



# 3M™ Dynatel™ All-in-one Modem Module VDSL2

## Summary

The All-in-one Modem Module VDSL2 is a self-contained unit that attaches to the 3M™ Dynatel™ Advanced Modular System 965AMS at the module position on the back of the unit. Power is supplied by the 965AMS. This module is designed to provide testing of xDSL services. It allows the technician to attach to the copper service pair bearing a DSL circuit via 965AMS the red and black test leads. The technician can then connect to the DSLAM at the CO or field cabinet, measure and display connect statistics, link to the server, ping through the server to an IP destination, or browse the Internet.

## Functionality

The modem module supports the following DSL service types:

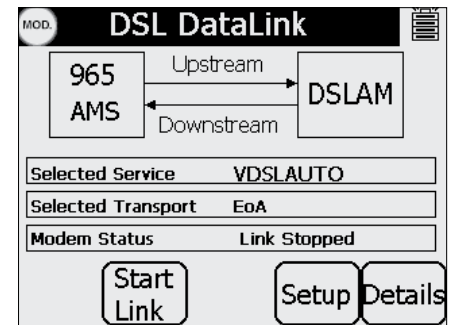
- ANSI T1.413 Issue 2
- ADSL G.dmt G.992.1/2 Annex A
- ADSL2 G.992.3/4 Annex A
- ADSL2+ G.992.5 Annex A, B, L and M
- VDSL1 G.993.1
- VDSL2 G.993.2 plan 997, 998 supports all eight profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a and 30a

The modem module supports the following WAN internetworking protocols:

- Point-to-point protocol over Ethernet
- Point-to-point protocol over ATM
- Bridge mode RFC1483
- Dynamic host configuration protocol (DHCP) client

The modem module supports the following functions:

- Connect with a DSLAM
- Link with the server
- Ping to/through the server to an IP destination
- Internet browsing
- Substitute as a CPE DSL modem by operating in a 'thru-mode' from the DSL port to the module Ethernet port
- Support DSL data transport services such as web browsing or ftp transfers
- Support ADSL2+ non-zero INP settings at full data rate
- Validate Ethernet port connectivity and data rate



VDSL2AUTO mode automatically connects at the the highest possible connect rate/service type (i.e. VDSL2, VDSL, ADSL2+)



3M™ Dynatel™ All-in-one Modem Module VDSL2

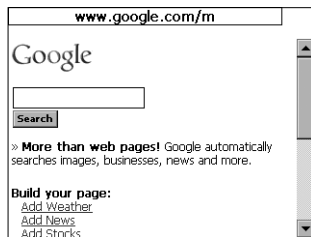
# Connect Statistics

The 3M™ Dynatel™ All-in-one Modem Module VDSL2 provides the following parametric data to the 3M™ Dynatel™ Advanced Modular System 965AMS application:

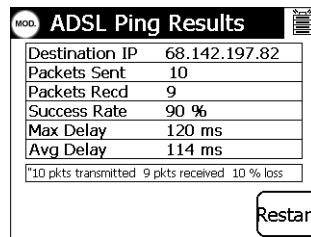
- Modem status (Showtime, initialization)
- Transmission system (e.g. G.992.5)
- Vendor ID information
- Downstream and Upstream maximum attainable rates
- Downstream and Upstream noise margin
- Downstream and Upstream total aggregate transmit power
- Downstream and Upstream capacity
- Bits per tone for each subcarrier
- SNR per tone for each subcarrier
- Forward Error Correction Count (FEC)
- Cyclic Redundancy Check (CRC) error count
- Header Error Control (HEC) violation
- Loss of Signal (LOS)
- Loss of Frame (LOF)
- Loss of Power (LPR)
- Downstream and Upstream transmit power
- Downstream and Upstream line attenuation
- Downstream and Upstream actual data rate
- Downstream and Upstream interleaving delay
- Downstream and Upstream interleaving depth

**Ethernet Functions**

- 10 Base T/100 Base T Selectable
- Browse via Ethernet
- Browse via Customer Premise xDSL Connection
- Ping via Ethernet
- Ping via Customer Premise xDSL Connection



Browse



Ping

Specifications	
Size	6.0" H x 5.5" W x 1.5" D
Weight	0.86 lb.
Operating Temperatures	-20°C to +60°C (operational time is limited at higher temperatures)
Storage Temperature	-40°C to +85°C
Humidity	0 to 90% non-condensing
Rain & Dust	IP64 (attached to 965AMS)
Drop Test	Survives 3 ft. (1 m) drop onto concrete, (survives 5 ft. drop onto concrete with soft case) using ASTM D4169 assurance level I method 5276
FCC	CFR 47 Part 15 Class A
CE	EN 55022 Class A, EN61000-4-2, EN1000-4-3

3M and Dynatel are trademarks of 3M Company. All other trademarks used herein are the properties of their respective owners.

## Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

### Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture for a period of 12 months from the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any loss or damage arising from this 3M product, whether indirect, special, incidental or consequential regardless of the legal theory asserted.**



**Communication Markets Division**  
**3M Telecommunications**  
6801 River Place Blvd.  
Austin, TX 78726-9000  
800/426 8688  
Fax 800/626 0329  
www.3MTelecommunications.com

Please recycle. Printed in USA.  
© 3M 2008. All rights reserved.  
80-6113-2809-9