGMP emulation for testing at the NID
- Per-layer error detection and traffic histograms
- Channel ZAP time measurements
- QoS pass/fail indicators



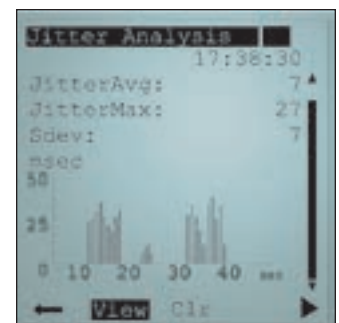
ADSL2+ test results



ADSL2+ Bits/Bin graph



IPTV QoS summary



VoIP jitter analysis

SPECIFICATIONS

ADSL2+ ATU-R MODULE

| | |
|---|--|
| Chipset | Conexant ADSL2+ |
| Termination (ohm) | 100 |
| Standards | Annex A option (over POTS): ITU-T G.992.5 (ADSL2+), ITU-T G.992.3 (ADSL2 and RE-ADSL2), ITU-T G.992.1 (G.DMT) and ANSI T1.413 Issue 2 Annex B option (over ISDN): ITU-T G.992.5 (ADSL2+), ITU-T G.992.3 (ADSL2 and RE-ADSL2), ITU-T G.992.1 (G.DMT) |
| Rates supported | Downstream: up to 24 Mb/s Upstream: up to 1 Mb/s |
| Measurements (upstream and downstream) | Maximum bit rates Actual bit rates Mode: Fast, Interleaved Capacity Signal-to-noise ratio (SNR) margin Output power Attenuation Carrier load (Bits/Bin) |
| Optional tests | Through mode operation, BIATS, VDTS, VoIP testing |

SHDSL MODULE

| | |
|---|---|
| Chipset | Conexant |
| Termination (ohm) | 135 |
| Standards | ITU-T G.991.2 (G.shdsl) ITU-T G.994.1 |
| Modes of operation | STU-R, STU-C (optional) |
| Rates supported | 2 Wire: 192 kb/s to 2.3 Mb/s in 8 kb/s steps |
| Measurements (upstream and downstream) | Bit rate Signal-to-noise ratio (SNR) margin Transmit (Tx) power Attenuation Receiver (Rx) gain EOC channel information |
| Optional tests | Through mode operation, BIATS |



BROADBAND INTERNET ACCESS TESTING SUITE (BIATS) (OPTIONAL)

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|----------------------------------|--|
| Encapsulation methods | PPPoE (RFC 2516), RFC 2684 supporting Bridged Ethernet (IPoE), IPoA (RFC1577), PPPoA / LLC and PPPoA/VC-MUX (RFC 2364) |
| ATM setup and testing statistics | VPI / VCI setup: manual and auto-detect. Mode: F5 OAM Loopback. Tx and Rx cell counters. Near-end and far-end statistics. |
| Login format | Username and password using PAP and/or CHAP |
| IP options | Routing functionality, NAT, DNS support |
| Ping | Pings another device on the network Configurable number of Pings (1 to 99) Packet size: 32 to 9999 bytes (32 is default) Results: indicate packet size, packets sent/received, minimum/average/maximum roundtrip times in milliseconds (ms) |
| Traceroute | Determines the path used to reach another device on the network Timeout in seconds Packet size: 32 bytes Max. hops: 30 Results: indicate IP address of hop and roundtrip time in milliseconds (ms) |
| Web download speed | Downloads a web page and indicates speed of download Address: IP or URL Protocol: HTTP |

IP VIDEO OVER DSL TESTING SUITE (VDTs) (OPTIONAL)

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|---------------------------|--|
| Supported video standards | MPEG2, MPEG4, WM9/VC-1 |
| Video streaming control | Video streaming (channels) detection/selection (IGMP) |
| Operation | Through mode or stand-alone with STB IGMP emulation |
| Analysis and statistics | ADSL, ATM, IP layer analysis Bandwidth usage per channel IGMP packets Set-top box (STB) traffic Key IP video QoS parameters: Packet loss, packet jitter, zap time QoS pass/fail indicators |
| Graphic results | Per-layer error detection and graph Jitter and interpacket dispersion histogram |

VoIP OVER DSL ANALYSIS SUITE (VoIP TESTING) (OPTIONAL)

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|--------------------------|---|
| Signaling protocols | Session initiation protocol (SIP) Media gateway control protocol (MGCP) |
| Operation | Through mode |
| Call monitoring/analysis | ADSL, ATM, IP layer call statistics Gateway/ATA initialization Call flow Codec indicator Key VoIP QoS parameters: Packet loss, packet jitter QoS pass/fail indicators |
| Graphic results | Delay distribution, jitter histogram |

GENERAL SPECIFICATIONS

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|-----------------------|--|
| Size (H x W x D) | Approx. 250 mm x 107 mm x 59 mm (9.8 in x 4.2 in x 2.3 in) |
| Weight | Approx. 1.3 kg (2.9 lb) |
| Power | Rechargeable NiMH battery module. 10.8 VDC, 2700 mAh Maximum of 110 minutes to fully recharge |
| Autonomy | 5.4 hours at 20 °C (68 °F) |
| AC power adapter | Input: 100-240 VAC, 50-60 Hz Output: 15 VDC, 2.7 A |
| Temperature operating | 0 °C to 50 °C (32 °F to 120 °F) |
| storage | -20 °C to 70 °C (-4 °F to 158 °F) |
| Humidity | 5% to 95% non-condensing |
| Display | 128 x 128 pixel backlit monochromatic LCD |
| Interfaces | RJ-45 port for DSL connection USB 2.0, RS232C (V.24) for software upgrades and results download to a PC RJ-45 for 10/100 BaseT Ethernet connection |
| Self-test | Routine on power-up |
| Languages | Multiple languages supported |
| Storage | Capacity of up to 500 results |

Find out more about EXFO's extensive line of high-performance portable instruments by visiting our website at www.EXFO.com.

| Rugged Handheld Solutions | | Platform-Based Solutions | | |
|--|---|---|--|--|
| OPTICAL | COPPER ACCESS | OPTICAL FIBER | DWDM Test Systems | Transport/Datacom |
| <ul style="list-style-type: none"> • OLTs • Power meters • Light sources • Talk sets | <ul style="list-style-type: none"> • ADSL/ADSL2+, SHDSL, VDSL test sets • VoIP and IPTV test sets • Ethernet test sets • POTS test sets | <ul style="list-style-type: none"> • OTDRs • OLTs • ORL meters • Variable attenuators | <ul style="list-style-type: none"> • OSAs • PMD analyzers • Chromatic dispersion analyzer | <ul style="list-style-type: none"> • SONET/DSn (DS0 to OC-192) testers • SDH/PDH (64 kb/s to STM-64) testers • T1/T3 testers • E1 testers • 10/100 and Gigabit Ethernet testers • Fibre Channel testers • 10 Gigabit Ethernet testers |

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EXFO is certified ISO 9001 and attests to the quality of these products. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. All of EXFO's manufactured products are compliant with the European Union's WEEE directive. For more information, please visit www.EXFO.com/recycle. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices.

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