PARADYNE™

Hotwire™ DSLAM Configuration for 8310 MVL™ and 8510 DSL Cards

Startup Instructions

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This guide describes how to configure the Hotwire™ Digital Subscriber Line Access Multiplexer (DSLAM) system for 8310 MVL™ and 8510 DSL Cards.

Before You Begin

Make sure that you have:

- ❑ Accessed the Paradyne World Wide Web site at **http://www.paradyne.com** (select: *Service & Support* → *Technical Manuals*) for the following documents:
  - — The *Hotwire DSLAM for 8310 MVL and 8510 DSL Cards User's Guide,* Document Number 8000-A2-GB26, for details on how to configure and operate the DSL cards.
  - — The *Hotwire Management Communications Controller (MCC) Card, IP Conservative, User's Guide,* Document Number 8000-A2-GB22, for information on how to configure and operate the MCC card.
  - — The *Hotwire DSLAM for 8310 MVL and 8510 DSL Cards Network Configuration Guide,* Document Number 8000-A2-GB27, for explanations of internetworking features and operations.
- ❑ Installed either the Hotwire 8600 or 8800 DSLAM, plus the 8310 and 8510 cards in the DSLAM. If you have not done so, refer to the appropriate Hotwire DSLAM Installation Guide for installation instructions:
  - — *Hotwire 8600 Digital Subscriber Line Access Multiplexer (DSLAM) Installation Guide*, Document Number 8600-A2-GN20.
  - — *Hotwire 8800 Digital Subscriber Line Access Multiplexer (DSLAM) Installation Guide,* Document Number 8800-A2-GN21.
- ❑ Connected a terminal or PC terminal emulator to the DSLAM's VT100 console port.

Warranty, Sales, and Service 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:

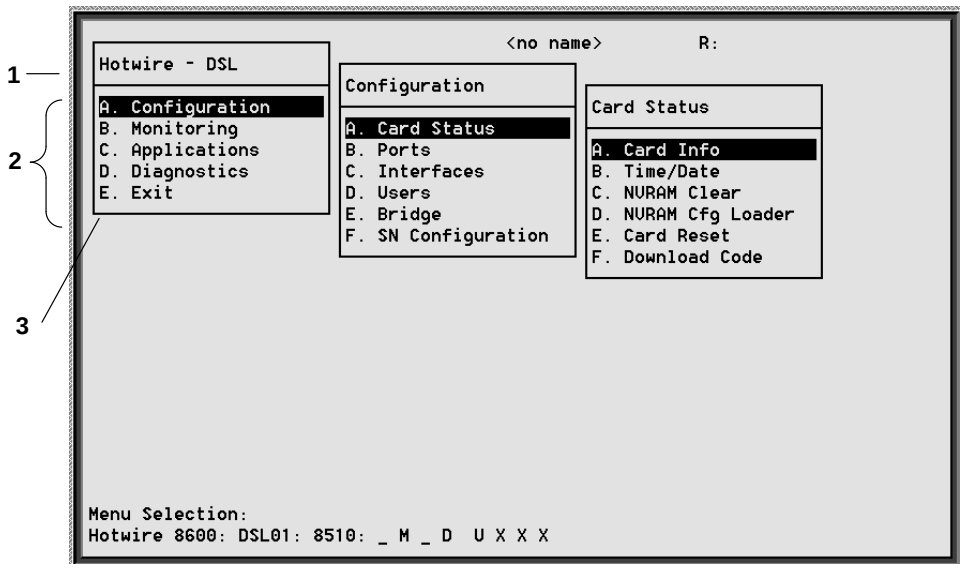
- **Via the Internet:** Visit the Paradyne World Wide Web site at http://www.paradyne.com
- **Via Telephone:** Call our automated call system to receive current information via fax or to speak with a company representative.
  - — Within the U.S.A., call 1-800-870-2221
  - — Outside the U.S.A., call 1-727-530-2340

Patent Notification

Hotwire MVL products are protected by U.S. Patents: 4,637,035, 4,744,092, 4,669,090, 5,291,521 and 5,280,503. Other U.S. and foreign patents pending.

Components of a Hotwire Menu

A typical Hotwire menu format looks like this:



1. **Menu Title** is the top line of the menu window that displays the title of the menu or submenu.
2. **Menu List** is the bottom portion of the menu window that displays the list of menu options. When selected, a menu option displays a submenu window or screen.
3. **Letter Navigation Keys** are provided within a menu list. These keys provide a convenient way (shortcut) to select a menu item.

   For example, from the Hotwire – DSL menu illustrated above, you can simply press the **A** key to select the Configuration menu item. The Configuration menu appears. You can then press the **A** key to select the Card Status menu. The Card Status menu appears. The navigation path to select Card Info from the Card Status menu is represented in this document as **A-A-A**. (You can also use the arrow keys on your keyboard to select a menu item.)

   NOTE:

   To back up one menu level, press Ctrl-z. To go to the Main Menu, press Ctrl-a, Ctrl-c, Ctrl-t, or Ctrl-y.

Commonly Used Navigation Keys

The following table lists navigation keys and their definitions. These commands are used to move around the Hotwire DSLAM menus and screens.

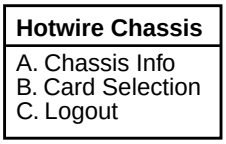
Keys	Definition
Ctrl-a	Moves to the top menu
Ctrl-c	Moves to the top of the current menu
Ctrl-k	Moves up to the previous menu selection or entry field
Ctrl-l	Refreshes the screen
Ctrl-n	Moves down or to the next selection
Ctrl-p	Moves back
Ctrl-r	Resets counters (on monitoring statistics displays)
Ctrl-t	Moves to the top menu
Ctrl-u	Clears the current input or prompt line
Ctrl-v	Displays pop-up menus
Ctrl-y	Moves to the top menu
Ctrl-z	Moves back or exits from screen
Up arrow	Moves up to the previous menu selection or entry field
Down arrow	Moves down to the next menu choice or entry field
Enter or Return	Accepts entry
?	Displays the Online help screen

Hotwire Menu Hierarchy

This section describes the menu structure of the Hotwire user interface.

Hotwire Chassis Main Menu

The following illustration shows the Hotwire Chassis Main Menu.



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From the Hotwire Chassis Main Menu, you can select:

- **A. Chassis Info** to enter or display chassis information, such as the chassis name, name of person responsible for the system, and physical location of the chassis.

  For more information, see *Additional Setup Instructions* in Chapter 3, *Initial Setup Instructions,* in the *Hotwire DSLAM for 8310 MVL and 8510 DSL Cards User's Guide* or Chapter 3, *Setup and Configuration*, in the *Hotwire Management Communications Controller (MCC) Card, IP Conservative, User's Guide.*

- **B. Card Selection** to select a particular card in the chassis. This screen also displays status information about all cards in the chassis. The card you select determines which Hotwire menu the system will display next (either the Hotwire – MCC menu or the Hotwire – DSL menu).

  For more information, see *Card Selection Screen* in Chapter 2, *Hotwire Menus and Screens* in the *Hotwire DSLAM for 8310 MVL and 8510 DSL Cards User's Guide* or Chapter 2, *Menus and Screens,* in the *Hotwire Management Communications Controller (MCC) Card, IP Conservative, User's Guide.*

- **C. Logout** to exit from the current login session on the Hotwire DSLAM.

  For more information, see *Exiting From the System* in Chapter 2, *Hotwire Menus and Screens*, in the *Hotwire DSLAM for 8310 MVL and 8510 DSL Cards User's Guide* or Chapter 2, *Menus and Screens,* in the *Hotwire Management Communications Controller (MCC) Card, IP Conservative, User's Guide.*

Configuring the MCC Card and DSL Cards

Use the procedures **in the following order** to configure the MCC card and DSL cards for the basic setup for terminal management and user data connectivity.

NOTE:

For more information about MCC and DSL card configuration and management, consult the *Hotwire DSLAM for 8310 MVL and 8510 DSL Cards Network Configuration Guide*.

Management Domain Configuration Checklist

Check Off Task	Perform this task . . .	On this screen . . .	To access the screen . . .
	1. Power on the Hotwire DSLAM.		Who Am I
	2. Clear NVRAM if the Who Am I screen does not appear. (See page 8)	(Hotwire – MCC) NVRAM Clear	Select: *Configuration* → *Card Status* → *NVRAM Clear* (**A-A-C**)
	3. Setting the IP address and Subnet Mask. (See page 9)	(Hotwire – MCC) Who Am I	Hotwire Chassis Main Menu
	4. Setting the time and date. (See page 10)	(Hotwire – MCC) Time/Date	From the Hotwire – MCC menu, select: *Configuration* → *Card Status* → *Time/Date* (**A-A-B**)
	5. Create SNMP Community Strings and Authentication Failure Trap. (See page 11)	(Hotwire – MCC) Communities/ Traps	From the Hotwire – MCC menu, select: *Configuration* → *SNMP* → *Communities/Traps* (**A-F-B**)
	6. Create default route. (See page 11)	(Hotwire – MCC) Static Routes	From the Hotwire – MCC menu, select: *Configuration* → *IP Router* → *Static Routes* (**A-E-A**)

Service Domain Checklist

Check Off Task	Perform this task . . .	On this screen . . .	To access the screen . . .
	1. Configure VLAN(s) on DSL or MVL cards. (See page 12)	(Hotwire – DSL or MVL) Card VLAN	Select: *Configuration* → *Bridge* →*Card VLAN* (**A-E-B**)
	2. Configure the Active VLAN on each DSL or MVL port. (See page 12)	(Hotwire – DSL or MVL) Port VLAN	Select: *Configuration* → *Bridge* →*Port VLAN* (**A-E-C**)
	3. Configure a default next hop router for each VLAN. (See page 13)	(Hotwire – DSL or MVL) Port VLAN	Select: *Configuration* → *Bridge* →*Port VLAN* (**A-E-C**)
	4. Configure static users. (See page 13)	(Hotwire – DSL or MVL) Client VLAN	Select: *Configuration* → *Bridge* →*Client VLAN* (**A-E-D**)

Clear NVRAM

Prior to configuring your system, you should clear NVRAM on the MCC card if the Who Am I screen is not displayed on system power up.

▶ Procedure

To clear NVRAM on the MCC card:

1. From the Hotwire Chassis Main Menu, select B. Card Selection.
2. Enter **M** for the MCC card.
3. Select *Configuration* → *Card Status* → *NVRAM Clear* (**A-A-D**).
4. Enter **yes** at the **`Type 'yes' to proceed or ^z to exit this screen`** prompt.

   NOTE:

   An answer of yes causes the loss of all static configuration information and the system resets automatically. Any changed parameters will return to default values, including user accounts, filtering information, interface configurations, and port configurations.

Setting the IP Address and Subnet Mask

After powering on the system for the first time, you must set the management domain IP address and subnet mask of the MCC card.

> **NOTE:**
>
> If an MCC card powers up with no router ID (for new cards or after a clear NVRAM command has been executed), the MCC will perform a BOOTP out the Ethernet interface to acquire an IP address and subnet mask. This IP address and subnet mask is kept in non-volatile storage if you want to enter or override this information on either the Who Am I screen or the MCC Ethernet IP Address screen.

▶ Procedure

To set the management domain IP address and subnet mask of the MCC card:

1. Power up the chassis.

   When the selftest is complete, the Who Am I screen appears.

2. Enter the management domain IP address at the **`(nnn.nnn.nnn.nnn):`** prompt.

   The subnet mask is automatically calculated.

3. Do **one** of the following at the **`(nnn.nnn.nnn.nnn):`** prompt:

   — Press Return to accept the subnet mask, or

   — Enter a new subnet mask and press Return.

   The system highlights the **`OK to Restart?:`** prompt.

4. Enter **`y`** at the **`yes/no:`** prompt to restart the card or **`n`** to decline the restart.

   The system displays the Hotwire Chassis Main Menu.

Setting Time and Date

When you select Time/Date from the MCC's Card Status menu, the Time/Date screen is displayed. From this screen, you can configure the local time and date on the card.

NOTE:

At system boot time, the time on the DSL card automatically synchronizes with the MCC card. Therefore, it is usually not necessary to use this screen on the DSL card. If there is active DHCP-lease derived information on the card, changing the local time is not recommended.

▶ Procedure

To set the time and date on the MCC card:

1. Select Card Selection (**B**) from the Hotwire Chassis Main Menu.
2. Enter **MCC** or **M** at the **`Goto Card (MCC or slot # for DSL):`** prompt.
3. Select *Configuration* → *Card Status* → *Time/Date* (**A-A-C**).
4. Enter the current local time and date at the **`Enter time in hh:mm [am|pm] format:`** prompt.
5. Enter the current date at the **`Enter today's date in mm/dd/yy or dd-mm-yy format:`** prompt.
6. Enter **Broadcast** or **Unicast** at the **`Action (Broadcast/Unicast):`** prompt.
7. Enter the IP address of the SNTP server at the **`(nnn.nnn.nnn.nnn):`** prompt.

   NOTE:

   While this field is optional, it is recommended that a value be entered to ensure the clock of the DSLAM stays in synch with "real time."
8. Enter the number of hours between synchronization (**1 – 24**) at the **`Input Number:`** prompt (Default = 1).
9. Press Ctrl-z and save the changes.

Creating SNMP Community Strings and Enabling Authentication Failure Traps

▶ Procedure

To configure SNMP community strings and enable the Authentication Failure trap mechanism:

1. From the MCC Main Menu, select *Configuration* →*SNMP*→ *Communities/Traps (***A-F-B**).
2. If desired, enable the Authentication Trap Failure. You want to enable this field to send a trap when an SNMP request community string does not match or when the password for a Telnet session is incorrect.
3. Enter access permission at the **`ReadOnly(ro)/ReadWrite(rw)/NoAccess(na):`** prompt.
4. Type the IP address or addresses of the NMS manager(s) in *nnn.nnn.nnn.nnn* format at the **`IP Address (nnn.nnn.nnn.nnn) or space to delete:`** prompt.
5. Enter the port number at the **`Input Number:`** prompt (Default = 162).
6. Enable the IP address and port to send traps to this address at the **`Enable/Disable:`** prompt.
7. Press Ctrl-z and save the changes.

Creating the Default Route

Use this procedure to create the default route to the management domain next hop router. This default route will be used to forward management domain traffic from the MCC card.

▶ Procedure

To create the default route to direct management domain traffic to the MCC card:

1. Select *Configuration* → *IP Router* → *Static Routes* (**A-E-A**).
2. Enter **`0`** or press Return at the **`Item Number`** prompt.
3. Enter **0.0.0.0** at the **`Destination (or space to delete route):`** prompt.
4. Press Return at the **`Subnet Mask:(nnn.nnn.nnn.nnn)`** prompt.
5. Type the IP address of the default route to the next hop address at the **`Next Hop IP Address (nnn.nnn.nnn.nnn)`** prompt.
6. Type **`1`** for preference at the **`Input Number`** prompt.
7. Leave default fields for **`S/D`** (Source/Destination) and **`PA`** (Proxy ARP) fields.
8. Press Ctrl-z and save the changes.

Configuring VLAN(s) on a DSL or MVL Card

▶ Procedure

To configure at least one VLAN ID for this DSL or MVL card:

1. Select *Configuration* → *Bridge* → *Card VLAN* (**A-E-B**).
2. Enter **0** or press Return at the **`Item Number (0 to add new record):`** prompt.
3. Enter the VLAN ID at the **`Enter VLAN ID between 2 and 4094 or space to delete:`** prompt.
4. Enter **enabled** at the **`Enabled/Disabled:`** prompt in the Mux Fwd field. (Default = enabled.)
5. Enter **disabled** at the **`Enabled/Disabled:`** prompt in the IP Filter field. (Default = disabled.)
6. Enter **enabled** at the **`Enabled/Disabled:`** prompt in the IP Scoping field. (Default = enabled.)
7. If desired, enter a domain name at the **`Domain Name:`** prompt.
8. Enter **`yes`** at the **`yes/no:`** prompt to save your changes.

NOTE:

For more information about the fields listed above, see Chapter 3, *Service Domain*, in the *Hotwire DSLAM for 8310 MVL and 8510 DSL Network Configuration Guide.*

Configuring the Active VLAN on each DSL or MVL Port

▶ Procedure

To configure the active VLAN on each DSL or MVL port:

NOTE:

You can configure only one active VLAN per port.

1. Select *Configuration* → *Bridge* → *Port VLAN* (**A-E-C**).
2. Enter the port number at the **`DSL Port #:`** prompt.
3. Enter **`a`** to activate at the **`Action(Edit/Activate/Deactivate):`** prompt.
4. Enter the number of the VLAN to be assigned to this port at the **`Input Number:`** prompt.
5. Press Ctrl-z and save the changes.

Configuring the Next Hop Router for each VLAN

▶ Procedure

To configure the default next hop router for each VLAN:

1. Select *Configuration* → *Bridge* → *Port VLAN* (**A-E-C**).
2. Enter the port number at the **`DSL Port #:`** prompt.
3. Enter **`e`** to edit at the **`Action(Edit/Activate/Deactivate):`** prompt.
4. Enter the IP address of the default next hop router for this VLAN at the **`Enter IP address of default next hop router (nnn.nnn.nnn.nnn):`** prompt.
5. Press Ctrl-z and save the changes.

Configuring Static Users

▶ Procedure

To configure users if end stations have a static IP address:

1. Select *Configuration* → *Bridge* → *Client VLAN* (**A-E-D**).
2. Enter the port number at the **`DSL Port #:`** prompt.
3. Enter **`0`** or press Return at the **`Input Number:`** prompt.
4. Enter the IP Address of this user at the **`Enter Client IP address (nnn.nnn.nnn.nnn):`** prompt.
5. Enter the IP address of the default next hop router for this client at the **`Enter IP address of default next hop router (nnn.nnn.nnn.nnn):`** prompt.
6. Enter the VLAN for this user at the **`Input VLAN ID:`** prompt.
7. Enter **`yes`** at the **`yes/no:`** prompt to save your changes.

NOTE:

For information on configuring dynamic users, see Chapter 3, *Service Domain*, in the *Hotwire DSLAM for 8310 MVL and 8510 DSL Network Configuration Guide.*

Setting Up SNMP Features

Use the following procedures when setting up SNMP.

MCC SNMP Community Strings and Authentication Failure Trap

▶ Procedure

1. From the MCC Main Menu, select *Configuration* → *SNMP* → *Communities/Traps (***A-F-B**).
2. Enter Read-Only (**RO**) community string name(s).
3. Enter Read/Write (**RW**) community string name(s).
4. If desired, enable the Authentication Failure Trap.
5. Enter the IP address or addresses of the NMS manager(s).

Management System Source Validation for MCC

While optional, it is recommended, for additional security, that source validation is enabled. When enabled, only messages from SNMP managers whose IP source addresses have been entered will be accepted.

▶ Procedure

1. From the MCC Main Menu, select *Configuration* → *SNMP* → *Security* (**A-F-A**).
2. Enable IP address security validation.
3. Enter the IP address of up to five NMS managers that will be permitted access to the MCC card.
4. Enter access permission to be granted to each NMS system (ReadOnly(ro)/Read/Write(rw)/NoAccess(na)).
5. Press Ctrl-z and save the changes.

Setting Up User Accounts on the MCC Card

User accounts allow you to add or delete a user from the system and to edit user passwords and privileges. (Up to 10 active users can be supported.) User names only apply to direct Telnet access to the DSL card. If all access is via the MCC card, no user accounts are needed on the DSL card.

NOTE:

Login failures can generate traps and event log entries. Use the Login History screen (**B-A-B**) to view these entries.

MCC User Accounts

▶ Procedure

To configure MCC user accounts:

1. From the MCC Main Menu, select *Configuration* → *Users* → *Accounts* (**A-D-A**).
2. Select Add at the **`Action: (Add / Edit / Delete):`** prompt.
3. Enter the login name (up to 15 characters). This field is case sensitive.
4. Enter the password for this account (up to 15 characters). This field is case-sensitive.
5. Reenter the password.
6. Enter the privilege level (operator for read-only access, administrator for read/write access).
7. Enter **Y** to save changes and Ctrl-z to return to the Hotwire Chassis Main Menu.

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