# DigiTest® EDGE® Broadband Test Platform

*The DigiTest EDGE Broadband Test Platform is Tollgrade's global solution for broadband service providers offering integrated digital services.*

*Managing and testing this multi-layered network requires powerful solutions to accurately qualify potential customers, verify provisioning prior to service activation and isolate multi-layered network faults. DigiTest EDGE test heads, located at the network edge, coupled with Tollgrade's LoopCare™ Test Operations Support System (OSS), provide these essential remote test and management capabilities.*

*The broadband network is characterized by highly distributed architectures with connection to the local loop provided by DSLAMs, BLCs and external MTAUs, such as Tollgrade's Multi-services Access Unit (MSAS). A modular and compact design allows the DigiTest EDGE to co-reside with these broadband network elements located in either a Remote Terminal (RT) or low-line-count Central Office (CO) environment.*

*The DigiTest EDGE has flexible configuration options with capabilities that include:*

- *Precision metallic narrowband and wideband testing, including TDR, load coil and bridged tap detection and location;*
- *Multi-layered DSL test support to isolate common DSL, ATM, IP and HTTP network faults; and*
- *T1 in-service monitoring and out-of-service Bit Error Rate Testing (BERT).*

***Tollgrade is everywhere your broadband network needs to be.™***

tollgrade® Network Assurance Simplified.™

*Multi-layered broadband testing, optimized for the network edge.*

# Right-sized, Multi-service Testing for the Network Edge

*The DigiTest EDGE's various configurations provide a complete suite of POTS, DSL and DS1 testing in a compact, environmentally hardened chassis. Remote test OSSs, such as LoopCare, can manage and direct tests with the DigiTest EDGE over a TCP/IP Ethernet, V.92 modem or RS-232 serial connection. Ideal for remote DSLAM testing applications, an optional ADSL (ATU-R) modem is available for northbound communications to the test OSS.*

*The DigiTest EDGE's metallic narrowband, wideband and DSL services testing can be switched to any of four independent Test Access Ports (TAPs). The T1 BERT option includes separately managed TAPs, providing independent dual Tx/Rx T1 ports. This allows a single DigiTest EDGE test head to serve as a test resource for multiple network elements within a given site.*

*Additionally, four auxiliary RS-232 interfaces are available to provide serial communications with external test access devices.*

## DigiTest EDGE Options

### Metallic Test Module (MTM)

*Equipped with a suite of narrowband and wideband metallic testing features, the MTM allows service providers to troubleshoot lines for both POTS and wideband services. Specialized capabilities, such as load coil/bridged tap detection, wideband tone transmit and receive, and ATU-R detection, round out the MTM's features designed to address the metallic testing needs of today's POTS/DSL networks.*

### Broadband Services

*The Broadband Services Unit (BSU) allows operators to emulate Customer Premises Equipment (CPE) in order to test core network-, ISP- and Internet-related troubles from a central location. Key DSL, ATM, IP and HTTP tests reproduce an end-user connection at all service layers, offering a variety of information for problem resolution.*

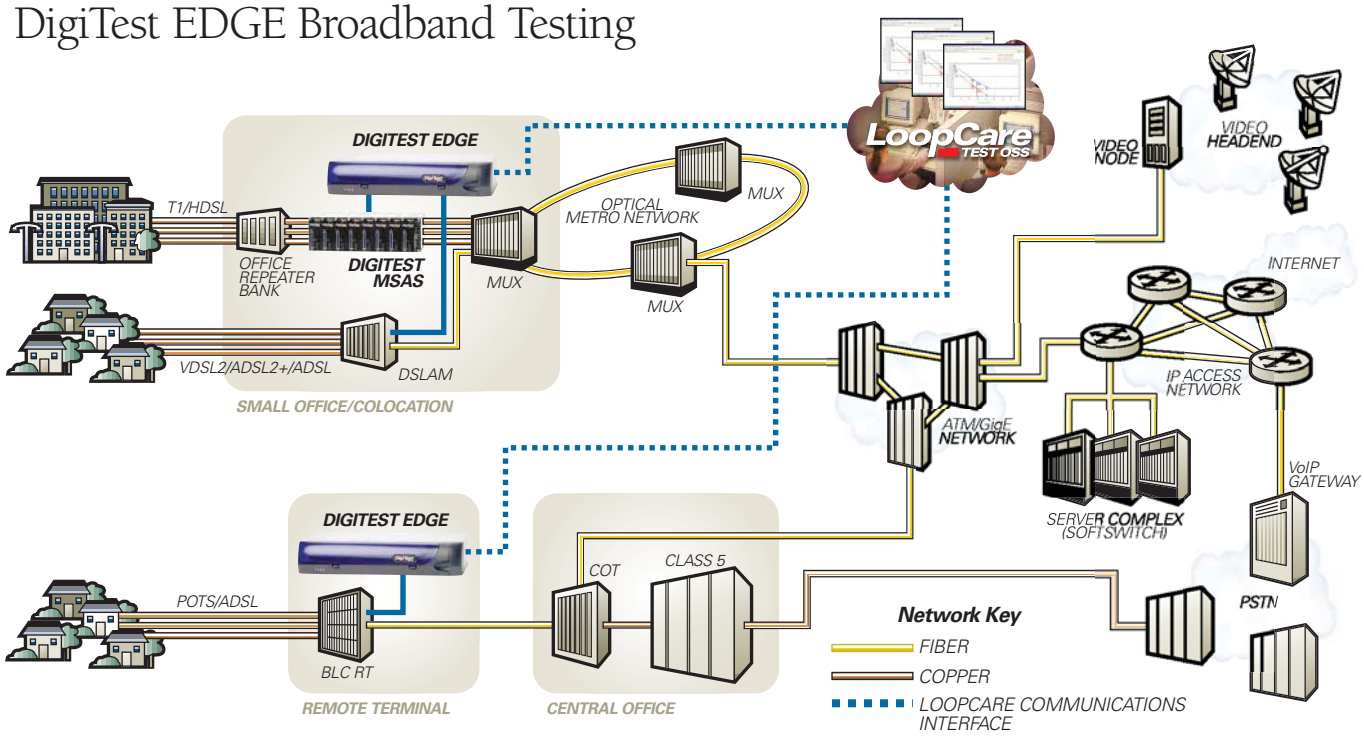
*Through ISP emulation, the BSU can validate and confirm end-to-end connectivity prior to service turn-up. ISP emulation helps service providers isolate problems behind the customer demarcation point to help ensure customer satisfaction and confirm reliable network operation.*

*The Broadband Services option accommodates up to two DSL modem modules—for ADSL and g.SHDSL services—to troubleshoot the DSL, ATM, IP and HTTP layers. Each module is capable of emulating both the CPE and ISP network.*

### T1 BERT Module

*The T1 BERT Module delivers cost-effective turn-up and in-service troubleshooting capabilities for T1 and HDSL circuits. This option enables the T1 and HDSL circuit to be tested in a variety of applications, including live circuit monitoring, end-to-end testing with other DigiTest EDGE T1 BERT modules or portable testers, and loopback testing with terminating NIU/HTU.*

# DigiTest EDGE Broadband Testing




*By combining T1, POTS and DSL testing into a single platform, the DigiTest EDGE offers service providers a way to eliminate costly, multi-test-head configurations.*

### Metallic Testing for POTS and DSL Networks

*The DigiTest EDGE offers a comprehensive suite of narrowband and wideband metallic test functionality, ensuring accurate diagnosis of subscriber loop conditions in support of POTS and DSL service deployments. Precision measurements—such as capacitance, load coil detection and location, wideband noise, TDR, transmit and receive, wideband tones—make the DigiTest EDGE a paramount addition to the testing toolbox.*

### Multi-layered DSL Testing

*Quickly isolate multi-layered DSL faults among CPE, loop, DSLAM, ATM and ISP network segments with a full suite of DSL, ATM, IP and HTTP tests.*

### DS1 Bit Error Rate Testing

*Verify provisioning and remotely isolate DS1/DS0 troubles with a complete suite of in-service monitoring and out-of-service BERT tests.*

# DigiTest EDGE Specifications

*Physical*
3.5"(H) • 17.72"(W) • 11.02"(D) [8.89cm(H) • 45.00cm(W) • 28.00cm(D)]
Mountable in 19" or 23" Standard EIA Racks or an ETS 300 119-Compliant Rack or Cabinet

*Environmental*
Operating Temp. ..... –40°C to +65°C (–40°F to +149°F)
Storage Temp. ..... –40°C to +70°C (–40°F to +158°F)
Humidity ..... 5 to 95% (non-condensing)

*Certification*
NEBS Level 3 and CE Mark

*Power Requirements*
Power Dissipation ..... 39 watts
Battery Input Voltage ..... –40 VDC to –57.0 VDC
Fusing Requirements ..... 3A

*Communications Interface(s)*
Analog Dial-up V.92 or ADSL Modem Option (RJ-11)
10/100 BaseT Ethernet Auto Sensing (RJ-45)
Local RS-232 Craft Port Interface (DB-9)
Four RJ-45 RS-232 auxiliary ports (RJ-45)

*Test Bus Interface*
One Eight-pin Terminal Block for Four Port (Two-Wire — T/R) Connections
*Shrouded header with screw terminals*

*Alarms*
One Six-pin Terminal Block for Two Sets of Alarm Contacts
*Shrouded header with screw terminals*

*Metallic Tests (option)*

*Narrowband Tests*
Load Coil Detection and Location
Hazardous Potential Voltage
AC/DC Voltage Measurements
AC/DC Resistance
Capacitance
Longitudinal Balance
Capacitive Balance
Soak Testing
Single-Sided Resistive Fault Sectionalization
Filtered Voiceband Noise (C-message, Psophometric)
Narrowband Tone Generation (longitudinal and metallic)
Speech Detection

*Wideband Tests*
Time Domain Reflectometry
Bridged Tap Detection and Location
Wideband Spectrum Analysis
Wideband Noise Filtered (E, F and G)
Impulse Noise
ADSL Quiet Restore Tones

*Broadband Services (option)*
DSL Test Support ..... XTU-C Synchronization, XTU-R Synchronization
ATM Test Support ..... Set-up ATM PVC connection during testing
ATM F5 Loopback Requester. ATM F4/F5 Loopback Responder
IP Test Support (Subscriber) .... User authentication/IP address assignment on all tests
(PPPoE, PPPoA, IPoA), PING (standard ICMP), Traceroute, FTP Throughput
HTTP Throughput, HTTP Connectivity
IP Test Support (ISP) ..... User authentication/IP address assignment on all tests
(PPPoE, PPPoA, IPoA), DNS Resolution, HTTP Connectivity
FTP Throughput, HTTP Throughput

*Interactive Tests*
Metallic Tracing Tone
Longitudinal Tracing Tone
Transmit Wideband Tone (16 kHz to 2 MHz)
Receive Wideband Tone (16 kHz to 2 MHz)

*T1 BERT (option)*
Line Coding (AMI, B8ZS)

*Input Terminations*
Terminate (DSX)

*Clock*
Internal, Recovered, External

*Transmitter and Receiver*
T1 Framing
T1 Channel Formats
T1 Test Patterns
T1 Error Injection (Type, Rate)
T1 Alarms

*T1 Test Features*
Error Detect/Rate/Seconds
Alarm Detect/Seconds
G.821 Performance
Auto Configuration
Channel Access (Rx Level/Frequency, Rx Byte)
Transmit Channel (Signaling Bits, 1000 Hz [at 0dB])
Delay
T1 Loopback Control
DS0 Loopback Control

# Ordering Information

*Please contact your Tollgrade representative for ordering information.*




*Corporate Headquarters*
*3120 Unionville Road*
*Building 110, Suite 400*
*Cranberry Township, PA 16066*
*Phone: 724-720-1400*
*Fax: 724-720- 1530*
*1-800-878-3399*
*www.tollgrade.com*