

3095 mDSL DACS Frequently Asked Questions

Product Model	3095		
Product Name	mDSL Digital Access Cross Connect		
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Applications**What is the 3095 mDSL Digital Cross Connect?**

The 3095 mDSL Digital Cross Connect is a high-speed symmetrical data concentrator. Connecting sixteen mDSL ports, the 3095 grooms nx64 data onto T1/E1's or Sync Serial ports with an "any-to-any" configuration. With Mezzanine Egress Card options for WAN egress, the 3095 allows for quad-T1/E1, octal-T1/E1, x16 T1/E1 interfaces, or 16 serial interface ports for pure bits-in-bits-out networking applications. Offering an end-to-end solution, the 3095 is compatible with Patton's current line of proven 1095/1088 mDSL modems.

**What are the applications for the 3095?**

The 3095 provides the ideal solution for a variety of customers. Whether it is ILECs or CLECs offering service in secondary metropolitan areas where a "mini-DSLAM" is ideal, or ISPs who want to expand their service via a facilities based approach or in Campus applications for point-to-point fan-out or concentration, the 3095 can handle the job.

The 3095 provides 16 mDSL ports and a PMC Egress card with 4, 8, or 16 T1/E1 WAN ports (additional options to come) with integrated DACS capability, SNMP facilities and dual redundant supplies all in a low-profile 1U rack-mountable chassis. The integration of all this functionality in a 1 U-high box makes the 3095 ideal for

- 1) Concentration: Map the DS0 from the mDSL ports into the DS0 of the WAN uplink ports to concentrate data from Multiple DSL ports concentrated and more cost-effective uplink.
- 2) Segmentation: Map DS0s to specific WAN uplink to segment data types (i.e. voice/data separation)
- 3) Local Switching: Map the DS0 of one mDSL port to another mDSL port to connect two local sites.
- 4) WAN Mapping: Map any of the WAN timeslots back to any other WAN timeslot for E1/T1 cross connecting.

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- 5) Mapping By-Pass: By-pass the cross-connect feature and directly map a DSL port to a WAN port.

This allows the 3095 to be used to create new efficient concentration points for MTU/MDU applications. High-speed services up to 2.3 Mbps can be deployed over existing cable to efficiently use all of the available bandwidth to the building. The transparency of DSL also has the advantage of being able to provide any form of TDM data service (X.25, Internet Access, Frame Relay, ATM Access, LAN extension, etc.).

With the low cost per port, the integrated functionality, and the flexibility of mDSL to offer handle a wide range of data formats over existing copper, the 3095 is the low-cost way to offer users the service they need now!

3095 Specific Questions**Are all of Patton's other mDSL modems compatible with the 3095?**

Yes, the 3095 utilizes the same technology, mDSL, as Patton's 1088, 1095 and 1095RC modems. They are completely compatible with one another.

Can I use the 3095 in a Packet based environment?

Yes, The typical installation of the 3095 in a packet-based environment involves using remote CPE boxes with Ethernet interfaces. The DS0s from the DSL links are mapped to the desired WAN interface, which is then connected to a router to handle the routing of the packets.

Are there any limitations to the Cross connect capabilities of the 3095?

The 3095 has complete mapping of any DS0 to any other DS0. This allows 1) local switching of mDSL to mDSL, 2) concentration by mapping mDSL timeslots to WAN timeslots, 3) segregation of Data types by mapping DS0s of like data types to specific WAN uplinks, 4) WAN mapping of timeslots from one WAN port to another, and 5) mapping by-pass to directly map a DSL port to a WAN port with no cross connecting.

Can I choose a combination of T1 and E1 ports?

Yes, Each T1/E1 port is software selectable as either T1 or E1. T1 ports are software-configurable for either AMI or B8ZS line coding and D4 or ESF framing. E1 ports are configurable for AMI or HDB3 line coding with multi-frame support.

What clocking options does the 3095 support?

Users can choose from one of three clocking options on the 3095. There is an option for Internal clocking using the 3095's internal crystal, an option for External clocking for connection to a BITS or Stratum clock, and an option for Network clocking which uses timing data supplied from the T1/E1 interface.

3095 mDSL DACS Frequently Asked Questions**What line coding do the mDSL ports use on the 3095?**

The 3095 uses CAP line coding for all of its mDSL ports.

Does the 3095 support SNMP management?

Yes, the 3095 contains a complete SNMP/HTTP management system. The enterprise MIBs are available for download from the Patton website.

How is the Model 3095 configured?

The model 3095 can easily be configured using several methods:

1. There is console/VT-100 port to allow the unit to be connected to the serial RS-232 port of a VT-100 or similar DTE with terminal emulation. This allows the 3095 to be configured using software switches.
2. The 3095 can be managed via standard Internet browsers through its embedded HTTP web based server. This allows the units to easily managed via the Internet from virtually anywhere in the world.
3. The 3095 enterprise MIBs are available for download from the Patton web site. The MIBs used by Patton follow ASN.1 coding format and can be compiled into any third party management platform that supports enterprise MIBs. Some prominent vendors who offer network management platforms that implement the role of manager are listed below:

DEC PolyCenter Network Manager
Hewlett-Packard OpenView
IBM AIX NetView/6000
SunConnect SunNet Manager

Can a third party vendor's network management platform manage the 3095?

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What is the maximum speed of the mDSL ports on the 3095?

Each DSL modem can be independently set for synchronous data rates of n x64 Kbps up to 2.304 Mbps.

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What are the maximum distance capabilities of the mDSL ports?

Below is the distance table for the 3095:

Line Rate (kbps)	DTE Rates	26g (0.4mm)	Miles	km	24g (0.5mm)	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

What test modes does the 3095 support?

The 3095 can be set to independently switch any of its 16 modems into Remote loopback, local loop and line loop test modes. These test modes are initiated through the management screens of the 3095 via SNMP or the http web interface.

General Patton mDSL Modem Questions

How many wires are needed to transmit and receive at the maximum rate on the mDSL ports?

Each mDSL port uses just a single twisted pair (2 wires) to transmit data up to the maximum data rate of 2.3 Mbps.

Can I connect a 3095 modem to a third party modem?

No, The Patton mDSL modems are proprietary based modems. They are intended for use with the other Patton based mDSL modems (3095, 1095, 1095RC, 1088).

Power Supply

Does the 3095 support AC and DC power options?

Yes, the 3095 is available with either dual redundant AC universal input supplies (100 – 240 VAC) or dual redundant 48 VDC supplies (40 to 72 VDC), or they can be mixed to have one of each (Country specific power cords are ordered separately).

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Can I mix an AC supply and a DC supply?

Yes, the 3095 is available with either dual redundant AC universal input supplies (100 – 240 VAC) or dual redundant 48 VDC supplies (40 to 72 VDC), or they can be mixed to have one of each (Country specific power cords are ordered separately).

Certifications

What Certifications/Approvals Does the 3095 have?

The 3095 has been tested and Certified/approved for the following:

Safety	Emissions	Telecommunications
Patton Internal Safety and UL/CSA testing per: UL1950 (MET), Canadian cMET ESD EN61000-4-2	EMC Directive 89/336/EEC Low Voltage Directive 73/23/EEC (EN60950) FCC Part 15 Sub Part B, Class A	FCC Part 68 CE Mark Canadian CS-03 CTR12 CTR13