PARADYNE™

Hotwire™ DSLAM Configuration for 8540 and 8546 DSL Cards

Startup Instructions

Document Number 8000-A2-GB24-10

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This document describes how to configure the Hotwire™ Digital Subscriber Line Access Multiplexer (DSLAM) system.

Before You Begin

Make sure that you have:

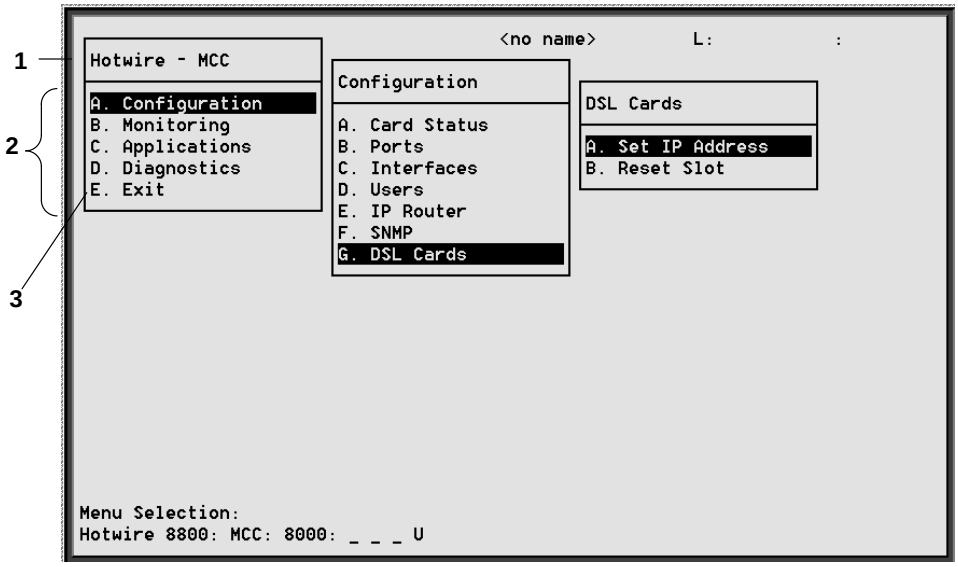
- ❑ Accessed the Paradyne World Wide Web site at **http://www.paradyne.com** (select: *Service & Support* → *Technical Manuals*) for the following documents:
  - — The *Hotwire DSLAM for 8540 and 8546 DSL Cards User's Guide,* Document Number 8000-A2-GB20, for details on how to configure and operate the DSL cards.
  - — The *Hotwire Management Communications Controller (MCC) Card User's Guide,* Document Number 8000-A2-GB29, for information on how to configure and operate the MCC card.
  - — The *Hotwire DSLAM for 8540 and 8546 DSL Cards Network Configuration Guide,* Document Number 8000-A2-GB21, for explanations of internetworking features and operations.

  Configuration worksheets are provided in the *Network Configuration Guide,* Appendix A. You might want to record your settings as you configure your system.
- ❑ Installed either the Hotwire 8600 or 8800 DSLAM, plus the 8540 and 8546 cards in the DSLAM. If you have not done so, refer to the appropriate Hotwire DSLAM Installation Guide for installation instructions:
  - — The *Hotwire 8600 Digital Subscriber Line Access Multiplexer (DSLAM) Installation Guide*, Document Number 8600-A2-GN20, or the *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.

Contact your sales or service representative to order additional product documentation.

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 (short cut) to select a menu item.

   For example, from the Hotwire – MCC 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 **G** key to select the DSL Cards menu item. This action displays the DSL Cards menu. The navigation path to select Set IP Address from the DSL Card menu is represented in this document as **A-G-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 Home screen, press Ctrl-a.

Commonly Used Navigation Keys

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

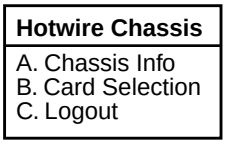
Keys	Definition
Ctrl-a	Moves Home or to the top of the menu.
Ctrl-k	Moves up to the previous menu selection or entry field.
Ctrl-l	Refreshes the screen.
Ctrl-p	Moves back a field.
Ctrl-t	Moves Home or to the top of the menu.
Ctrl-v	Displays a pop-up list of all interfaces on the IP Network screen. Displays a pop-up list of all accounts in system on the Configure Accounts screen.
Ctrl-z	Moves back one menu level 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.
Left arrow	Moves left to the previous menu box or entry field.
Right arrow	Moves right to the next menu box or entry field.
Enter or Return	Accepts entry.
Tab	Moves down or to the next selection.
?	Displays Online help screens that correspond to the particular menu or system screen displayed.

Hotwire Menus: A Hierarchic View

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 User's Guides.

- **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, *Menu and Screen*, in the User's Guides.

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

  For more information, see *Exiting From the System* in Chapter 2, *Menu and Screen*, in the User's Guides.

Checklist for Configuring the Hotwire DSLAM

Overview

Use the following checklists to provide the basic steps required to configure the MCC cards, DSL cards, and RTUs for the Hotwire DSLAM.

For more specific information on basic configuration procedures, see Chapter 4, *Configuring the Hotwire DSLAM,* in the *Hotwire DSLAM for 8540 and 8546 DSL Cards User's Guide* or *Setting Up Basic MCC Card Configuration* in the *Hotwire Management Communications Controller (MCC) Card User's Guide.*

NOTE:

It is advisable to coordinate an IP addressing plan with the Network Service Provider (NSP) before configuring the DSLAM. An IP addressing plan is required for both the Management Domain and the Service Domain. For additional planning information, see the Network Configuration Guide.

Management Domain Configuration Checklist

To monitor and control the operation of the overall system, the IP addresses of the Hotwire DSLAM and the Hotwire RTU must be allocated in such a way that they are partitioned into two distinct domains. The management domain resides in a separate domain from that of the service domain. The Network Access Provider (NAP) provisions IP addresses for the management domain. Configure the management domain, IP addresses, and default routes for the DSLAM system including the MCC card, DSL cards, and Hotwire 5446 RTUs as follows:

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 7)	(Hotwire – MCC) NVRAM Clear	Select: *Configuration* → *Card Status* → *NVRAM Clear* (**A-A-D**)
	3. Setting the IP address and Subnet Mask. (See page 7)	(Hotwire – MCC) Who Am I	Hotwire Chassis Main Menu
	4. Assign an IP address to the backplane (s1b) on the MCC card. (See page 8)	(Hotwire – MCC) IP Network	From the Hotwire – MCC menu, select: *Configuration* → *Interfaces* → *IP Network* (**A-C-B**)
	5. Assign IP addresses to the DSL cards. (See page 8)	(Hotwire – MCC) Configure DSL IP Addr	From the Hotwire – MCC menu, select: *Configuration* → *DSL Cards* → *Set IP Address* (**A-G-A**)
	6. Create default route. (See page 9)	(Hotwire – MCC) Static Routes	From the Hotwire – MCC menu, select: *Configuration* → *IP Router* → *Static Routes* (**A-E-A**)
	7. Reset the MCC card. (See page 9)	(Hotwire – MCC) Card Reset	From the Hotwire – MCC menu, select: *Configuration* → *Card Status* → *Card Reset* (**A-A-F**)
	8. Select a DSL Card to Configure. (See page 10)	(Hotwire – MCC) Card Selection	From the Hotwire – Chassis Main Menu, select Card Selection.
	9. (When using an 8546 DSL card) assign an IP address within the management subnetwork for each connected Hotwire 5446 RTU. (See page 10)	(Hotwire – DSL) IP Network	From the Hotwire – DSL menu, select: *Configuration* → *Interfaces* → *IP Network* (**A-C-B**)
	10. Configure a static route to the NMS (on each DSL card). (See page 11)	(Hotwire – DSL) Static Routes	From the Hotwire – DSL menu, select: *Configuration* → *IP Router* → *Static Routes* (**A-E-A**)

Clear NVRAM

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

▶ Procedure

1. Select *Configuration* → *Card Status* → *NVRAM Clear* (**A-A-D**).
2. Enter yes at the **`Initialize NVRAM: yes/no`** prompt.

   NOTE:

   An answer of yes causes the loss of all static configuration information. 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 IP address and subnet mask of the MCC card.

NOTE:

If you enter two consecutive dots (**.**) in the IP address, the system will interpret this as dot-zero-dot (**.0.**).

▶ Procedure

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

1. Power up the chassis.

   When the self-test 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.

Assigning IP Addresses to the Backplane

Use this procedure to create a separate and distinct network or subnetwork for the 8546 DSL cards and 5446 RTUs or for the 8540 DSL cards. (The RTUs associated with the 8540 DSL cards do not need to be included in the network.)

▶ Procedure

To assign an IP address to the backplane (s1b) from the MCC card:

1. Select *Configuration* → *Interfaces* → *IP Network* (**A-C-B**).
2. Enter the interface name at the **`Input Interface Name`** prompt (s1b).
3. Enter the base IP address at the **`(nnn.nnn.nnn.nnn)`** prompt.
4. Enter the base subnet mask at the **`(nnn.nnn.nnn.nnn)`** prompt.
5. Enter the peer IP address at the **`(nnn.nnn.nnn.nnn)`** prompt.
6. Enter route type **NET** (for network) at the **`Route to peer (host/net):`** prompt.

   You can customize your application by filling in the Input (prevents packets from entering the DSL card) and Output (prevents packets from going out of the DSL card) filter fields.
7. Press Ctrl-z and save changes.

Assigning IP Addresses to the DSL Cards

Use this procedure to define addresses within the management domain. These are automatically assigned to the DSL cards when they are inserted in the chassis.

▶ Procedure

To assign IP addresses to the DSL cards from the MCC card:

1. Select *Configuration* → *DSL Cards* → *Set IP Addresses* (**A-G-A**).
2. Enter the DSL card subnet mask at the **`(nnn.nnn.nnn.nnn)`** prompt. This is the subnet mask for the backplane (s1b) management subnet. (This field will be read only in a future release.)
3. Enter the IP address for each DSL card at the **`Enter Host (nnn):`** prompt.
4. Press Ctrl-z and save 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 direct management domain traffic to 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. Enter the IP address of the default route to the next hop address at the **`Next Hop IP Address (nnn.nnn.nnn.nnn)`** prompt.
6. Enter **50** for preference at the **`Input Number`** prompt.
7. Leave default fields for S/D (Source/Destination) and PA (Proxy ARP).
8. Confirm the save and press Ctrl-z.

Resetting the MCC Card

After configuring the MCC card, reset the MCC card to install the configuration settings.

▶ Procedure

To reset the MCC card:

1. Select *Configuration* → *Card Status* → *Card Reset* (**A-A-F**).
2. Enter **yes** to verify MCC reset and wait for the MCC card to reboot.
3. Press Return.

   The Operator Login screen is displayed.
4. Enter login information.

Selecting a DSL Card to Configure

All DSL cards that are present in the chassis and have had backplane addresses assigned to them should appear on the Card Selection screen.

▶ Procedure

To select a specific DSL card to configure:

1. From the Hotwire Chassis Main Menu, select **B**, Card Selection.
2. Enter the number of the DSL card you want to configure at the **`Goto Card (M for MCC or slot # for DSL):`** prompt and press Return.

   The Hotwire DSL menu is displayed.
3. Select Configuration and press Return.

   The Configuration Menu is displayed.

Configuring 5446 RTU IP Host Addresses on the 8546 Card

Use this procedure to assign an IP address within the management subnet to each 5446 RTU incorporating with an 8546 DSL card.

This procedure does not apply to the Model 8540 card.

▶ Procedure

To assign 5446 RTU IP Host Addresses on the 8546 DSL cards:

1. Select *Configuration* → *Interfaces*→ *IP Network* (**A-C-B**).
2. Enter the interface name at the **`Input Interface Name`** prompt (s1c, s1d, s1e, or s1f).
3. Enter the peer IP address at the **`(nnn.nnn.nnn.nnn)`** prompt. (This is the management domain IP address that will be assigned to the 8546 RTU assigned to port 1.)
4. Enter Host at the **`Route to peer`** prompt.
5. Press Ctrl-z and save changes to exit.
6. Repeat the above procedure for interfaces s1d, s1e, and s1f (DSL Ports 2, 3, and 4, respectively).

Configuring a Static Route to the Network Management System (on each DSL Card)

Use this procedure to enable the management traffic from the 8540 DSL cards and the 8546 DSL cards and their downstream 5446 RTUs to be routed back through the MCC.

▶ Procedure

To configure a static route to the Network Management System on each DSL card:

1. Select *Configuration* → *IP Router*→ *Static Routes* (**A-E-A**).
2. Enter **0** or press Return at the **`Item Number (0 to add new record):`** prompt to add a new record.
3. Enter the address of the NMS (*nnn.nnn.nnn.nnn*) at the **`Destination (or space to delete route):`** prompt.
4. Enter the subnet mask at the **`Subnet Mask (nnn.nnn.nnn.nnn)`** prompt.
5. Enter the backplane IP address of the MCC card (s1b) at the **`Next Hop IP Address (nnn.nnn.nnn.nnn)`** prompt.
6. Enter **50** at the **`Input Number:`** prompt to specify the preference.
7. Leave default fields for S/D (Source/Destination) and PA (Proxy ARP).
8. Confirm the save and press Ctrl-z.

Service Domain Configuration Checklist

To monitor and control the operation of the overall system, the IP addresses of the Hotwire DSLAM and the Hotwire RTU must be allocated in such a way that they are partitioned into two distinct domains. The service domain should be separate from that of the management domain. Configure an IP address for each service domain required by that card by selecting *Configuration* → *Interfaces* → *IP Network.* The maximum number of configurable IP addresses for the Service Domain on the IP Network *e1a* screen is 16.

Check Off Task	Perform this task . . .	On this screen . . .	To access the screen . . .
	1. Assign IP addresses to the DSL card LAN interface (e1a). (See page 13)	(Hotwire – DSL) IP Network	From the Hotwire – DSL menu, select: *Configuration* → *Interfaces* → *IP Network* (**A-C-B**)
	2. Reset the DSL card. (See page 13)	(Hotwire – DSL) Card Reset	From the Hotwire – DSL menu, select: *Configuration* → *Card Status* → *Card Reset* (**A-A-F**)
	3. Create default route. (See page 14)	(Hotwire – DSL) Static Routes	From the Hotwire – DSL menu, select: *Configuration* → *IP Router* → *Static Routes* (**A-E-A**)
	4. Configuring the RTU. (See page 15)	(Hotwire – DSL) RTU screens	From the Hotwire – DSL menu select: *Configuration* → *RTU* → *Selection* (**A-H-A**) or *Configuration* → *RTU* → *Configuration* (**A-H-B**) or *Configuration* → *RTU* → *Static Routes* (**A-H-C**)
	5. Set up DHCP Relay on card to configure IP addresses dynamically. (See page 18)	(Hotwire – DSL) DHCP Relay	From the Hotwire – DSL menu, select: *Configuration* → *DHCP Relay* (**A-G**)

Assigning IP Addresses to the DSL Cards

Use this procedure to give DSL cards an IP address in each NSP domain supported by the cards.

▶ Procedure

To assign IP addresses to the DSL cards:

1. Select *Configuration* → *Interfaces*→ *IP Network* (**A-C-B**).
2. Enter the interface name at the **`Input Interface Name:`** prompt.
3. Enter the IP address at the **`(nnn.nnn.nnn.nnn)`** prompt. This address must be different than the management domain IP address.
4. Enter the subnet mask at the **`(nnn.nnn.nnn.nnn)`** prompt**.**

   Up to 16 IP addresses and subnet masks can be entered. Enter the IP addresses and subnet masks for each ISP domain supported by the specified DSL card.
5. Press Ctrl-z and save changes.

NOTE:

The **`Peer IP Address`** and **`Route to Peer`** fields do not appear with an Ethernet port or on a Model 8540.

Resetting the DSL Card

After configuring all of the service domain IP addresses on a DSL card (IP address has been added or changed), reset the card to enable the new configuration changes.

▶ Procedure

To reset the DSL Card:

1. Select *Configuration* → *Card Status*→ *Card Reset* (**A-A-F**).
2. Enter **`Y`** at the **`yes/no:`** prompt to confirm.

   NOTE:

   When you enter Y, all data connectivity is interrupted and you return to the Card Selection screen.
3. If you have entered yes, verify that the LEDs on the DSL card go through the reset sequence once, and then a second time after approximately 10 seconds (BOOTP).

Creating Default Routes or Source Routes on the DSL

Use this procedure to create a default route or source route for each DSL card.

▶ Procedure

To create the default route:

1. Select *Configuration* → *IP Router*→ *Static Routes* (**A-E-A**).
2. Enter **0** or press Return at the **`Item Number (0 to add new record):`** prompt.
3. To create a default route, enter **0.0.0.0** at the **`Destination (or space to delete route):`** prompt.
4. To create a static route, enter the source route address at the **`Destination (or space to delete route):`** prompt.
5. Press Return at the **`Subnet Mask (nnn.nnn.nnn.nnn)`** prompt.
6. Enter the next hop IP address of the source or default route at the **`Next Hop IP Address (nnn.nnn.nnn.nnn)`** prompt. (Prompt is **`Next Hop IP Address (nnn.nnn.nnn.nnn)`** or **`Port Name`** on the Model 8540.)

   NOTE:

   If you are using Port Name on the Model 8540, the subnet mask is 255.255.255.255.

7. Enter **50** at the **`Input Number:`** prompt.
8. Enter **S** for source, **D** for destination, and leave default field **PA** for Proxy ARP.
9. Confirm the save and press Ctrl-z.

Configuring the RTU

The RTU endpoint must be identified for each DSL port on Models 8540 and 8546. Select *Configuration* → *RTU* → *Selection* (**A-H-A**). Then, select and save the RTU model for each port.

Use this procedure to select the RTU type and configure the RTU.

▶ Procedure

To select the RTU type:

1. Select *Configuration* → *RTU*→ *Selection* (**A-H-A**).
2. Enter the RTU port number at the **`Port #`** prompt.
3. Enter the model number of the endpoint at the **`RTU Type`** prompt. For Model 8540, possible endpoints are 5170/5171/5246/5216. For Model 8546, possible endpoints are 5446r1/5446r2/5546. Default is 5446r2.
4. Press Ctrl-z to confirm the save and return to the *Configuration* → *RTU* menu.

▶ Procedure

To configure RTU information (only if the selected RTU type is 5446r1 or 5446r2):

1. Select *Configuration* → *RTU*→ *Configuration* (**A-H-B**).
2. Enter the name of each DSL interface (*s1c, s1d, s1e,*or *s1f*) at the **`DSL Interface`** prompt. If the interface is connected to a 5546 RTU, an error message is displayed and the user must change the interface name to the DSL card of the connected RTU.
3. Enter the community name for SNMP Gets and Sets at the **`Community Name (up to 32 characters):`** prompt.
4. Enter the type of community name at the **`Type`** prompt.
   - **RO** = Read only (User can only read the SNMP values on the 5446 RTU and only those values that are allowed to be read by a read-only community name.)
   - **RW** = Read/Write (User can read and write all SNMP values on the 5446 RTU.) This field cannot be changed.
5. Enter the remote service domain IP address at the **`IP Host Address (nnn.nnn.nnn.nnn or space to delete):`** prompt.
6. Enter the network subnet mask at the **`Network Subnet Mask (nnn.nnn.nnn.nnn):`** prompt.
7. Enter the trap manager IP host address at the **`IP Host Address (nnn.nnn.nnn.nnn or space to delete):`** prompt.
8. Enter the trap destination interface name (DSL/Ether) at the **`Destination Interface: (DSL/Ether):`** prompt.
9. Confirm the save and press Ctrl-z to return to the *Configuration* → *RTU* menu.

▶ Procedure

To add or remove a static route to the RTU:

> **NOTE:**
>
> This procedure does not apply to the 5546 RTU on the Model 8540. This screen is used for adding DSLAM static routes only, not RTU routes, as they are not required.

1. Select *Configuration* → *RTU*→ *Static Routes* (**A-H-C**).
2. Enter **0** to add a new record at the **`Item Number (0 to add new record):`** prompt.
3. Enter the DSL interface name (*s1c, s1d, s1e,*or *s1f*) at the **`DSL Interface Name`** prompt.
4. Enter the destination address at the **`Destination (nnn.nnn.nnn.nnn or space to delete route):`** prompt.
5. Enter the subnet mask of the end system connected to the RTU at the **`Subnet Mask (nnn.nnn.nnn.nnn):`** prompt.
6. An entry of **yes** at the **`DSLAM yes/no`** prompt automatically creates a static route in the routing table on the Static Routes screen (**A-E-A**). The following values for the entry will be set for the static route:

   — Preference = 50.

   — Source/Destination = Destination.

   — Proxy ARP = Yes.

   An entry of **no** at the **`DSLAM yes/no`** prompt means that a static route will not be created.
7. Confirm the save and press Ctrl-z to return to the *Configuration* → *RTU* menu.

> **NOTE:**
>
> When the 8546 card is upgraded to the latest software that supports the **A-H-B** and **A-H-C** screens, the card will automatically retrieve the RTU configuration from the 5446 RTU, provided that the 5446 RTU has first been upgraded to the latest software.
>
> If the 8546 card is upgraded prior to the upgrade of the 5446 RTU endpoints, then the **A-H-B** and **A-H-C** screens (for those DSL ports), are not applicable. However, the 8546 card will automatically retrieve the RTU configuration information upon upgrading the 5446 RTU to the latest software.

CAUTION:

For the latest revision 5446 RTU, the RTU configuration cannot be modified by an external SNMP Manager or the Paradyne IP Injection tool. Also, the RTU configuration of older revision 5446 RTU endpoints should not be modified by an SNMP Manager or the Paradyne IP Injection tool. If modified, the 8546 card may not be able to automatically retrieve the RTU configuration information upon upgrading the 5446 RTU to the latest software.

5100 Series

The 5170 and 5171 RTU configuration is supplied by a windows-based diagnostics utility.

5200 Series

The 5216 and 5246 RTUs do not require configuration. However, the end-user system must be configured with the IP address in the same domain as the DSL card port.

5546 RTU

The 5546 RTU is composed of a DSL modem port and a frame forwarder that connects to an end-user router with a V.35/EIA-530 interface using PPP protocol.

The 5546 RTU does not need an IP address, so therefore an IP address is not injected. In addition, up to 32 hosts or subnets behind the external router can be connected.

The 5546 RTU may be configured via a VT100 console connected to the RTUs console port.

Creating the DHCP Relay Agent

Use this procedure to provide dynamic Service Domain IP address allocation to the end-user system attached to the DSL RTUs.

▶ Procedure

To create the DHCP relay agent:

1. Select *Configuration* → *Interfaces* → *IP Network* (**A-C-B**).

   Make certain that the Gateway address used in relaying DHCP requests is configured as an *e1a* address on the IP Network screen.

2. Select *Configuration* → *DHCP Relay* → *Domain Names* (**A-G-A**).

3. Enter the ISP Domain Name and press Return.

4. Press Ctrl-z and confirm the save.

5. Select *Configuration* → *DHCP Relay* → *Servers 1–4, Servers 5–8, Servers 9–12, or Servers 13–16* (**A-G-B, C, D, or E**).

6. Enter the DHCP Server IP addresses for this domain at the **`(nnn.nnn.nnn.nnn)`** prompt.

7. Enter the Authentication Server IP addresses (optional) for this domain at the **`(nnn.nnn.nnn.nnn)`** prompt.

   NOTE:

   If authentication is to be used, additional configuration steps must be taken on the authentication server.

8. Enter the RADIUS secret (optional – up to 16 numeric characters) at the **`input Radius Secret:`** prompt.

9. Enter the Authentication Type at the **`(TAC/Rad/None):`** prompt If you want to:

   — Forward a message to a XTACACS server to confirm the location of the user before forwarding to a DHCP server: enter **T** (XTACACS).

   — Forward a message to a RADIUS server to confirm the location of the user before forwarding to a DHCP server: enter **R** (RADIUS).

   — Not perform an authentication: enter **N** (none).

10. Enter the Authentication Wait Time (optional – default = 5 seconds) at the **`Input Number:`** prompt.

11. Enter the Number of Authentication Attempts (optional – default = 2) at the **`Input Number:`** prompt.

12. Enter **E** (enable) or **D** (disable) to turn on or turn off dynamic access control security at the **`input DAC security (enable/disable):`** prompt.

13. Enter the Default Domain for each port at the **`Input Number:`** prompt.

14. Confirm the save and press Ctrl-z to return to the *Configuration* → *DHCP Relay* menu.

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 community string name(s).
3. Enter Read Write 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.

▶ 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)).

Management System Source Validation for DSL Cards

▶ Procedure

1. From the DSL Main Menu, select *Configuration* → *SNMP* → *Security* (**A-F-A**).
2. Enable IP address security validation.

   NOTE:

   Each card does not have to have the same set of managers.
3. Enter the IP addresses of up to five NMS managers that will permitted access to this DSL card.
4. Enter access permission to be granted each NMS system (ReadOnly(ro)/Read/Write(rw)/NoAccess(na)).

DSL SNMP Community Strings and Authentication Failure Trap

▶ Procedure

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

Enable DSL Port Traps

▶ Procedure

1. From the DSL Main Menu, select *Configuration* → *Ports* → *DSL Ports* (**A-B-B**).
2. Select an action at the **`Edit/Reset`** prompt.
3. Select a DSL port at the **`DSL Port #`** prompt.
4. If desired, enter a value at the **`Margin Threshold (-5 to +10, D=Disable)`** prompt.
5. If desired, enter a value at the **`Link Up/Down Transitions (D=Disable)`** prompt.
6. Reset the port at the **`Action Edit/Reset`** prompt.

See the User's Guides for a description of threshold trap operation.

Setting Up User Accounts on the MCC and DSL Cards

User accounts provide security for the DSLAM by requiring that anyone who is trying to log onto the system has a valid password to gain access. User accounts on the MCC provide security to users accessing the system from the VT100-compatible terminal interface and via Telnet over the management domain LAN.

It is recommended that user accounts also be set up for each DSL card, even if you do not intend to telnet directly to the DSL cards, so that no unauthorized telnet sessions can be made. Each card will support up to 10 user accounts with either Operator (read only) or Administrator (read/write) permissions

MCC User Accounts (For Telnet Terminal Access to MCC Card)

Use the following procedure when configuring MCC user accounts.

▶ Procedure

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

Reboot Card (MCC)

Use the following procedure to reboot MCC card after changes have been made.

▶ Procedure

1. From the MCC Main Menu, select *Configuration* → *Card Status* → *Card Reset* (**A-A-F**).
2. Enter the password for this account (up to 15 characters). This field is case sensitive.
3. Enter **Y** at the **yes/no** prompt.
4. At the initial screen display after reboot, press Return.
5. To verify that a DSLAM system account has been setup, at the prompt:
   - — Enter Operator ID
   - — Enter Operator Password
6. The Hotwire Chassis Main Menu is displayed.

DSL User Accounts

Use the following procedure when configuring DSL user accounts (if Telneting directly to the DSL card).

▶ Procedure

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

Reboot Card (DSL)

Use the following procedure to reboot DSL cards after changes have been made.

▶ **Procedure**

1. At the Card Selection screen, enter the DSL card slot number that you want to reset.
2. From the DSL Main Menu, select *Configuration* → *Card Status*→ *Card Reset* (**A-A-F**)
3. Enter DSL*nn*, where *nn* is the slot number for the DSL card you just configured.
4. Enter **Y** at the **yes/no** prompt to confirm.
5. After reboot, enter MCC at the Card Selection screen
6. To verify that a DSL card account has been set up, select *Applications* → *Telnet* (**C-C**)
7. Enter the IP Address of the DSL card that you configured and verify that you can telnet there.
8. Enter Operator ID.
9. Enter Operator Password.
10. The DSL Main Menu is displayed.

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