



Hotwire® 8799 TDM SHDSL Line Card with G.703 Interface Installation Instructions

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Product Documentation Online

Complete documentation for this product is available at www.paradyne.com.
Select *Library* → *Technical Manuals* → [Hotwire DSL Systems](#).

Select the following documents:

[8799-A2-GB20](#)

Hotwire 8799 TDM SHDSL Line Card, with G.703 Interface, User's Guide

[8000-A2-GB22](#)

*Hotwire Management Communications Controller (MCC) Card, IP
Conservative, User's Guide*

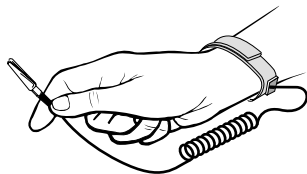
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Hotwire 8799 TDM SHDSL Line Card

The Hotwire® 8799 Line Card is a circuit card assembly that contains eight Time Division Multiplexer Symmetric High-bit-rate Digital Subscriber Line (TDM SHDSL) ports and a G.703 interface. When the card is used in a Hotwire 8610/8620 or 8810/8820 Digital Subscriber Line Access Multiplexer (DSLAM) chassis, it transports up to 2048 Kbps signals over traditional twisted-pair telephone wiring.

HANDLING PRECAUTIONS FOR STATIC-SENSITIVE DEVICES



This product is designed to protect sensitive components from damage due to electrostatic discharge (ESD) during normal operation. When performing installation procedures, however, take proper static control precautions to prevent damage to equipment. If you are not sure of the proper static control precautions, contact your nearest sales or service representative.

Installation Overview

Installation and configuration of the Hotwire 8799 TDM SHDSL Line Card consists of:

- Installing the card in the DSLAM.
- Connecting to the DTE.
- Connecting to an MDF.
- Providing initial card identity information or changing existing identity information.
- Configuring your card using the Configuration Edit menus.

Before you install the card, read the [Important Safety Instructions](#) on page 24.

Be sure to register your warranty at www.paradyne.com/warranty.

Planning the Installation

Review the following list to help plan for the installation.

- Obtain the applicable cables; refer to [Cables You Need](#), below.
- Make sure the Hotwire DSLAM chassis is installed and power is supplied to the chassis.
- After the Hotwire TDM SHDSL Line Card is installed, there are configuration procedures that must be performed before you can begin to use the card. Refer to the [Hotwire 8799 TDM SHDSL Line Card, with G.703 Interface, User's Guide](#) for more detailed configuration procedures.

Cables You Need

The following standard cables are used with this product.

For the network connection:

- Plug-ended Telco 50-pin cable for connection from the Hotwire 8610/8620 DSLAM LINE port or one of the Hotwire 8810/8820 DSLAM LINES ports to the Main Distribution Frame (MDF) or other demarcation point.

For the DTE connection:

- The 50-position plug-to-four 8-position unkeyed modular jacks, such as Paradyne Feature No. 8700-F1-505.

For further information refer to *Connector Pin Assignments* in the [Hotwire 8799 TDM SHDSL Line Card, with G.703 Interface, User's Guide](#), and the appropriate DSLAM installation document.

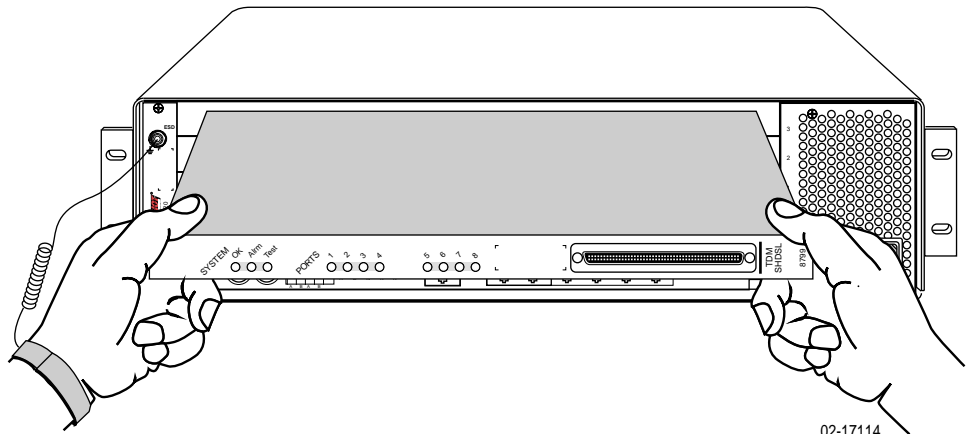
Installing TDM SHDSL Cards

A Hotwire 8799 TDM SHDSL Line Card can be installed, removed, and replaced from the DSLAM chassis without disrupting service to the other cards in the chassis.

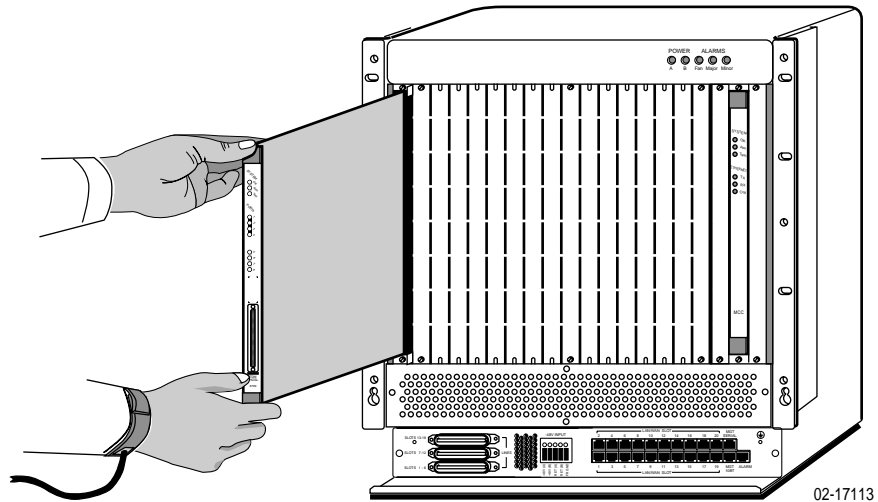
► Procedure

To install the card:

1. Determine in which slot the card will be installed. Verify that cards in adjacent slots have been fastened.
2. Remove the filler plate from the installation slot.
3. Insert the card:
 - For a **Hotwire 8610/8620 DSLAM chassis** – Hold the Hotwire 8799 TDM SHDSL Line Card horizontally, with the component side facing up, and insert it into the left and right card guides.



-
- For a **Hotwire 8810/8820 DSLAM chassis** – Hold the Hotwire 8799 TDM SHDSL Line Card vertically, with the component side facing right, and insert it into the top and bottom card guides.



4. Slide the card into the slot until the power and network connectors seat firmly in the mating connectors on the backplane.

CAUTION:

Do not force the card into the slot. This could damage the backplane connectors. If the card does not seat properly, remove the card and reinstall it. If it still does not seat properly, call your service representative.

The card performs a power-on self-test. All of the LEDs turn ON and OFF briefly. When the self-test is completed successfully, the SYSTEM OK LED begins to pulse.

5. If the LED is not pulsing, refer to *Messages and Troubleshooting* in the [Hotwire 8799 TDM SHDSL Line Card, with G.703 Interface, User's Guide](#).
6. Secure the card by fastening the screws at each end of the faceplate.

Connecting to the DTE

Connection to the four ports of the Hotwire 8799 TDM SHDSL Line Card is through the 50-pin interface connector on its faceplate. Refer to *Connector Pin Assignments* in the [Hotwire 8799 TDM SHDSL Line Card, with G.703 Interface, User's Guide](#).

► Procedure

To connect the Hotwire 8799 TDM SHDSL Line Card to your DTE:

1. Connect the 50-position connector of the cable to the connector on the faceplate of the card. Align one end of the cable connector with the card connector, then push on the cable connector until it seats.

The end of the cable connector has a release button. To remove the connector, press the release button and pull the connector away from the card.

2. Feed the cable through the Cable Guide if it is in use. When all cables are installed, anchor them with cable ties to the rack, DSLAM, or Cable Guide.
3. Connect the four terminating connectors to your DTE.

Connecting to an MDF

You can connect the Hotwire DSLAM chassis containing the Hotwire 8799 TDM SHDSL Line Card to an MDF or other demarcation point. Do not connect it to a POTS splitter.

► Procedure

To connect the Hotwire DSLAM chassis containing the Hotwire 8799 TDM SHDSL Line Card to an MDF:

1. Plug the Telco 50-pin cable into the appropriate LINE port on the chassis.
2. Replace the longer Telco cable captive screw with a shorter connector captive screw, which is provided with the Hotwire DSLAM chassis.
3. Insert a cable tie (provided with Hotwire DSLAM chassis) through the tie mount to hold the Telco 50-pin connector in place. If more than one Telco cable is being connected, span the two or three connectors.
4. Make sure the other end is connected to the appropriate MDF or demarcation point.

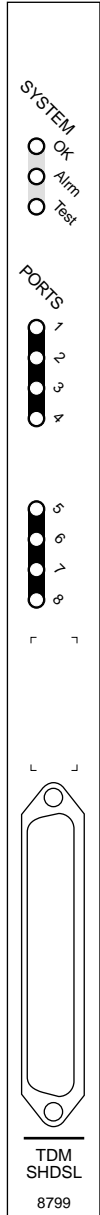
Refer to *Connector Pin Assignments* in the [Hotwire 8799 TDM SHDSL Line Card, with G.703 Interface, User's Guide](#) for pinouts.

NOTE:

If you are connecting the Telco 25-pair, 50-pin cable to an MDF, a converter may be necessary for terminating the other end of the cable on a punchdown block before cross-connecting to an MDF.

Front Panel LEDs

The following table describes the meaning and states of the LEDs on the Hotwire 8799 TDM SHDSL Line Card's faceplate.



02-17116

Type	LED	LED is . . .	Indicating . . .
SYSTEM	OK (Green)	On	Unit failure; system processing functions have stopped.
		Off	No power to card.
		Pulsing	Normal operation; card functioning normally.
SYSTEM	Alarm (Amber)	On	Card failure, or Power-On Self-Test (POST) is not complete, or an alarm was reported on a DSL or G.703 port.
		Off	No alarms.
	Test (Amber)	On	Loopback test or 511 test pattern in progress.
SYSTEM	Test (Amber)	Off	No tests.
		Slow cycling*	POST in progress.
		Fast cycling*	POST in progress.
G.703	1 – 8 (Green)	On	Recoverable signal present on the G.703 network.
		Off	No signal on the port.
		Slow cycling*	Remote Alarm Indication (RAI) present.
G.703	1 – 8 (Green)	Fast cycling*	An OOF, LOF, EER, or AIS condition exists.
		On	DSL link is up.
		Off	DSL link is down.
DSL PORT	1 – 8 (Green)	Slow cycling*	DSL training in progress.
		Fast cycling*	OOF condition.
		On	DSL link is up.
DSL PORT	1 – 8 (Green)	Off	DSL link is down.
		Slow cycling*	DSL training in progress.
		Fast cycling*	OOF condition.

* Slow cycling: LED turns off and on in equal duration once per second.
 Fast cycling: LED turns off and on in equal duration 5 times per second.
 Pulsing: LED turns off momentarily once per second.

NOTE:

Use the *Main Menu* → *Control* → *Port LEDs* branch of the Asynchronous Terminal Interface to change the definition of the G.703 LEDs to DSL PORT and vice versa.

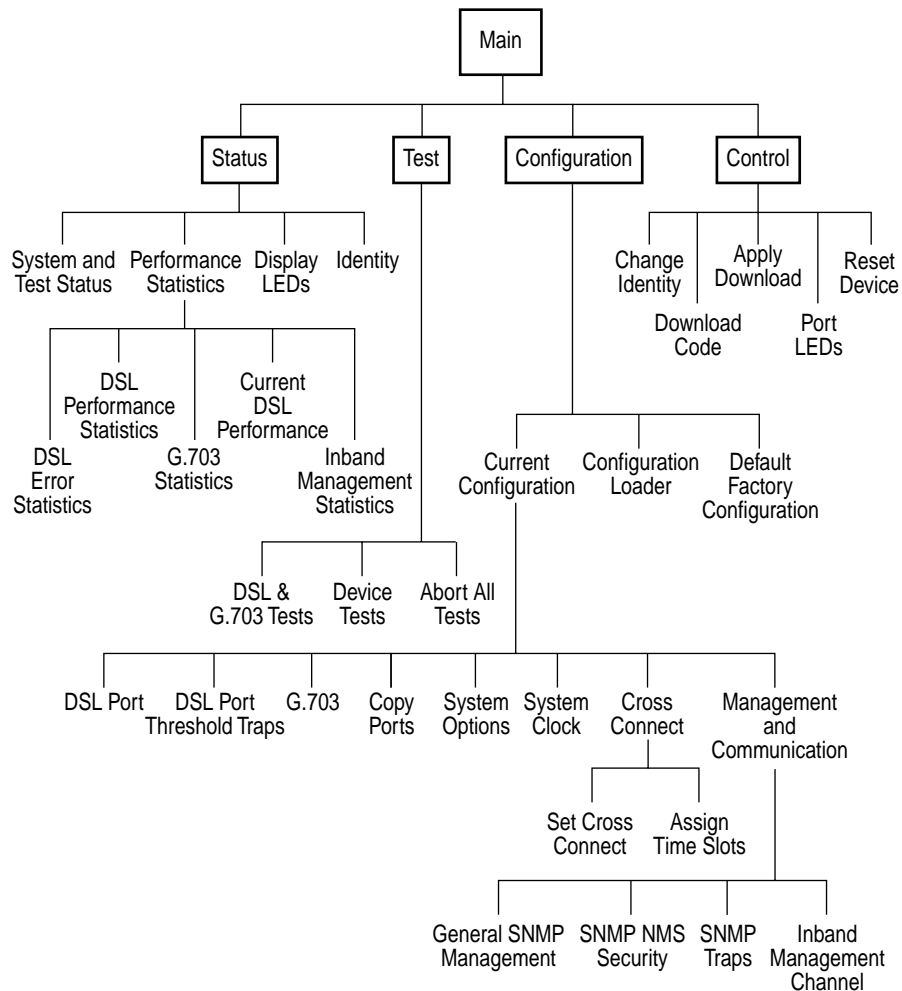
Logging In to the Hotwire DSLAM

You can log in to the Hotwire DSLAM system using either a local VT100-compatible terminal or a remote Telnet connection.

After you enter your user ID and password, the system displays the Hotwire Chassis Main Menu. See the [Hotwire Management Communications Controller \(MCC\) Card, IP Conservative, User's Guide](#) for information about selecting the TDM SHDSL card from the MCC card selection screen.

Asynchronous Terminal Interface Menu

The following illustration shows the paths to the Hotwire 8799 TDM SHDSL Line Card's various ATI screens.



02-17112

Entering Identity Information

After accessing your card for the first time, use the Change Identity screen to determine SNMP administrative system information that will be displayed on the Identity screen of the Status branch. To access the Card Identity screen, follow this menu selection sequence:

Main Menu → Control → Change Identity

Configuring the Card

Configuration option settings determine how the card operates. Use the Configuration branch of the Hotwire 8799 TDM SHDSL Line Card's menu to display or change configuration option settings.

If the factory default settings do not support your network's configuration, customize the configuration options for your application.

Accessing and Displaying Configuration Options

To display the configuration options, you must first load a configuration option set into the edit area.

To load a configuration option set into the configuration edit area, follow this menu selection sequence:

Main Menu → Configuration (Load Configuration From)

```
main/configuration
Slot: 4
Model: 8799

LOAD CONFIGURATION FROM

Current Configuration
Configuration Loader
Default Factory Configuration

-----
Ctrl-a to access these functions, ESC for previous menu      MainMenu      Exit
```

Make a selection by placing the cursor at your choice and pressing Enter.

If you select ...	Then ...
Current Configuration	The selected configuration option set is loaded and the Configuration Edit/Display menu screen appears.
Configuration Loader	The Configuration Loader screen is displayed allowing you to upload or download configurations from a TFTP server.
Default Factory Configuration	The selected configuration option set is loaded and the Configuration Edit/Display menu screen appears.

Configuration Edit/Display

The Configuration Edit/Display screen is displayed when the current, customer, or default configuration is loaded and allows groups of configuration options to be displayed. To access the Configuration Edit/Display screen, follow this menu selection sequence:

Main Menu → Configuration → Current Configuration

– or –

Main Menu → Configuration → Default Factory Configuration

```

main/config/edit
Slot: 4                                     Model: 8799

                                CONFIGURATION EDIT/DISPLAY

                                DSL Port
                                DSL Port Threshold Traps
                                G.703
                                Copy Ports
                                System Options
                                System Clock
                                Cross Connect
                                Management and Communication

-----
Ctrl-a to access these functions, ESC for previous menu      MainMenu      Exit
Save
  
```

Select ...	To Access the ...	To Configure the ...
DSL Port	DSL Interface Options (Table 1)	DSL interface Ports 1–8.
DSL Port Threshold Traps	DSL Port Threshold Trap Options (Table 2)	Threshold traps for the DSL ports 1–8.
G.703	G.703 Interface Options (Table 3)	G.703 interface.
Copy Ports	Copy Ports Options (Table 4)	DSL and G.703 interface ports by copying options from port to port.
System Options	System Options (Table 5)	General system options of the card.
System Clock	System Clock Options (Table 6)	System clock.
Cross Connect	<ul style="list-style-type: none"> ■ Cross-Connect Mode Options (Table 7) ■ Assign Time Slots Options (Table 8) 	The card's cross connections and timeslot assignments.

Select . . .	To Access the . . .	To Configure the . . .
Management and Communication	<ul style="list-style-type: none"> ■ General SNMP Management Options (Table 9) ■ SNMP NMS Security Options (Table 10) ■ SNMP Traps Options (Table 11) ■ Inband Management Channel Options (Table 12) 	Management support of the card through SNMP and the Inband Management Channel.

For complete details about the configuration options, see the [Hotwire 8799 TDM SHDSL Line Card, with G.703 Interface, User's Guide](#).

Table 1. DSL Interface Options (1 of 2)

Port Status
Possible Settings: Enable, Disable Default Setting: Enable
Specifies whether the DSL port is operational.
PSD Mask
STU-C Only. Possible Settings: Symmetrical, Asymmetrical Default Setting: Symmetrical
Determines whether the SHDSL transceiver uses a symmetric or asymmetric Power Spectral Density (PSD) mask.
Estimated Line Length
STU-C Only. Possible Settings: short, medium, long Default Setting: short
Determines the estimated line length for the distance from the local exchange. Estimated line length determines the speeds that can be supported.
Start Up Margin
Possible Settings: 0dB – 15dB Default Setting: 4dB
Specifies the Signal to Noise Ratio (SNR) margin a port must exceed to successfully train up with the remote unit.
Max DSL Rate
STU-C Only. Possible settings depend on which PSD mask is being used.
Determines the maximum speed of the DSL line.

Table 1. DSL Interface Options (2 of 2)

Min DSL Rate
STU-C Only. Possible settings depend on which PSD mask is being used.
Determines the minimum speed of the DSL line.
EIA-530 Payload Rate
Possible Settings: 64, 128 Default Setting: [Highest multiple of 64 Kbps supported by the DSL Line Rate]
When the remote STU-R has an EIA-530-A interface, the Payload Rate set on the STU-C determines the port speed of the synchronous port of the STU-R. This option is read-only unless the line rate is 200 Kbps.
Remotely Initiated Loopback
Possible Settings: Enable, Disable Default Setting: Enable
Specifies whether the line card will respond to a loopback command from the endpoint.
Circuit Identifier
Possible Settings: ASCII text field, Clear Default Setting: [blank]
Uniquely identifies the circuit number of the transmission vendor's DSL line for troubleshooting purposes.

Table 2. DSL Port Threshold Trap Options

ES Trap Threshold
Possible Settings: 1–900, or 0 to Disable Default Setting: 120
Specifies the threshold for Error Seconds events in a 15-minute interval after which a trap will be sent.
SES Trap Threshold
Possible Settings: 1–900, or 0 to Disable Default Setting: 15
Specifies the threshold for Severely Error Seconds events in a 15-minute interval after which a trap will be sent.
UAS Trap Threshold
Possible Settings: 1–900, or 0 to Disable Default Setting: 0
Specifies the threshold for Unavailable Seconds events in a 15-minute interval after which a trap will be sent.
LOSW Trap Threshold
Possible Settings: 1–900, or 0 to Disable Default Setting: 0
Specifies the threshold for Loss of Sync Word Seconds events in a 15-minute interval after which a trap will be sent.
CRC Trap Threshold
Possible Settings: 1–900, or 0 to Disable Default Setting: 0
Specifies the threshold for CRC events in a 15-minute interval after which a trap will be sent.
Attenuation Trap Threshold
Possible Settings: 1–127 dB, or 0 to Disable Default Setting: 4
Specifies the threshold for loop attenuation in a 15-minute interval after which a trap will be sent.
Margin Trap Threshold
Possible Settings: 1–15 dB, or 0 to Disable Default Setting: 4
Specifies the threshold for the Signal-to-Noise ratio margin in a 15-minute interval after which a trap will be sent.

Table 3. G.703 Interface Options

Port Status
Possible Settings: Enable, Disable Default Setting: Enable
Determines whether the port can be configured and used.
Framing
STU-C Only. Possible Settings: Framed, Unframed Default Setting: Framed
Specifies whether G.704 framing is used for the G.703 interface.
Line Coding
Possible Settings: AMI, HDB3 Default Setting: HDB3
Specifies the line coding format to be used by the G.703 interface.
Line Framing
STU-C Only. Possible Settings: CRC4, noCRC4 Default Setting: noCRC4
Specifies the framing format to be used by the G.703 interface.
Time Slot 16
Possible Settings: Signaling, Data Default Setting: Data
Specifies whether the G.703 interface is used for signaling in voice or data mode.
Primary Clock Source
STU-C Only. Possible Settings: Internal, G.703 Default Setting: Internal
Determines the primary clock source for the card when in Bypass mode.

Table 4. Copy Ports Options

From: Port <i>n</i>
Possible Settings: 1, 2, 3, 4, 5, 6, 7, 8 Default Setting: 1
Controls the source of the configuration options.
To: Port <i>y</i>
Possible Settings: 1, 2, 3, 4, 5, 6, 7, 8, All Default Setting: 2
Controls the target of the configuration options. NOTE: Circuit Identifier is <i>not</i> copied.

Table 5. System Options (1 of 2)

DSL Mode
Possible Settings: STU-C, STU-R Default Setting: STU-C
Controls whether the card is configured as an SHDSL Central Office Control Terminating Unit (STU-C) or an SHDSL Remote Terminating Unit (STU-R). NOTE: Changing this option will reset the card.
Test Timeout
Possible Settings: Enable, Disable Default Setting: Enable
Allows tests to end automatically. The feature should be enabled when the card is remotely managed, so that control can be regained after a test is accidentally executed.
Test Duration (min)
Possible Settings: 1–120 Default Setting: 10
Number of minutes for a test to be active before automatically ending.
G.703 Line Termination
Possible Settings: 75 ohms, 120 ohms Default Setting: 120 ohms
Specifies the line impedance of the G.703 interface.
Region Setting
STU-C Only. Displays: Annex B
Specifies the set of unique, regional SHDSL operations parameters to be used by the card. Displays Annex B for European networks.

Table 5. System Options (2 of 2)

Spectrum Management
STU-C Only. Possible Settings: Enable, Disable Default Setting: Disable
Enabling spectrum management limits the DSL speeds on the card to meet either ANSI T1.417 or BT Access Network Spectrum standards.
Country Code
STU-C Only. Displays: UK
Displays the spectrum management standard to be used (ANFP for UK) to calculate the speeds allowed on this card which comply with spectrum management.

Table 6. System Clock Options

System Primary Clock Reference
Possible Settings (STU-C): G.703 Port 1–8, Internal Default Setting: Internal
Possible Settings (STU-R): DSL Port 1–8, Internal Default Setting: DSL Port 1
Specifies the primary clock source to be used for system timing. Failure of this clock results in an automatic fallback to the secondary clock source.
System Secondary Clock Reference
Possible Settings (STU-C): G.703 Port 1–8, Internal Default Setting: Internal
Possible Settings (STU-R): DSL Port 1–8, Internal Default Setting: DSL Port 2
Specifies the secondary clock source to be used for system timing. Failure of this clock results in an automatic fallback to the internal clock.

Table 7. Cross-Connect Mode Options

Source
Possible Settings: DSL, G.703
Selects a reference for how cross-connection information is displayed. The values in the Mode column refer to the ports entered as the source.
Cross-Connect Mode
Possible Settings: DS1 Bypass, DS1 Cross-connect, DS0 Cross-connect, Unassigned, Disabled, Unframed Default Setting: DS1 Bypass
Determines the cross-connect mode for the port.
DSL Port
Possible Settings: 1 – 8, Unassigned Default Setting: [Blank]
Determines the DSL port that is cross-connected to the specified G.703 port.
Destination
Possible Settings: D1 – D8, G1 – G8, Unassigned, I Default Setting: [Blank]
Specifies which destination port is cross-connected to the selected source port.

Table 8. Assign Time Slots Options

G.703/DSL
Possible Settings: G.703, DSL Default Setting: G.703
Determines the port for which time slots are displayed. The card can be configured using the viewpoint of the G.703 interface or the DSL network interface.
Port Type
Possible Settings: D, G, I Default Setting: D
Specifies the type of port to which this time slot is connected.
Port
Possible Settings: 1 – 8 Default Setting: [Blank]
Selects the port to which this time slot is connected.
DS0s to Allocate
Possible Settings: 1 – 31 Default Setting: [Blank]
Specifies the number of contiguous time slots to be assigned at this time for the selected port. Only unassigned time slots can be selected.
Start TS
Possible Settings: 1 – 31 Default Setting: [Blank]
Specifies the time slot where time slot assignment is to begin in the contiguous time slots specified in the DS0s to Allocate option for the selected port. Only unassigned time slots can be selected.
Assign To
Possible Settings: D, G Default Setting: D
Assigns the corresponding port and beginning time slot specified in the DS0s to Allocate and Start TS options to a Port Type and Data or Voice setting. After the time slot is assigned, the Data or Voice setting can be changed.
Time Slot Number
Possible Settings: 1 – 31 Default Setting: [Blank]
Determines the time slot to which this time slot is connected.
Data or Voice
Possible Settings: d, v Default Setting: d
Determines whether the time slot is dedicated to the transmission of voice or data.

Table 9. General SNMP Management Options

SNMP Management
Possible Settings: Enable, Disable Default Setting: Enable
Enables or disables the SNMP management features.
Community Name 1
STU-R Only. Possible Settings: [ASCII text], Public Default Text: Public
Identifies the name of the community allowed to access the card's MIB. The community name must be supplied by an external SNMP manager when that manager attempts to access an object in the MIB.
Name 1 Access
STU-R Only. Possible Settings: Read, Read/Write Default Setting: Read
Determines the access level for Community Name 1.
Community Name 2
STU-R Only. Possible Settings: [ASCII text], Public Default Text: [null string]
Identifies the name of the second community allowed to access the card's MIB. The community name must be supplied by an external SNMP manager when that manager attempts to access an object in the MIB.
Name 2 Access
STU-R Only. Possible Settings: Read, Read/Write Default Setting: Read
Determines the access level for Community Name 2.

Table 10. SNMP NMS Security Options

NMS IP Validation
Possible Settings: Enable, Disable Default Setting: Enable
Specifies whether security checking is performed on the IP address of SNMP management systems attempting to access the node.
NMS <i>n</i> IP Address
Possible Settings: 001.000.000.000 – 223.255.255.255, Clear Default Setting: 000.000.000.000
Specifies the Internet Protocol address used to identify each SNMP manager.
Access Type
Possible Settings: Read, Read/Write Default Setting: Read
Determines the access level allowed for an authorized NMS when IP address validation is being performed.

Table 11. SNMP Traps Options

SNMP Traps
Possible Settings: Enable, Disable Default Setting: Enable
Controls the generation of SNMP trap messages.
General Traps
Possible Settings: Disable, Warm, AuthFail, Both Default Setting: Both
Determines which SNMP traps are sent to each trap manager.
Enterprise Specific Traps
Possible Settings: Enable, Disable Default Setting: Disable
Determines if SNMP traps are generated for enterprise-specific events.
Link Traps
Possible Settings: Disable, Up, Down, Both Default Setting: Both
Determines if SNMP traps are generated for link up and link down for one of the communication interfaces.
Link Trap Interfaces
Possible Settings: Network, G.703, All Default Setting: All
Determines if the SNMP <i>linkUp</i> , SNMP <i>linkDown</i> , and interface-related <i>enterpriseSpecific</i> traps are generated for the DSL interface and/or G.703 interface (DTE).

Table 12. Inband Management Channel Options

Inband Management Select
Possible Settings: Enable, Disable Default Setting: Disable
Specifies whether data on the selected port and timeslot will be sent according to the cross connect configuration or to the MCC card instead.
Inband Management Type
Possible Settings: PPP, Frame Relay Default Setting: PPP
Specifies the type of data the Inband Management Channel will accept.
Inband Management Port
Possible Settings: 1 – 8 Default Setting: 1
Selects the G.703 port for the Inband Management Channel.
Inband Management Time Slot
Possible Settings: 1 – 15 or 17 – 31 Default Setting: 1
Selects the G.703 timeslot for the Inband Management Channel.
Inband Management DLCI
Possible Settings: 16 – 1007 Default Setting: 16
Selects the Data Link Connection Identifier (DLCI) the Inband Management Channel will use when Inband Management Type is set to Frame Relay.
Inband Management LMI
Possible Settings: Annex A, Annex D, Standard Default Setting: Standard
Selects the Local Management Interface (LMI) the Inband Management Channel will use when Inband Management Type is set to Frame Relay.

Configuring DSL Line Rate

The TDM SHDSL line rate is controlled from the DSL Interface Options screen and allows you to set the maximum and minimum rates for the DSL line. These options are only available if the card is configured as an STU-C. To access the DSL Interface Options screen, follow this menu selection sequence:

Main Menu → Configuration → DSL Port

```
main/config/dsl_interface
Slot 4                                     Model: 8799

                                DSL INTERFACE OPTIONS

Port Status:                          Enable
PSD Mask:                               Symmetrical
Estimated Line Length:                 Long
Startup Margin:                       0dB
Max DSL Rate:                          2056 kbps
Min DSL Rate:                          2056 kbps
EIA-530 Payload Rate:                 2048 kbps
Remotely Initiated Loopback:          Enable

Circuit Identifier: _____ Clear

-----
Ctrl-a to access these functions, ESC for previous menu   MainMenu Exit
Save
```

► Procedure

To set the maximum and minimum speed for the DSL line:

1. Position the cursor in the Max DSL Rate field and choose from the available speeds listed at the bottom of the screen. The possible values are determined by whether Spectrum Management is enabled (under System Options) and which PSD Mask is being used.
2. Position the cursor in the Min DSL Rate field and choose from the available speeds listed at the bottom of the screen.

If you set the minimum DSL rate equal to the maximum DSL rate, the port changes from Adaptive Rate mode to Fixed Rate mode. If the port cannot train at the minimum rate selected, an alarm will be generated.

Important Safety Instructions

1. Read and follow all warning notices and instructions marked on the product or included in the manual.
2. Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these slots and openings must not be blocked or covered.
3. Do not allow anything to rest on the power cord and do not locate the product where persons will walk on the power cord.
4. Do not attempt to install or service this product yourself, as opening or removing covers may expose you to dangerous high voltage points or other risks. Refer all installation and servicing to qualified service personnel.
5. General purpose cables are provided with this product. Special cables, which may be required by the regulatory inspection authority for the installation site, are the responsibility of the customer.
6. When installed in the final configuration, the product must comply with the applicable Safety Standards and regulatory requirements of the country in which it is installed. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.
7. A rare phenomenon can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate buildings are **interconnected**, the voltage potential may cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action prior to interconnecting the products.
8. In addition, if the equipment is to be used with telecommunications circuits, take the following precautions:
 - Never install telephone wiring during a lightning storm.
 - Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
 - Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
 - Use caution when installing or modifying telephone lines.
 - Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
 - Do not use the telephone to report a gas leak in the vicinity of the leak.

EMI Notices

▲ UNITED STATES – EMI NOTICE:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The authority to operate this equipment is conditioned by the requirements that no modifications will be made to the equipment unless the changes or modifications are expressly approved by Paradyne Corporation.

▲ CANADA – EMI NOTICE:

This Class A digital apparatus meets all requirements of the Canadian interference-causing equipment regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du règlement sur le matériel brouilleur du Canada.

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- **Telephone:** Call our automated system to receive current information by fax or to speak with a company representative.
 - Within the U.S.A., call 1-800-870-2221
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