NETLINK™ ACCESS PRODUCTS

The Patton 1095 mDSL Modem provides high-speed connectivity for Frame Relay, Internet Access, Wireless Backbones and Intranets over a single pair.

NetLink mDSL Modem

NetLink 1095 -T1, E1, Campus & RackCard

Increased demand for Internet access, along with the deregulation of the global telecommunication industry, has resulted in requirements for an array of new communication services. To deliver these new services, Internet Service Providers (ISPs), carriers, Inter-Exchange Carriers (IXCs), Incumbent Local Exchange Carriers (ILECs) and PTTs must achieve affordable broadband transmission over the existing copper infrastructure. Increasingly, these providers are looking to Digital Subscriber Line (DSL) technology as the best means for getting the job done.

The Patton Electronics Model 1095 *Netlink™ mDSL* Modem has been added to the family of Network Access Products to provide high-speed connectivity for Frame Relay, Internet Access, Wireless Backbones, Intranets, Campus and ATM networks over a single copper pair (2 wires).

Transmission / DTE Speed

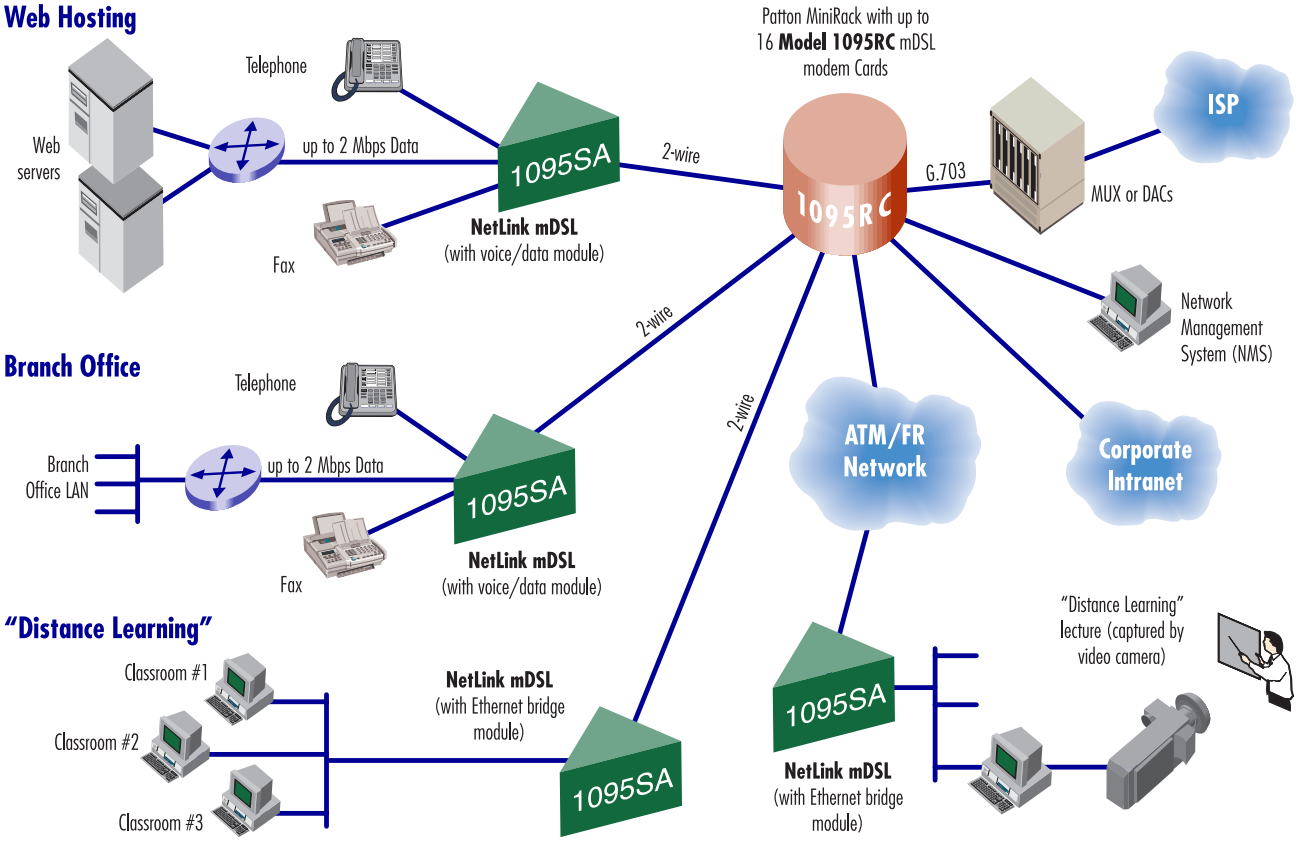
Synchronous, FDX, over one unconditioned twisted pair (2 wires). DTE speeds 64kbps to 2.3Mbps.

Line Coding / DTE Interface

CAP or 2B1Q (optional) with V.24, V.35, RS422/530, X.21, G.703, Transparent Ethernet Bridge and Voice/Data.

SNMP/HTTP Management

Use SNMP or HTTP to completely configure, control, and manage subsystems–including in-band management of remote units plus advanced V.52/V.54 diagnostics and statistics.



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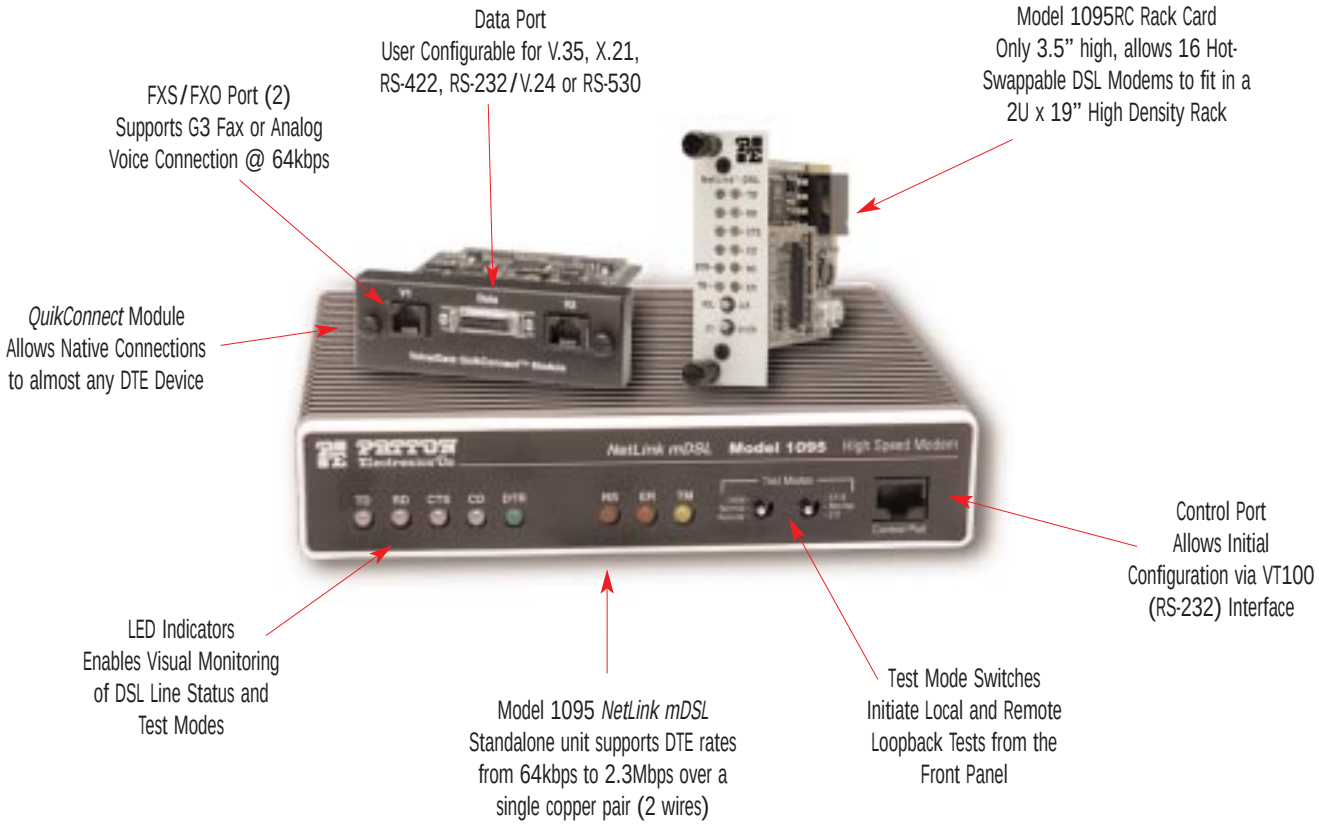


NetLink mDSL -T1, E1, Campus & RackCard

Product Overview

The *Netlink™ mDSL* supports synchronous, full duplex transmission over one unconditioned twisted pair (2-wires), and provides high-speed connectivity for Frame Relay, Internet Access, Wireless backbone, Intranet, Campus and ATM networks. The Model 1095 uses a unique multi-rate digital subscriber line (mDSL) technology, which transmits data at various line rates from 128 kbps to 2.3 Mbps.

Routers, Switches or other access devices can be connected at distances over 5.8 miles/9.4 km using standard 24 AWG/ 0.5mm wire.

Using Carrierless Amplitude and Phase Modulation (CAP) for Line Encoding (or optional 2B1Q), the Netlink™ mDSL has built-in diagnostics, V.54 loopbacks (Local and Remote) and V.52 compliant BER pattern generation and detection (511/511E). It is compliant with FCC Part 15 and UL1950, and is CE Marked.

The *Netlink™ mDSL* is available in three standalone versions: **Model 1095-T1**, which supports data rates from 128kbps to 1.536 Mbps; **Model 1095-E1**, supporting data rates from 128kbps to 2.048 Mbps; and **Model 1095-CampuS**, which supports data rates from 128kbps to 2.304 Mbps. A rackmount version, the Model 1095RC, is also available, supporting data rates from 128kbps to 2.304 Mbps.

QuikConnect™ Modules

The standalone *Netlink™ mDSL* unit supports all of Patton's QuikConnect interface modules (V.24/RS-232, RS-422/530, V.35, X.21, 64k/G.703, Ethernet Bridge and Voice/Data). The Ethernet Bridge module, Model 1M1/I, supports Transparent 10Mbps Ethernet Bridging; the Data/Fax/Voice Module, Model IM1/J, multiplexes two analog voice lines–or one voice/one FAX–and one high speed data line on a single 2-wire circuit. The high speed data line supports DTE speeds from 128k kbps to 2.3 Mbps in user definable increments.

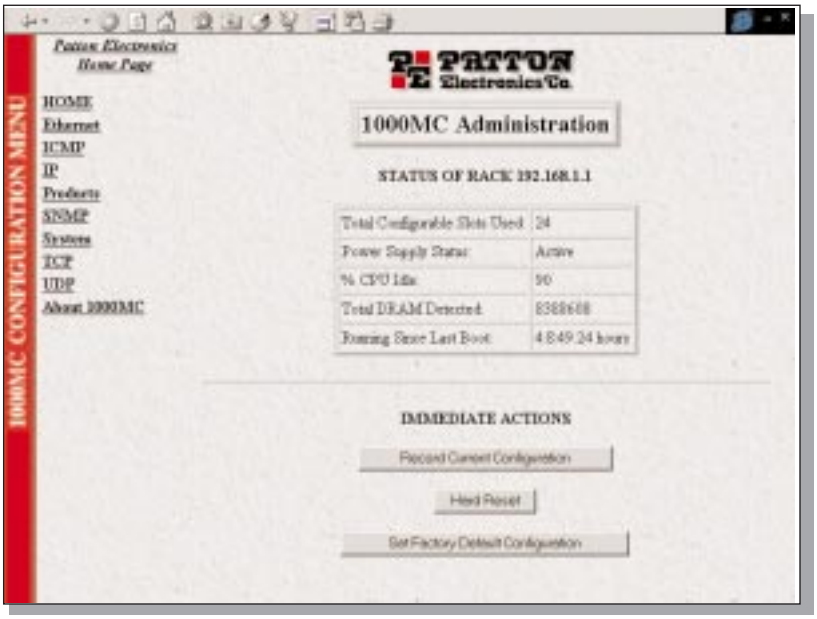
Central Site Rack Cards

The Model 1095RC mDSL rack card is only 3.5"/8.9cm high, allowing 16 hot-swappable DSL modems to fit into one 2U high, 19-inch rack. Our new rack system supports the Model 1095RC, as well as our 64k/128k *Netlink™ 2B1Q* modem (Patton Model 1092/1092A) and our T1/E1 CSU/DSU (Patton Model 2700 Series). This rack can be powered by 90-260VAC or -48VDC single or dual redundant power supplies (optional).

SNMP / HTTP Management

The Model 1095 *Netlink™ mDSL* Modem can be managed simultaneously from a variety of local and remote environments. The 1095 has a built-in SNMP agent, an embedded HTTP Web server, and a VT100 management interface (provided by an RS232 console port). Operators can configure, control, monitor or receive status from any of these interfaces.

The 1000MC Netlink Management Card is an SNMP proxy agent that mounts in Patton's 2U rack chassis and works with the Model 1095RC rack card. The 1000MC supports both generic SNMP management and HTML-based SNMP management (from most Web browsers), and provides configuration, control and monitoring for the Model 1095.



The Model 1095's Web browser interface offers the user the ability to manage both local and remote devices using a standard Web browser. And a built-in HTTP Web server allows each management screen to appear as a Web page to the operator (see the illustration above). Now an operator can configure and monitor the *NetLink mDSL* Modem from any computer, anywhere in the world!

APPLICATIONS

NetLink mDSL 1095

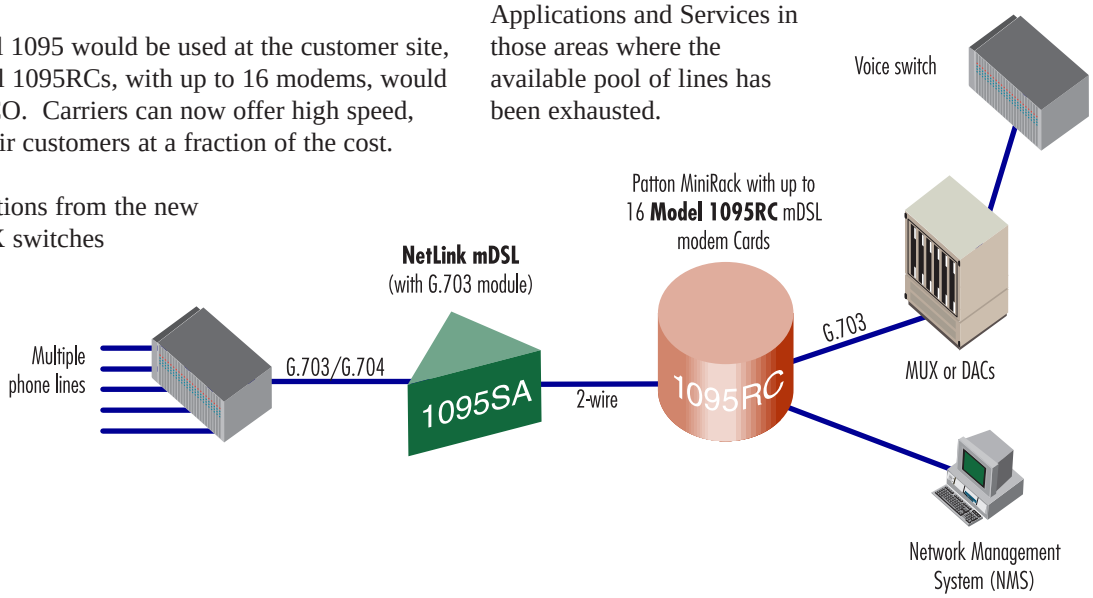
Voice Services

With new digital PABX switches, corporations are no longer bound to accept delivery of voice services over a group of analog POTS lines, or even a 4-wire T1/E1 circuit. Instead, using the *Netlink™ mDSL* Modem with a 2Mbps G.703 module, carriers can offer the corporate customer a high-speed local loop connection to the CO voice switch using a single 2-wire leased line.

A standalone Model 1095 would be used at the customer site, and a rack of Model 1095RCs, with up to 16 modems, would be installed at the CO. Carriers can now offer high speed, digital access to their customers at a fraction of the cost.

High Speed connections from the new generation of PABX switches mean that carriers can offer value added services to their high speed networks without large capital outlay. This is accomplished by using the *Netlink™ mDSL* modem to optimize transmissions over the existing copper loop.

Carriers can now replace multiple POTS/DDS/DID copper lines with a single, high-speed G.703 line for connection to the PABX. This frees up additional copper pairs for use in Data / Voice Network Applications and Services in those areas where the available pool of lines has been exhausted.



The Model 1095 *Netlink mDSL* Modem supports a wide range of user-definable DTE rates between 64kbps and 2.3 Mbps. The table (right) shows the available DTE rates at each line rate setting.

With 16kbps dedicated for Network Management, full published data rate performance is achieved over a single unconditioned twisted copper pair (2-wires) for 26 AWG (0.4mm) and 24 AWG (0.5mm) with no crosstalk.

NetLink mDSL Data Rates / Distances
(No Crosstalk)

Line Rate	DTE Rates	26g (0.4mm)			24g (0.5mm)		
kbps	kbps	feet	miles	km	feet	miles	km
144	64, 128	21400	4.0	6.6	30700	5.8	9.4
272	192, 256	20300	3.8	6.2	30600	5.8	9.4
400	320, 384	18600	3.5	5.7	29100	5.5	9.0
528	448, 512	17400	3.3	5.4	26100	4.9	8.0
784	576, 640, 704, 768	15800	3.0	4.9	22600	4.3	7.0
1040	832, 896, 960, 1024	15500	2.9	4.8	22100	4.2	6.8
1552	1088 - 1536	13600	2.6	4.2	19200	3.6	5.9
2064	1600 - 2048	12200	2.3	3.8	17200	3.3	5.3
2320	2112 - 2304	11500	2.2	3.5	15800	3.0	4.9

Specifications

Patton Model 1095 *NetLink mDSL* Modem	
Transmission	Synchronous, full duplex, over one unconditioned twisted pair (2 wires)
Line Encoding	CAP or 2B1Q (optional)
DTE Interface	V.24 (RS-232), RS-422/530, V.35, X.21, 64k/G.703, Ethernet Bridge, or Data/Voice, depending upon *QuikConnect* module installed
Clocking	Internal, external or receive recovered (network) clock
DTE Rates	From 64 kbps to 2.3 Mbps in user-definable increments
Line Rates/Distances	See Table (above)
Local Management	VT100 ASCII; via front panel control port for standalone modem; via Model 1000CC control card for rack card modem
Remote Management	SNMP configuration and management for both local and remote modems via Model 1000MC Proxy Agent rack card; built-in HTTP server on Model 1000MC allows management through the Internet
Diagnostics	V.54 loops (LLB, RDL); V.52 compliant BER pattern generator and detector (511/511E)
LED Indicators	TD, RD, CTS, CD, DTR, ER, TM and NS
Power	90-260 VAC, 50/60 Hz universal input; -48VDC optional (10 watts)
Homologation	UL and cUL listed, CE Mark, FCC Part 15

QuikConnect™ Modules


V.24/RS-232 - Model IM1/A


RS-422/530 - Model IM1/B


V.35 - Model IM1/C


X.21 - Model IM1/D


64k/G.703 - Model IM1/F
E1/G.703 FE1/G.704-Model IM1/K


Ethernet Bridge - Model IM1/I


Data+Voice - Model IM1/J

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