PARADYNE™

Hotwire™ 8775 M/SDSL Termination Unit

Installation Instructions

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Select the following document:

8775-A2-GB20
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Hotwire™ 8775 E1 M/SDSL Termination Unit

The Hotwire 8775 Termination Unit is a circuit card assembly (CCA) that contains four E1 Multirate Symmetric Digital Subscriber Line (M/SDSL) ports. When the 8775 Termination Unit is used in a Hotwire 8600 or 8800 Series Digital Subscriber Line Access Multiplexer (DSLAM) chassis, it transports 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 8775 Termination Unit consists of:

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

Before you install the Hotwire 8775 Termination Unit, read the *Important Safety Instructions* on page 23.

Be sure to register your warranty at **www.paradyne.com**. Select *Service & Support → Warranty Registration.*

Tool Required

❑ Small- to medium-size flat-blade screwdriver.

Planning the 8775 Termination Unit Installation

Review the following list to help plan for the installation.

❑ Obtain the applicable cables; refer to *Cables You Need* on page 3.

❑ Make sure the Hotwire DSLAM chassis is installed and power is supplied to the chassis.

❑ After the 8775 Termination Unit is installed, there are configuration procedures that must be performed before you can begin to use the 8775 Termination Unit. Refer to the User's Guide for more detailed configuration procedures.

Cables You Need

The following customer-provided cables are used with this product.

For the network connection:

- Plug-ended Telco 50-pin cable for connection from the Hotwire 8600 DSLAM LINE port or one of the Hotwire 8800 DSLAM LINES ports to the Main Distribution Frame (MDF) or other demarcation point.

For the DTE connection, one of the following:

- 100-pin plug to four DB15 (X.21)
- 100-pin plug to four DB25 (EIA-530A)
- 100-pin plug to four DB37 (RS-449)
- 100-pin plug to four MS34 (V.35)

For more information refer to *Cables and Pin Assignments* in the User's Guide.

Installing DSL Cards

Use a small- to medium-size flat-blade screwdriver to install the 8775 Termination Unit.

When using a . . .	Install the 8775 Termination Unit in . . .
Hotwire 8600 Series DSLAM base chassis	Slot 2 or 3. Slot 1 of the Hotwire 8600 DSLAM base chassis must contain a Management Communications Controller (MCC) card.
Hotwire 8600 Series DSLAM expansion chassis	Slot 1, 2, or 3.
Hotwire 8800 Series DSLAM chassis	Any one of the first 18 slots (i.e., Slots 1 through 18). Slot 19 is reserved for the MCC and Slot 20 is reserved for future use.

An 8775 Termination Unit can be installed, removed, and replaced from a Hotwire DSLAM chassis without disrupting service to the other cards in the chassis.

NOTE:

When installing the 8775 Termination Unit, you need to remove the filler plate before proceeding.

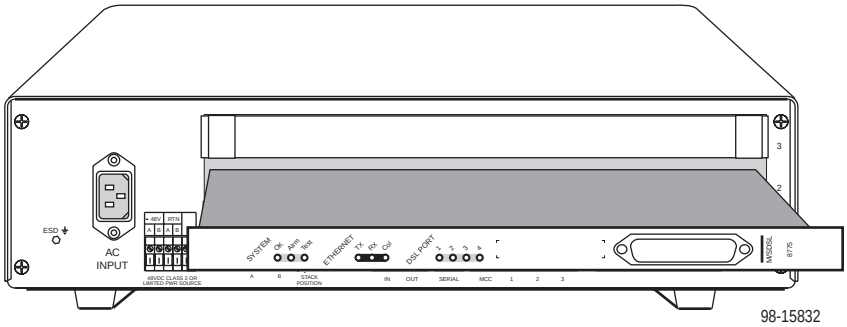
Do not discard unused filler plates. Each slot in the chassis must contain a circuit card or a filler plate. Store all unused filler plates in a safe place. You may need to use the filler plates to cover open slots in the chassis at a later time.

▶ Procedure

To install an 8775 Termination Unit:

1. Determine in which slot the 8775 Termination Unit will be installed. Verify that cards in adjacent slots have been fastened.
2. Remove the filler plate from the installation slot.
3. Insert the 8775 Termination Unit:

   — For a **Hotwire 8600 Series DSLAM chassis –** hold the 8775 Termination Unit horizontally with component side facing up and insert it into the left and right card guides.



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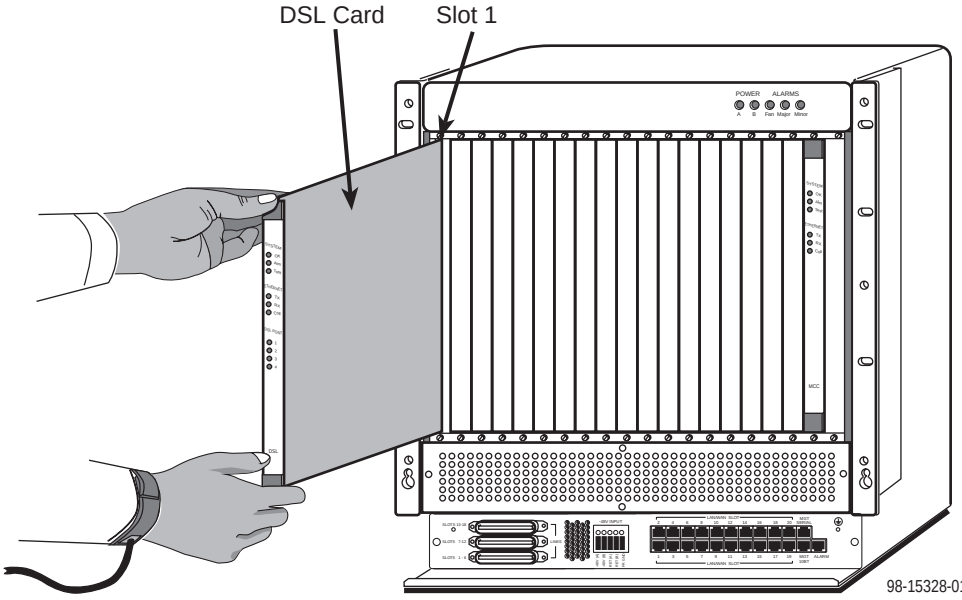
   — For a **Hotwire 8800 Series DSLAM chassis –** hold the 8775 Termination Unit vertically with component side facing right and insert it into the top and bottom card guides.



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4. Slide the 8775 Termination Unit into the slot until the power and network connectors seat firmly in the mating connectors on the backplane.

CAUTION:

Do not force the 8775 Termination Unit 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 8775 Termination Unit performs a power-up self-test. All of the LEDs turn ON and OFF briefly. When the self-test is completed successfully, the SYSTEM OK LED will turn ON. Make sure the SYSTEM OK indicator on the 8775 Termination Unit faceplate is ON.

5. If the LED is not ON, refer to *Messages and Troubleshooting* in the User's Guide.

6. Secure the 8775 Termination Unit by fastening the screws at each end of the faceplate.

NOTE:

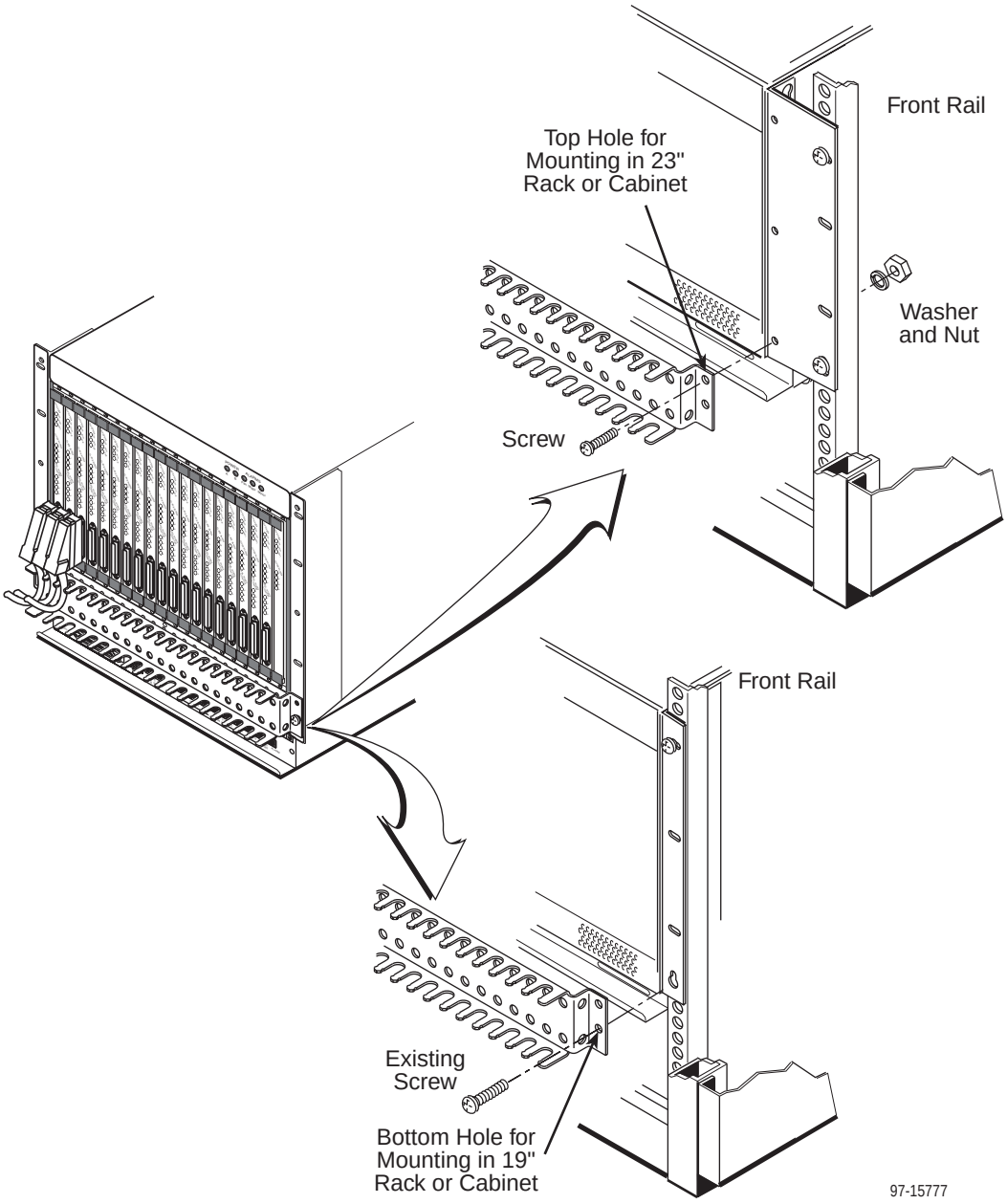
The 8775 Termination Unit may be replaced without system disruption (i.e., you can remove and reinstall a card without powering down the Hotwire DSLAM chassis and disrupting service to the other cards). To remove an 8775 Termination Unit from the Hotwire DSLAM chassis, unfasten the screws on both ends of the faceplate. Then push the ejector handles outward and slide the card out.

Ensure that adjacent cards are fastened before removing a card.

When swapping the old 8775 Termination Unit with a new 8775 Termination Unit, note that the 8600 DSLAM retains the Media Access Control (MAC) address, also referred to as the physical address. This means that the new 8775 Termination Unit will have the same MAC address as the old one.

Cable Management

The optional Cable Guide connects to the front of the Hotwire 8800 Series DSLAM and provides strain relief and control of the DTE cables. Install the Cable Guide before installing the cables.



Connecting to the DTE Equipment

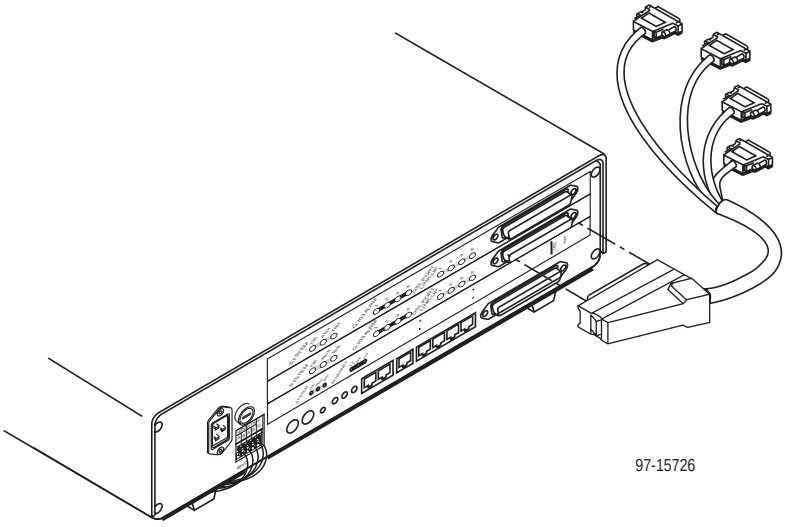
Connection to the four ports of the 8775 Termination Unit is through the 100-pin EIA-530 interface connector on its faceplate. Use one of the DTE cables listed under *Cables You Need* on page 3.

▶ Procedure

To connect the Hotwire 8775 Termination Unit to your DTE equipment:

1. Connect the 100-position connector of the cable to the connector on the faceplate of the 8775 Termination Unit. 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 equipment.

Connecting to an MDF

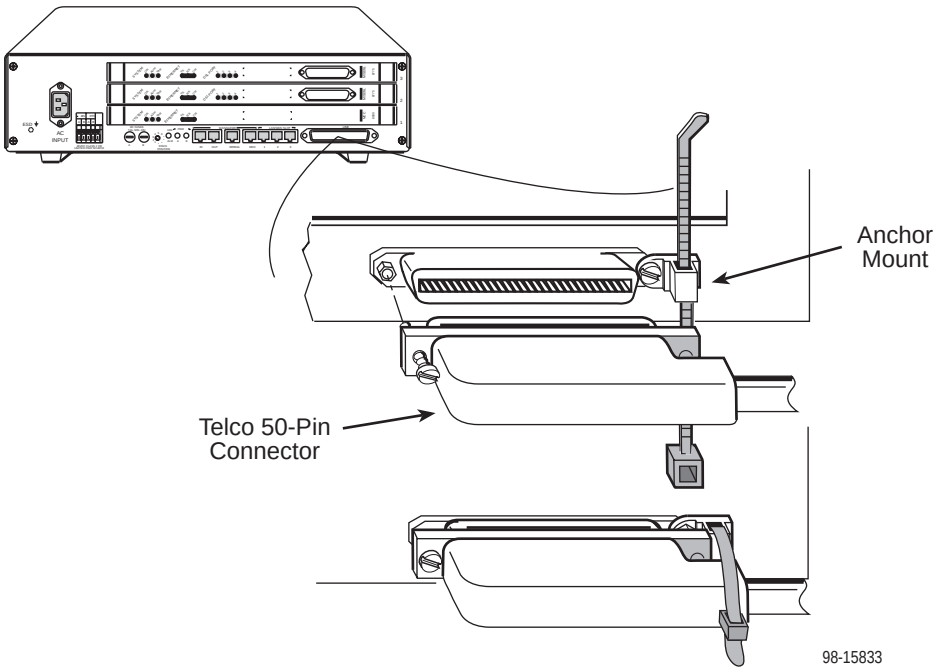
You can connect the Hotwire DSLAM chassis containing the 8775 Termination Unit to an MDF or other demarcation point. Do not connect it to a POTS splitter.

▶ Procedure

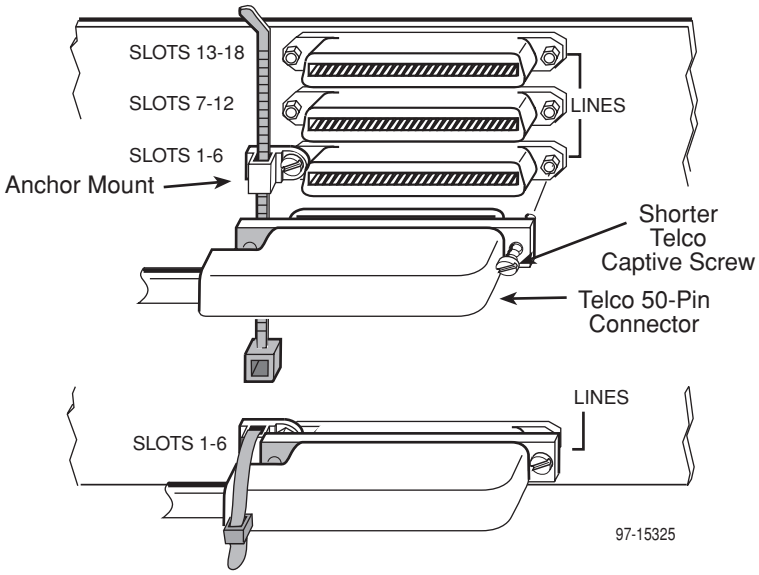
To connect the Hotwire DSLAM chassis containing the 8775 Termination Unit to an MDF:

1. Plug the Telco 50-pin cable into the appropriate LINE port on the front panel of the chassis:

   — **On a Hotwire 8600 Series DSLAM chassis:**



— **On a Hotwire 8800 Series DSLAM chassis:**



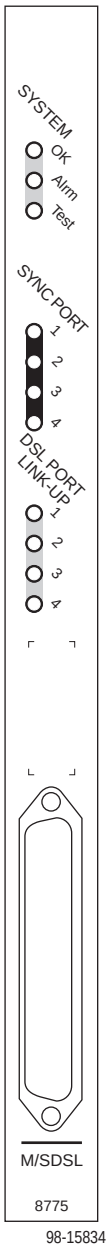
2. Replace the longer Telco cable captive screw with a shorter connector captive screw, which is provided with the Hotwire DSLAM chassis.
3. Insert a cable tie (provided with Hotwire DSLAM chassis) through the tie mount to hold the Telco 50-pin connector in place. If more than one Telco cable is being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

   Refer to *Cables and Pin Assignments* in the 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.

8775 Termination Unit LEDs



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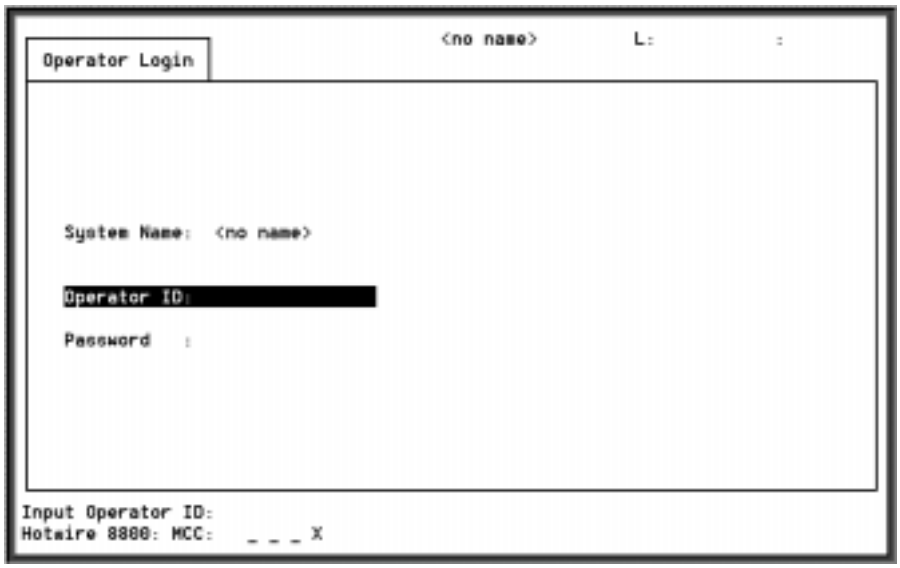
The following table describes the meaning and states of the LEDs on the 8775 Termination Unit faceplate.

Type	LED	LED is . . .	Indicating . . .
SYSTEM	OK	Green	Normal operation; card functioning normally.
		Off	No power to card, or card failure.
	Alrm	Amber	Device failure, or Power-On Self-Test (POST) failure.
		Off	No alarms.
	Test	Amber	Loopback test or 511 test pattern in progress.
		Amber, flashing	POST in progress.
		Off	No tests.
SYNC PORT	1, 2, 3, 4	Green	Interchange circuits for the port are in the correct state to transmit and receive data.
		Amber	The port is configured to monitor DTR and/or RTS and no monitored lead is asserted.
		Amber, flashing	Data Channel Loopback (DCLB) or Data Terminal Loopback (DTLB) is active on the port.
		Off	The port is disabled.
DSL PORT LINK-UP	1, 2, 3, 4	Green	DSL link is up.
		Off	DSL link is down.
		Amber	DSL training in progress.
		Amber, flashing	OOF condition.

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. The Hotwire DSLAM system accepts only one login session at a time.

At the Operator Login screen, enter your login ID and password.



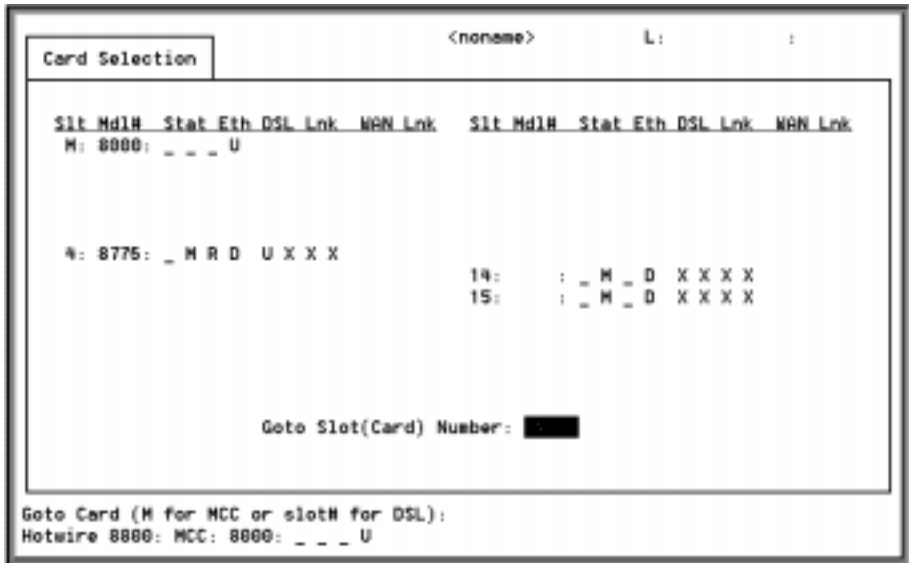
NOTE:

The login ID and password are case-sensitive; that is, the system recognizes both upper- and lowercase letters. For example, if you enter your user name and password information in upper case letters and your assigned user name and password are in upper- and lowercase letters, the system will not let you log in.

After entering your login ID and password, the system displays the Hotwire Chassis Main Menu.

Selecting the 8775 Card from the DSLAM

From the Hotwire Chassis Main Menu, select Card Selection to display the cards present in the chassis by type and slot number. The Card Selection screen also displays general and interface status for each card.



▶ Procedure

To access the 8775 Termination Unit Main Menu screen:

1. From the Hotwire Chassis Main Menu screen, select Card Selection.

   The Card Selection screen appears.

2. Verify that the card you want to access appears on the Card Selection screen. If the card does not appear, check the configuration of the MCC.

3. At the **`Goto Card (M for MCC or slot# for DSL):`** prompt, enter the number of the slot, then press Enter. For example, if you want to configure the card in Slot 4, enter **4**.

   The 8775 Termination Unit Main Menu appears.

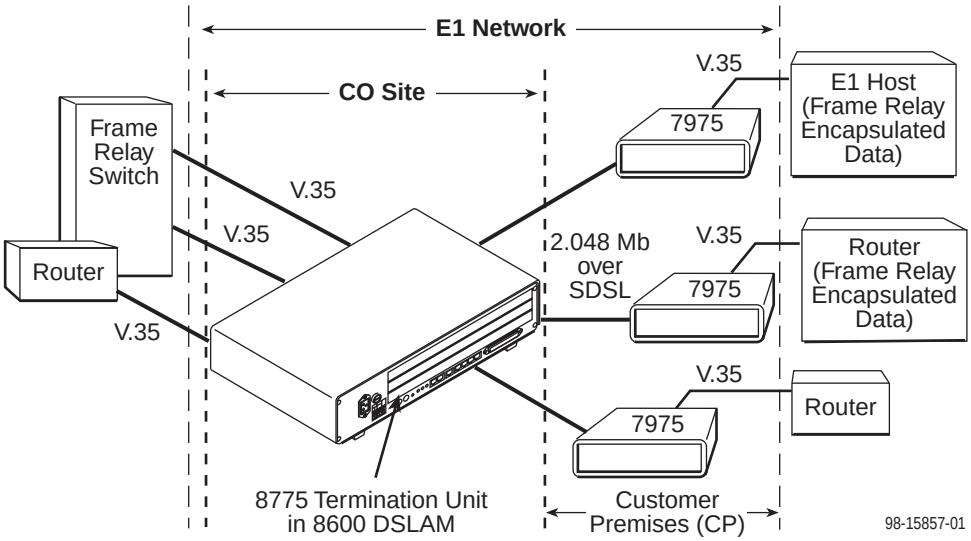
Entering Identity Information

After accessing your unit 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

Network Configuration

The following illustration shows an E1 network application using an 8775 M/SDSL Termination Unit for access concentration in a central office (CO). A frame relay switch and a router are connected, through the termination unit, to partner units supporting an E1 host or router, and frame relay encapsulated or unframed data.



A DSLAM-to-DSLAM configuration requires that the 8775 at one end of the link be set to NTU mode. 8775 Termination Units default to LTU mode.

Configuring the 8775 Termination Unit

Configuration option settings determine how the 8775 Termination Unit operates. Use the Configuration branch of the 8775 Termination Unit menu to display or change configuration option settings.

The 8775 Termination Unit is shipped with factory settings in the Default Factory Configuration area. 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                                                Hotwire
Slot: 4                                                        Model: 8775


                          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.
Default Factory 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.

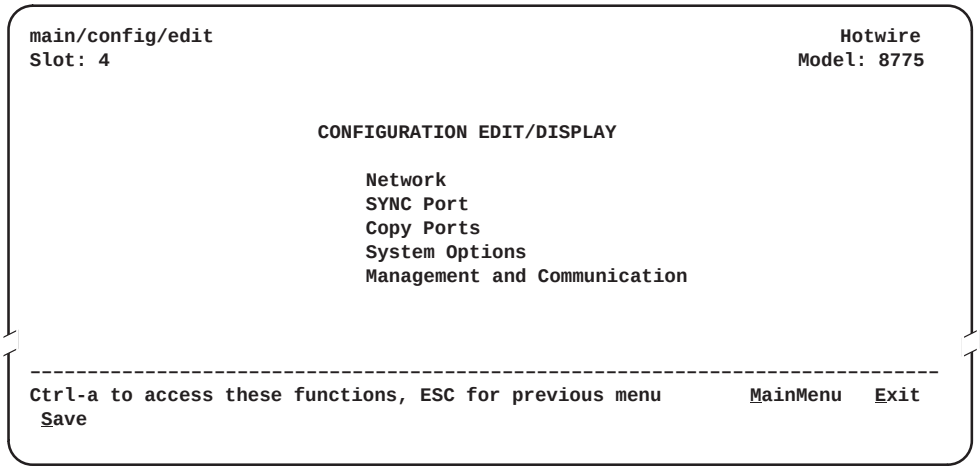
Configuration Edit/Display

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



Select . . .	To Access the . . .	To Configure the . . .
Network	Network Interface Options, Table 1	SDSL network interface Ports 1–4.
SYNC Port	Synchronous Data Port Options, Table 2	Synchronous DTE interface Ports 1–4.
Copy Ports	Copy Ports Options, Table 3	SDSL network and synchronous DTE interface ports by copying options from port to port.
System Options	System Options, Table 4	General system options of the unit.
Management and Communication	■ Telnet Session Options, Table 5 ■ General SNMP Management Options, Table 6 ■ SNMP NMS Security Options, Table 7 ■ SNMP Traps Options, Table 8	Management support of the unit through SNMP and Telnet.

Table 1. Network Interface Options

Margin Threshold
Possible Settings: **–5db**, **–4db**, **–3db**, **–2db**, **–1db**, **0db**, **1db**, **2db**, **3db**, **4db**, **5db**, **6db**, **7db**, **8db**, **9db**, **10db** Default Setting: **0db**
Determines the level, expressed in decibels, at which a signal-to-noise margin condition is recognized.
Excessive Error Rate Threshold
Possible Settings: **1E–4**, **1E–5**, **1E–6**, **1E–7**, **1E–8**, **1E–9** Default Setting: **1E–6**
Determines the error rate at which an excessive error rate (EER) condition is recognized. The rate is the ratio of the number of CRC errors to the number of bits received in a certain period.
AutoRate
Possible Settings: **Enable, Disable** Default Setting: **Enable**
Specifies whether the DSL line will automatically train up to the best rate or if the line rate will be user selectable.
DSL Line Rate
Possible Settings: **144, 272, 400, 528, 784, 1040, 1552 (2 Mbps unit only), 2064 (2 Mbps unit only)** Default Setting: **144**
Specifies the DSL line rate of the unit. This option is only available when the unit is configured as an LTU and AutoRate is disabled (unit is in fixed rate).
Peer IP Address
Possible Settings: **000.000.000.001 – 223.255.255.255, Clear** Default Setting: **000.000.000.000**
Specifies the peer IP address providing the remote management link on the DSL loop.
Circuit Identifier
Possible Settings: **[ASCII Text], Clear** Default Setting: [blank]
Uniquely identifies the circuit number of the transmission vendor's DSL line for troubleshooting purposes.

Table 2. Synchronous Data Port Options (1 of 2)

Port Status
Possible Settings: **Enable, Disable** Default Setting: **Enable**
Determines whether the port can be configured and used.
Payload Rate
Possible Settings: **64**, **128**, **192**, **256**, **320**, **384**, **448**, **512**, **576**, **640**, **704**, **768**, **832**, **896**, **960**, **1024**, **1088**, **1152**, **1216**, **1280**, **1344**, **1408**, **1472**, **1536**, **1600**, **1664**, **1728**, **1792**, **1856**, **1920**, **1984**, **2048** Default Setting: **128** NOTE: Payload rates of 1088 kbps and higher pertain only to the 2 Mbps termination unit.
Specifies the payload rate of the port.
Transmit Clock Source
Possible Settings: **Internal, External** Default Setting: **Internal**
Specifies whether the transmitted data for the synchronous data port is clocked using an internal clock provided by the 8775 Termination Unit (synchronized to the clock source specified by the clock source configuration option) or an external clock provided by the DTE connected to the synchronous data port. If an external clock is used, it must be synchronized to the same clock source as the 8775 Termination Unit.
Invert Transmit Clock
Possible Settings: **Disable, Enable** Default Setting: **Disable**
Specifies whether the clock supplied by the 8775 Termination Unit on the TXC interchange circuit DB (CCITT 114) is phase inverted with respect to the Transmitted Data interchange circuit BA (CCITT 103). This configuration option is useful when long cable lengths between the 8775 Termination Unit and the DTE are causing data errors.
Send All Ones on Data Port Not Ready
Possible Settings: **Both, Disable, DTR, RTS** Default Setting: **Both**
Specifies the conditions on the data port that determine when valid data is not being sent from the DTE. When this condition is detected, all ones are sent to the network.
Action on Network LOS Alarm
Possible Settings: **Halt, None** Default Setting: **Halt**
Specifies the action taken on the synchronous data port when an LOS (Loss Of Signal) alarm is received on the network interface.
Network Initiated Data Channel Loopback
Possible Settings: **Disable, Enable** Default Setting: **Disable**
Allows the initiation and termination of a Data Channel Loopback (DCLB) by the receipt of a DCLB-actuate sequence or DCLB-release sequence from the network or far-end device.

Table 2. Synchronous Data Port Options (2 of 2)

Port (DTE) Initiated Loopbacks
Possible Settings: **Disable, DTLB, DCLB, Both** Default Setting: **Disable**
Allows the initiation and termination of a local Data Terminal Loopback (DTLB) or remote Data Channel Loopback (DCLB) by the DTE connected to this port. (DTLB is equivalent to a V.54 loop 3, and DCLB is equivalent to a V.54 loop 2.) Control of these loopbacks is through the DTE interchange circuits as specified by the V.54 standard.

Table 3. Copy Ports Options

From: Port
Possible Settings: **1**, **2**, **3**, **4** Default Setting: **1**
Controls the source of the configuration options.
To: Port
Possible Settings: **1**, **2**, **3**, **4**, **All** Default Setting: **2**
Controls the target of the configuration options. NOTE: Peer IP Address and Circuit Identifier are *not* copied.

Table 4. System Options

DSL Mode
Possible Settings: **LTU**, **NTU** Default Setting: **LTU**
Controls whether the unit is configured as a control unit or tributary unit. NOTE: Changing this option will reset the card.
Test Timeout
Possible Settings: **Enable**, **Disable** Default Setting: **Enable**
Allows user-initiated tests to end automatically. The feature should be enabled when the unit is remotely managed, so that control can be regained after a test is accidentally executed. NOTE: Tests commanded by the DTE or network-initiated tests are not affected by this test timeout.
Test Duration (min)
Possible Settings: **1–120** Default Setting: **10**
Number of minutes for a test to be active before automatically ending. ■ Test Duration (min) option appears when Test Timeout is enabled.

Table 5. Telnet Session Options

Telnet Session
Possible Settings: **Enable, Disable** Default Setting: **Enable**
Specifies if the 8775 Termination Unit will respond to a Telnet session request from a Telnet client on an interconnected IP network.
Telnet Login Required
Possible Settings: **Enable, Disable** Default Setting: **Disable**
Used to secure access to the ATI through a Telnet session. Login IDs are created with a password and access level.
Session Access Level
Possible Settings: **Administrator**, **Operator** Default Setting: **Administrator**
The Telnet session access level is interrelated with the access level of the Login ID.
Inactivity Timeout
Possible Settings: **Enable, Disable** Default Setting: **Disable**
Provides automatic logoff of a Telnet session.
Disconnect Time (Minutes)
Possible Settings: **1–60** Default Setting: **5**
Number of minutes of inactivity before a Telnet session terminates automatically. Timeout is based on no keyboard activity. ■ Disconnect Time (minutes) option appears when Inactivity Timeout is enabled.

Table 6. General SNMP Management Options

SNMP Management
Possible Settings: **Enable, Disable** Default Setting: **Disable**
Enables or disables the SNMP management features.
Community Name 1
Possible Settings: **ASCII text field, Public** Default Text: **Public**
Identifies the name of the community allowed to access the unit'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
Possible Settings: **Read, Read/Write** Default Setting: **Read**
Determines the access level for Community Name 1.
Community Name 2
Possible Settings: **ASCII text field, Public** Default Text: **Public**
Identifies the name of the second community allowed to access the unit'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
Possible Settings: **Read, Read/Write** Default Setting: **Read**
Determines the access level for Community Name 2.

Table 7. SNMP NMS Security Options

NMS IP Validation
Possible Settings: **Enable, Disable** Default Setting: **Disable**
Specifies whether security checking is performed on the IP address of SNMP management systems attempting to access the node.
Number of Managers
Possible Settings: **1, 2, 3, 4, 5** Default Setting: **1**
Specifies the number of SNMP management systems that can send SNMP messages.
NMS *n* IP Address
Possible Settings: **000.000.000.000 – 223.255.255.255, Clear** Default Setting: **000.000.000.000**
Specifies the Internet Protocol address used to identify each SNMP manager.
Access Level
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 8. SNMP Traps Options

SNMP Traps
Possible Settings: **Enable, Disable** Default Setting: **Disable**
Controls the generation of SNMP trap messages. The options for addresses and types of traps are located in this table.
Number of Trap Managers
Possible Settings: **1, 2, 3, 4, 5** Default Setting: **1**
Sets the number of SNMP management systems that will receive SNMP traps.
NMS *n* IP Address
Possible Settings: **000.000.000.000 – 223.255.255.255, Clear** Default Setting: **000.000.000.000**
Specifies the Internet Protocol address used to identify each SNMP trap manager.
NMS *n* Destination
Possible Settings: **IMC**, **DSL1**, **DSL2**, **DSL3**, **DSL4** Default Setting: **IMC**
Provides the network destination path of each trap manager.
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, SYNC, All** Default Setting: **All**
Determines if the SNMP *linkUp*, SNMP *linkDown*, and interface-related *enterpriseSpecific* traps are generated for the network E1 interface and/or synchronous data (DTE) port.

⚠ Important Safety Instructions

1. Read and follow all warning notices and instructions marked on the product or included in the manual.
2. Input power to this product must be provided by one of the following: (1) a UL Listed\CSA Certified power source with a class 2 or Limited Power Source (LPS) for use in North America; or (2) a Safety Extra Low Voltage (SELV)/maximum 240 VA available input, certified for use in the country of installation.
3. 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.
4. Do not allow anything to rest on the power cord and do not locate the product where persons will walk on the power cord.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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 Warnings

⚠ WARNING:

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.

⚠ WARNING:

To Users of Digital Apparatus in Canada:

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 matérial brouilleur du Canada.

Warranty, Sales, Service, and Training Information

Contact your local sales representative, service representative, or distributor directly for any help needed. For additional information concerning warranty, sales, service, repair, installation, documentation, training, distributor locations, or Paradyne worldwide office locations, use one of the following methods:

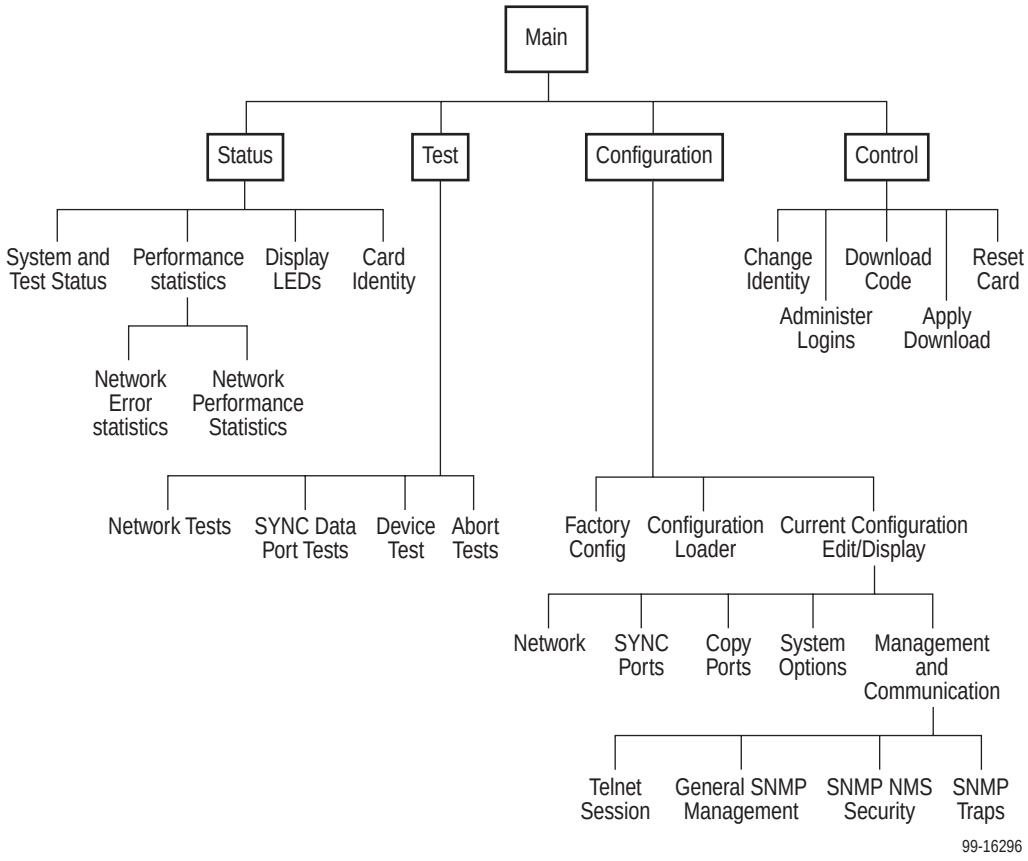
- **Internet:** Visit the Paradyne World Wide Web site at **www.paradyne.com**. (Be sure to register your warranty there. Select *Service & Support* → *Warranty Registration*.)
- **Telephone:** Call our automated system to receive current information by fax or to speak with a company representative.
  - — Within the U.S.A., call 1-800-870-2221
  - — Outside the U.S.A., call 1-727-530-2340

Document Feedback

We welcome your comments and suggestions about this document. Please mail them to Technical Publications, Paradyne Corporation, 8545 126th Ave. N., Largo, FL 33773, or send e-mail to **userdoc@paradyne.com**. Include the number and title of this document in your correspondence. Please include your name and phone number if you are willing to provide additional clarification.

Asynchronous Terminal Interface Menu

The following illustration shows the paths to the different ATI screens.



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